PROCEEDINGS

The 5th National and International Research Conference 2022
NIRC V 2022

"Universities for Local Development Based on Sustainable Development Goals"

14 February 2022
Buriram Rajabhat University
(Online & Onsite)

Proceedings : 5th National and International Research Conference 2022 : NIRC V 2022

"Universities for Local Development Based on Sustainable Development Goals"

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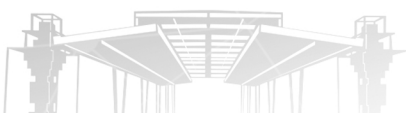
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NIRC V 2022

The 5th National and International Research Conference 2022

NIAGARA UNIVERSITY

UNITED UNIVERSITY

Message from President of Buriram Rajabhat University

   Buriram Rajabhat University (BRU) is an institute to develop local communities, having missions to produce graduates with bachelor's, master's, and doctoral degree, to manage education to meet the academic and professional standard, and also to create knowledge from research works resulting variety of innovations. Besides, BRU also plays a vital role to conserve arts and culture, to continue, retain, and extend the royal initiative project, and to carry out the strategy of local development following the King Rama X's policy.

   Due to the aforementioned missions and roles of BRU as an area-based and community university, BRU therefore has carried out various integrated projects cooperated with other institutions both in Thailand and abroad. This is to reinvent and drive the university to the destination of efficient academic and research works and be ready to be ranked as a university which has sustainable development goals.

   Conducting the National and International Research Conference 2022: NIRC V 2022, under the theme, "Universities for Local Development Based on Sustainable Development Goals", is one of the significant project that is continuously conducted. This is to be the stage for presenting research works and reciprocating among researchers both in Thailand and abroad. The knowledge gained from the conference can be extended to benefit wealthy and sustainable development for local community, society and nation. This conference, BRU has been supported by Office of the Ministry of Higher Education, Science, Research and Innovation, Knowledge Network Institute of Thailand, and Council of the Graduate Studies Administrators of Thailand and also various institutions both in Thailand and abroad which have educational network with BRU. This project is assigned to Graduate School, the main host, cooperated with Faculty of Humanities and Social Sciences, Faculty of Education, Faculty of Agricultural Technology, Faculty of Science, Faculty of Industrial Technology, Faculty of Management Sciences, Faculty of Nursing, Office of International Relations, and Research and Development Institute to carry out the conference.

   On behalf of Buriram Rajabhat University, I would like to welcome eminent persons, lecturers, scholars, researchers, students and all Thai and foreign participants with pleasure, and thank all to join this event. Finally, special thanks go to Adjunct Professor Dr. Anek Laothamatas, Minister of Higher Education, Science, Research and Innovation for presenting a keynote address and presiding over the National and International Research Conference 2022: NIRC V 2022 held at Buriram Rajabhat University.

(Associate Professor Malinee Chutopama)
President Buriram Rajabhat University

The 5th National and International Research Conference 2022: NIRC V 2022
"Universities for Local Development Based on Sustainable Development Goals"
14 February 2022
Venue: Buriram Rajabhat University,
Buriram Province, Thailand

Rationale

Buriram Rajabhat University (BRU), a higher education institute for developing the local area, has got missions to produce graduates, to manage education quality in accordance with academic and professional standard, to build knowledge from research works, innovation and creative works to develop the local area for 50 years. From this year onward, BRU, categorized in the third group, an area-based and community university, is ready to allocate budget to support the re-inventing university projects, and also prepares to be ranked as a university which promotes the sustainable development goals by the Times Higher Education (THE). To achieve the aforementioned missions, BRU therefore holds the 5th National and International Research Conference 2022: NIRC V 2022 on 14 February 2022 at Buriram Rajabhat University, Muang District, Buriram Province. The conference theme is on "Universities for Local Development Based on Sustainable Development Goals". This conference gives an opportunity to organizations, researchers, scholars and those who are interested both from Thailand and foreign countries to present their research works, and to share creative works and innovations obtained from these works. In addition, they will have the opportunity to join the academic seminars, share opinions, publicize the research works as well as exchange experience. The conference objectives are as follows:

1. To give an opportunity to lecturers, researchers, students of Rajabhat Universities and other educational institutes both in Thailand and foreign countries by presenting their quality research works and sharing experiences on guidelines to develop Thai education quality leading to sustainable development.

2. To publicize the research works, creative and innovative works of lecturers, personnel, students and researchers of Rajabhat Universities and other educational institutes both from Thailand and foreign countries.

3. To promote learning activities through the development of quality and standard research works, creative and innovative works of lecturers, personnel, students and researchers of Rajabhat Universities and other educational institutes both from Thailand and foreign countries in order to utilize these works for sustainable and prosperous development of the local area, community, society and nation.

4. To link the quality research works of Thailand and foreign countries to the target users on aspects of academic, policy, social issues and community both from Thailand and foreign countries.

Types of the Conference
Academic Conference
1. Keynote address by national and international scholars
2. Presentation of national research works or academic articles (On-site) and international research works or academic articles (Online)

2.1 Oral Presentation

2.2 Poster Presentation

The themes of research works or academic articles are based on the following disciplines:

1. Education

2. Humanities and Social Sciences

3. Science and Technology

4. Health Science

5. Area-based Research

6. Multidisciplinary Research

3. Presentation of exhibition (On-site), the participants must strictly follow the prevention measures of the Covid-19 pandemic.

Date and Venue

The conference is held on14 February 2022 at Buriram Rajabhat University, Muang District, Buriram Province. Opening ceremony, Keynote address, and Featured speech are conducted at Witcha Attasat Meeting Hall. Moreover, an exhibition is held at Bhudharaksa Meeting Room, the 3rd floor of building 15.

Schedule

No.	Activities	Date
1.	Publication of the Project	20 October 2021- 14 February 2022
2.	Submission of full paper and registration payment	1 November 2021- 14 January 2022
3.	Announcement for full paper acceptance	19 January 2022
4.	Submission of full paper suggested by peer reviewers	26 January 2022
5.	Submission of PowerPoint file (both oral and poster presentation)	8 February 2022
6.	Participants' Registration	1 November 2021- 4 February 2022
7.	Conference date	14 February 2022
8.	Submission of full paper for publication	16 February 2022
9.	Publication of full paper research works in Online Proceedings	16 March 2022

N.B.: *Articles conducted by postgraduate students must be allowed by their advisors, and the advisors' names must also be included in the articles.

**The articles which are approved by peer reviewers will be published in proceedings, and can be accessed in Google Scholar.

Conference Promoting Organizations

The co-hosts of the conference are as follows: Office of the Higher Education Commission, Knowledge Network Institute of Thailand, Council of the Graduate Studies Administrators of Thailand, Council of Deans of Faculty of Humanities and Social Sciences in Rajabhat University, Boromarajonani College of Nursing, Khonkaen, Faculty of Nursing, Ubon Ratchathani Rajabhat University, Faculty of Nursing, Pibulsongkram Rajabhat University, Faculty of Nursing, Roi-et Rajabhat University, Faculty of Nursing, Chaiyaphum Rajabhat University, Faculty of Nursing, Udonthani Rajabhat University, Faculty of Medical Sciences, Mahasarakham University. Moreover, the foreign institutes signed MOU with Buriram Rajabhat University are also the conference co-hosts as in the following:

1. Niagara University, U.S.A.
2. Manipur University, India
3. United University, India

4. Institute of Advanced Studies in English, India

5. Akdeniz University, Turkey

6. Shangrao Normal University, China

7. Guangxi University for Nationalities, China

8. Changzhou University, China

9. Qiannan Normal University for Nationalities, China

10. Beijing Silkroad Xinyu Cultural Exchange Center, China

11. National Pingtung University(NPTU), Taiwan

12. Kathmandu University, Nepal

13. University of Northern Philippines, the Philippines

14. Philippine State College of Aeronautics, the Philippines

15. Hue University College of Foreign Languages, Vietnam

16. Pattimura University, Indonesia

17. Mandalay University of Distance Education (MUDE), Myanmar

18. University of Myitkyina, Myanmar

19. University of Pakokku, Myanmar

20. University of Mawlamyine, Myanmar

21. University of Maubin, Myanmar

22. Savannkhet Teacher Training College (STTC), Lao PDR

23. Royal University of Phnom Penh, Cambodia

Expected Outcomes

1. Lecturers, researchers, students and those who are interested   join the conference at least 200 people. There will be at least 80 national research papers and 30 international research papers. The participants will gain knowledge utilized in developing research, academic works and life quality. Also, there will be cooperation among Rajabhat Universities and Educational networks both in Thailand and foreign countries.

2. The research works, creative and innovative products can be utilized to develop the country.

3. The quality research works can be publicized in proceedings, academic journals of Buriram Rajabhat University approved by BRU Council, and other journals from both Thailand and foreign countries.

Conference Organizers

Graduate School, Faculty of Humanities and Social Sciences, Faculty of Education, Faculty of Agricultural Technology, Faculty of Science, Faculty of Industrial Technology, Faculty of Management Sciences, Faculty of Nursing, Office of International Relation Affairs, and Institute of Research and Development of Buriram Rajabhat University.

Application

Applicants who want to present their research works can apply at
https://nirc5.bru.ac.th

Registration

Participants must pay the registration fee as in the following rates:

1. International Conference
   - 3,500 Baht for both Thai and foreign presenters
2. National Conference
   - 3,000 Baht for all research work presenters

N.B.: The article conducted by more than one person is allowed to register only one person. In case of being absent for presenting or not being allowed to present the research works, the applicants will get no refund as the fee is paid for the peer reviewers. The participants who are government officials may be eligible to get allowance from their work place.

3. Methods for Registration Payments

3.1 Pay by cash with the application form to Mrs. Prakai Sirisamran, Office of Graduate School, (8th floor, Building 15) Buriram Rajabhat University, 439 Jira Road, Muang District, Buriram Province, 31000

3.2 Electronic Bank Transfer

Name of Account :

Buriram Rajabhat University, The 5th National and International Research Conference 2022 (Saving)

Bank : Bank of Ayudhya (THAILAND)

Account Number : 427-1-27778-4

Swift Code : AYUDTHBK

Address : Bank of Ayudhya, Branch: Buriram Rajabhat University, 439 Jira Road, Muang District, Buriram Province, 31000

N.B.: Send a copy of transferring receipt to Email: NIRCBRU5@bru.ac.th after money has been transferred.

Preparation of Research Article Manuscript

It is recommended to study the preparation of research article manuscript at the website: www.NIRCBRU5.bru.ac.th. The presenters must strictly follow the format of writing articles.

Announcement of Selected Presenters

The selected presenters will be acknowledged on 19 January 2022. The selected presenters must correct articles according to the peer reviewers' suggestions, then submit the correct full paper to proceeding editorial staff within 26 January 2022.

N.B.: The correct full paper will be published in Online proceedings and can be accessed from Google Scholar. The researcher must present the paper by him/herself following the schedule. The published research works can be partial fulfillment of education according to the announcement of the Office of the Higher Education Commission.

Selection of Research Works

The appointed committee of Buriram Rajabhat University reserve the right and follow the university announcement relevant to the criteria for selecting research and academic articles to publicize and publish in the 5th National and International Research Conference 2022, and the university order on the appointment of Proceedings Editorial Board in the 5th National and International Research Conference 2022. The following are the committee's consideration:

1. Selection of groups and type of presentation;
2. Selection of research works published in proceedings;
3. Disqualification of paper presentation is as in the following cases:

   3.1 Abstract, research article and posters which do not comply with the required form and peer reviewers' suggestions;

   3.2 The delaying registration and payment and/or incomplete registration and payment; and

4. The committee's consideration is considered final.

Contact for Further Information

Contact for further information at https://nirc5.bru.ac.th and facebook: Graduate School, Buriram Rajabhat University, or contact:

Office of Graduate School, Tel. 044-611-221ext 7401,7402 or 086-468 1656

Asst. Prof. Dr. Chookiat Jarat,	Tel. 088-5822771
Asst. Prof. Dr. Warit Kitthanarut,	Tel. 093-9354255
Asst. Prof. Dr. Sairung Sornsupap,	Tel. 083-4552699
Ajarn Pallapa Lertcharoenwanit,	Tel. 082-4469547
Miss Napawan Janpanich,	Tel. 093-1069947
Mrs. Prakai Siriramran,	Tel. 089-4824362

Project Evaluation

1. Evaluated from the amount of research work presenters, the selected articles, and participants

2. Use satisfactory questionnaires (Google form) from participants

Reporting the Results of the Project

1. Dean of Graduate School reports the results of the project to the Board of Graduate School, the Board of Graduate Studies, the Board of University Administrators, and BRU Academic Council.

2. The president or representative reports the results of the project to BRU Council.

3. Dean of Graduate School reports the results of the project to all institutes that join the conference.

Schedule of the 5th National and International Research Conference 2022: NIRC V 2022 "Universities for Local Development Based on Sustainable Development Goals" 14 February 2022 at Buriram Rajabhat University

14 February 2022

08.00 a.m. - 09.00 a.m.	Registration in front of Witcha Attasart Meeting Hall

09.00 a.m. - 09.30 a.m.

- Opening ceremony conducted by
    Adjunct Professor Dr. Anek Laothamatas,
        Minister of Higher Education, Science, Research and
        Innovation
- Report speech conducted by
    Assoc. Prof. Malinee Chutopama,
        President of Buriram Rajabhat University

09.30 a.m. - 11.30 a.m.

Keynote address entitled, "Roles of Universities for Local Development Based on Sustainable Development Goals" by Adjunct Professor Dr. Anek Laothamatas

11.30 a.m. - 12.00 a.m.

Opening ceremony for poster presentation at Bhudharaksa Meeting Hall, Building 15 conducted by
    Prof. Sirirurg Songsivilai M.D., Ph.D.
        Permanent Secretary of the Ministry of Higher
        Education, Science, Research and Innovation

12.00 a.m. - 01.00 p.m.

Lunch

01.30 p.m. - 05.00 p.m.

National / international poster and oral presentations
- National poster presentation is presented at Bhudharaksa Meeting Hall, 3rd floor, Building 15
- National oral presentation is presented at 7th, 8th, 9th floor, Building 15
- International poster and oral presentations are presented via online

N.B.: The schedule is subject to change as appropriate.

The 5th National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Science and Technology)

Google Meet Link: http://meet.google.com/qyb-qcxg-bms

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker			**Prof. Dr. Ilhan Cagirgan**		12.30 – 1.00 p.m.
1	ST-O-001	Khin Myat Kyu	Life Cycle of *Papilio demoleus malayanus* Wallace, 1865 on Host Plant of Family Rutaceae in Minsu Environs in Kyaukse Township	Mandalay University of Distance Education	1.00 -1.15 p.m.
2	ST-O-002	Natpakun Ampun Pheravut Wongsawad	Genetic Diversity of the Genus Thunbergia Using ISSR and SRAP Markers	Chiangmai University	1.15-1.30 p.m.
3	ST-O-003	Narumon Somkuna	Utilization of yeast-fermented broken rice as native chicken feed	Buriram Rajabhat University	1.30-1.45 p.m.

The 5th National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Health Sciences (1))

Google Meet Link: meet.google.com/vop-oxmx-mbp

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
1	HS-O-001	Nuttida Rengpattanakij Niwut Juntavee	Effect of Opaque Porcelain Firing Temperature and Holding Time upon Interfacial Fracture Toughness of Milling Metal-Ceramic Alloys	Faculty of Dentistry Khon Kaen University	12.30-1.00 p.m.
2	HS-O-002	Chutikarn Jaralpong Niwut Juntavee	The effect of different sintering times and temperatures on the translucency of monolithic zirconia	Faculty of Dentistry Khon Kaen University	1.00-1.15 p.m.
3	HS-O-003 (ระดับชาติ)	ธนัโชนล เอียมเย็น นิมปฎิทด จันทพริลก	ผลเบืองตนตอยอดจฟารโดนเนือเอืดในการยับยังเชือกอโรคพินฝ	วิทยาลัยการสาธารณสุขสิรินธร	1.15-1.30 p.m.

The 5th National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Health Sciences (2))

Google Meet Link: meet.google.com/bci-gyvm-rox

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
1	HS-O-003	Wareerat kokittipong, Pruchaya Chumvangvapee, Piyawat Luesopha, Cherdsak Kaewkamada, Widsarut Sekaew, Kittikoon Boonkate	Effects of walking exercise combined with arm and leg weight loading exercise on Physical Performance of the elderly women	Buriram Rajabhat University	12.30-1.00 p.m.
2	HS-O-004	Minjun Liang, Yang Song, Yaodong Gu	Effects of High-intensity Interval Training on Obesity: A Mini Review	Udon Thani Rajabhat University	1.00-1.15 p.m.
3	HS-O-005	Yuhuan He, Xuanzhen Cen	Pathological Effects on Biomechanical Function and Strategy Adjustments during Gait Termination: A Systematic Review	Udon Thani Rajabhat University	1.15-1.30 p.m.

The 5ᵗʰ National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Humanities and Social Sciences)

Google Meet Link: http://meet.google.com/qsi-igmk-uvh

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker		Professor Saw Pyone Naing	Conservation and Ecotourism: Case Study of Don Island, Myeik Archipelago, Myanmar	Sagaing University of Education, Myanmar	12.30-1.00 p.m.
1	HU-O-001	Tin Lin Phyo	The Study of Murals Illustrating the Sutta Nipāta Found in the Ancient Temples of Pakokku Region	Pakokku University, Myanmar	1.00-1.15 p.m.
2	HU-O-002	Lwin Zar Naing Win	Overviewing the Organizational Culture of Historical Masterpiece in Bagan	Pakokku University, Myanmar	1.15-1.30 p.m.
3	HU-O-003	Apichai Rungruang	A Study of Motivation and Attitudes towards English Language Learning by Hmong EFL learners	Naresuan University	1.30-1.45 p.m.
4	HU-O-004	Pon Pon	A Study of the Buddha Image made of Bamboo-Strips at the Shwe San Daw Pagoda in Pyay	Mandalay University of Distance Education.	1.45-2.00 p.m.
5	HU-O-005	Daw Pyae Mya Mya Min Theik Me Me Aung	The Moral Study of Some Myanmar Poems in Myanmar Literature	Mandalay University of Distance Education	2.00-2.15 p.m.
6	ED-O-061	Ni Ni Oo	The Role of Vocational Training in Myanmar	Maubin University	2.15-2.30 p.m.
7	ED-O-051	Sittisak Pongpuehee Nawamin Prachanant Saowarot Ruangpaisan	A Synthesis Study of Writing Approaches Employed in the Researches on Teaching Writing	Buriram Rajabhat University	2.30-2.45 p.m.

The 5th National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Education (1))

Google Meet Link: http://meet.google.com/btk-ebeu-pmd

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker		Dr. Willy A. Renandya		Nanyang Technological University, Singapore	12.30-1.00 p.m.
Featured Speaker		Professor Dr. Mario P. Obrero		University of Northern Philippines	1.00-1.30 p.m.
1	ED-O-001	Lakaisone Saiyachit	Effectiveness of Using an Outcome-based Approach to Design Contents of an In-service Training Program for Training secondary school English teachers in Laos	Savannakhet Teacher Training College	1.30-1.45 p.m.
2	ED-O-002	Phouangphet Sounthalavong Khonesak Keomaneevong	The Effects of Using Padlet Application (PA) to Enhance Writing Ability of English-Majored Students at Savannakhet Teacher Training College, Lao PDR	Savannakhet Teacher Training College	1.45-2.00 p.m.
3	ED-O-003	Passakorn Chumpoonta	Learning Achievement and Satisfaction by Using Collaborative Learning in Information System Analysis Course	Suranaree University of Technology	2.00-2.15 p.m.
4	ED-O-004	Thidarat Klachiew	Improving Grade 3 Students Vocabulary Knowledge through Communicative Activities	Buriram Rajabhat University	2.15-2.30 p.m.
5	ED-O-056	Nipa Pongvirut	Administration Psychology Model of University in Thailand	Srinakharinwirot University	2.30-2.45 p.m.
6	ED-O-058	Ratchakorn Praseeratesung	Blended Learning During Pandemic Corona Virus: Teachers' and Students' Perceptions at Chaiyaphum Rajabhut University	Chaiyaphum Rajabhat University	2.45-3.00 p.m.
7	ED-O-050	Jansuda Boontree	A Synthesis Study of Assessing Learners' Pragmatic Competence	Buriram Rajabhat University	3.00-3.15 p.m.

The 5th National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Education (2))

Google Meet Link: http://meet.google.com/gmv-nwdr-xse

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker			Professor Ni Ni Hlaing	Mandalay University of Distance Education	12.30-1.00 p.m.
1	ED-O-047	Ni Ni Hlaing	Study Abroad Opportunities and Intercultural Competencies of University Students in Myanmar	Mandalay University of Distance Education	1.00-1.15 p.m.
2	ED-O-005	Mya Thet Mon	A Need Analysis of Blended Learning to Enhance Chemistry Specialization Students' Metacognitive Skills and Attitudes	Mandalay University of Distance Education	1.15-1.30 p.m.
3	ED-O-006	Mya Thet Mon	University Students' Self-Efficacy, Attitudes, and Intentions toward Chemistry; Myanmar Context	Mandalay University of Distance Education	1.30-1.45 p.m.
4	ED-O-007	Khin Hsu Thwe	An Analysis of Illocutionary Acts in the Short Story A Small Sacrifice for an Enormous Happiness by Jai Chakrabarti	Mandalay University of Distance Education	1.45-2.00 p.m.
5	ED-O-009	Mary Akkarapon Nuemaihom Kampeeraphab Intanoo	The General Attitude of Students and Teachers towards Effectiveness of Using Short Stories in EFL Classrooms of Myanmar"	Buriram Rajabhat University	2.00-2.15 p.m.
6	ED-O-010	Mary Akkarapon Nuemaihom Kampeeraphab Intanoo	Benefits of Dramatic Play for Enhancing University Students' Understanding of Poetry	Buriram Rajabhat University	2.15-2.30 p.m.
7	ED-O-012	Soe Moe Thu Wilai Phiwma	Gender and Language Use in Myanmar Context	Myitkyina University	2.30-2.45 p.m.
8	ED-O-032	Soe Moe Thu Wilai Phiwma	The Effect of Classroom Interaction on Developing the Learner's Speaking Skill: Myanmar Context	Myitkyina University	2.45-3.00 p.m.
9	ED-O-053	Siraprapha Ratanaruamkarn Surachai Piyanukool Akkarapon Nuemaihom	A Synthesis Study of Literary Texts to Enhance EFL Students' Critical Reading Skills	Buriram Rajabhat University	3.00-3.15 p.m.

The 5ᵗʰ National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Education (3))

Google Meet Link: http://meet.google.com/jfh-uekz-gts

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker		Professor Dr. Ted Yu-Chung Liu		National Pingtung University	12.30-1.00 p.m.
1	ED-O-011	Yee Mon Cho, Akkarapon Nuemaihom, Kampeeraphab Intanoo	Building Students' Global Competency in English Language Classrooms at Undergraduate Level in Myanmar	Buriram Rajabhat University	1.00-1.15 p.m.
2	ED-O-013	Yee Mon Cho, Akkarapon Nuemaihom, Kampeeraphab Intanoo	Implementation of Teaching Practices with Respect to the Integration of Global Citizenship: ELT Context	Buriram Rajabhat University	1.15-1.30 p.m.
3	ED-O-014	May Theint Thu	ICT Skills and Challenges Faced by High School Teachers of Inle Lake Located in the Nyaungshwe	Ministry of Education, Myanmar	1.30-1.45 p.m.
4	ED-O-015	May Theint Thu	The 21st Century Learning Needs of University Students: Teachers' Perception	Ministry of Education, Myanmar	1.45-2.00 p.m.
5	ED-O-016	Khine Zin Thant, Jasmine Kong-Yan Tang	University Students' Perceptions on 21st Century Learning Skills: Myanmar Context	Mandalar University	2.00-2.15 p.m.
6	ED-O-018	Khine Zin Thant, Jasmine Kong-Yan Tang	Uses and Limitations of Questionnaires in Social Science Research	Mandalar University	2.15-2.30 p.m.
7	ED-O-017	Su Mon Aung	Foreign language Anxiety and Test Anxiety of University Students: Myanmar Context	Yadanarbon University	2.30 – 2.45 p.m.
8	ED-O-019	Su Mon Aung	Foreign language Classroom Anxiety and Reading Anxiety of EFL Students in Myanmar	Yadanarbon University	2.45-3.00 p.m.
9	ED-O-052	Somyong Som-in, kampeeaphab Intanoo, Akkarapon Nuemaihom	An error analysis of Thai to English translation	Buriram Rajabhat University	3.00-3.15 p.m.

The 5ᵗʰ National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Education (4))

Google Meet Link: http://meet.google.com/dqy-zwmc-sxc

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker			Prof. Dr. R. Michael Smith	Niagara University	12.30-1.00 p.m.
1	ED-O-067	Sree Bidhan Chakraborty Himadri Sekhar Roy	Attitudes towards Multilingualism at Secondary Schools in Bangladesh	Shahjalal University of Science & Technology, Sylhet, Bangladesh	1.00-1.15 p.m.
2	ED-O-020	Zarni Mar, Peng Qingyue Chang Woojin	Beliefs of University Teachers: Personal Skills of Teacher Leaders	Myitkyina University	1.15-1.30 p.m.
3	ED-O-021	Aye Aye Mar	Student Perception on Traditional English Language Testing in a Myanmar Context	Mohnyin University	1.30-1.45 p.m.
4	ED-O-022	Ohnmar Win Yee Mon Cho Nawamin Prachanant Saowarot Ruangpaisan	Teachers' Perceptions on the Effectiveness of Group Work and Pair Work towards CLT in ELT Classrooms	Buriram Rajabhat University	1.45-2.00 p.m.
5	ED-O-023	Kyaw Sein	Professional Development Needs of Myanmar University Teachers of English	Manaw Yadana Private High School	2.00-2.15 p.m.
6	ED-O-024	Kyaw Sein	Culture Learning in Myanmar EFL Context	Manaw Yadana Private High School	2.15-2.30 p.m.
7	ED-O-046	Zarni Mar	Assessment Practice of English Language Teachers in Myanmar	Myitkyina University	2.30-2.45 p.m.
8	ED-O-026	Soe Darli Wai	Confucian Conception of Critical Thinking in Teaching English as a Foreign Language in Myanmar	Myitkyina University	2.45-3.00 p.m.
9	ED-O-027	Soe Darli Wai	Challenges in Academic Research Experienced by Postgraduate Students in Myanmar Higher Education Context	Myitkyina University	3.00-3.15 p.m.
10	ED-O-054	Yuttachak Lamjuanjit Nawamin Prachanant Chukiat Jarat	Effects of Virtual Classrooms on English Language Skills and learning Aspects: Review of Recent Cases under COVID-19 Pandemic	Buriram Rajabhat University	3.15-3.30 p.m.
11	ED-O-065	Christian Cudiamat Gandeza Ma. Jesusa Ridor-Unciano	Personal Narratives: A Pedagogical Intervention in Writing	Ilocos Sur Polytechnic State College University of Northern Philippines	3.30-3.45 p.m.

The 5th National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Education (5))

Google Meet Link: http://meet.google.com/tmm-hwkk-mkv

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker		Dr. Ashok R. Thorat			12.30-1.00 p.m.
1	ED-O-028	Thinn Myat New Tika Ram Pokharel	Quality Enhancement of Master's Supervision in Chemistry Specialization at Selected Universities in Myanmar	Mandalay University	1.00-1.15 p.m.
2	ED-O-029	Nwe Nwe Hninn	Successful Studying in Doctoral Education of Myanmar: Botany Specialization	Lashio University, Myanmar	1.15-1.30 p.m.
3	ED-O-030	Aung Myo Hein	The Effects of Captioned Videos on Vocabulary Learning: A Meta-analysis	Tokyo University of Foreign Studies	1.30-1.45 p.m.
4	ED-O-031	Than Than Win	Teaching Professionals' Opinions and Views on Experiences of Attending Academic Conferences	Myitkyina University	1.45-2.00 p.m.
5	ED-O-008	Khin Mar Mar	Successful leadership and Student Outcomes at Universities in Myanmar	Mandalay University of Distance Education	2.00-2.15 p.m.
6	ED-O-055	Wiphaporn Dangsri Chookiat Jarat Nawamin Prachanant	A Synthesis Study of Metacognitive Strategies Employed in the Researches on Teaching Reading	Buriram Rajabhat University	2.15-2.30 p.m.
7	ED-O-064	Nguyen Vu Quynh Nhu Nguyen Hoang Hanh An	Exploring Student Engagement with Corpus Feedback on English Writing	Hue University	2.30-2.45 p.m.
8	ED-O-066	Wendell A. Lived Ma. Jesusa Ridor-Unciano	Personal Growth Development of Students' Literary Appreciation	Ilocos Sur Polytechnic State College	2.45-3.00 p.m.
9	HU-O-007	Ma. Jesusa Ridor-Unciano	Expectations of Young Professionals on Community Engagements Towards Sustainable Development Goals : an Exploration	University of Northern Philippines	3.00-3.15 p.m.

The 5th National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Education (6))

Google Meet Link: http://meet.google.com/kdh-zvhe-oco

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker			Prof Dr. Irom Gambhir Singh	Institute of Advanced Studies in English	12.30-1.00 p.m.
1	ED-O-035	Zhang Ancheng Suwana Juithong Phithack Nilnopkoon	The Effect of Aided-study Class Teaching Mode on Mathematics Achievement of Grade 4 Students in Primary Schools	Valaya Alongkorn Rajabhat University	1.00-1.15 p.m.
2	ED-O-036	Yang Pengfei Phithack Nilnopkoon Suwana Juithong	The Effect of Cooperative Learning Using STAD Technique on Mathematics Achievement of the Fourth Grade Students in Primary Schools	Valaya Alongkorn Rajabhat University	1.15-1.30 p.m.
3	ED-O-037	Yin Yao Phithack Nilnopkoon Suwana Juithong	Effect of Learning Management by Using Davies Instructional Model on Ability of Automobile Engine Disassembly and Adjustment and Learning Achievement of Students in Jiangsu Electronic Information Vocational College	Valaya Alongkorn Rajabhat University	1.30-1.45 p.m.
4	ED-O-038	Zhaoyi Phithack Nilnopkoon Kanreutai Klangphahol	Study of Dalcroze Music Teaching Method on Music Class to Promote Musical Literacy of Primary School Students	Valaya Alongkorn Rajabhat University	1.45-2.00 p.m.
5	ED-O-039	Xiao Qianlin Sombat Kotchasit Angkana Karanyathikul	Study of Case Study Method through Microteaching Method to Enhance Teaching Practice Skills of Students Majoring in Chinese Language and Literature	Valaya Alongkorn Rajabhat University	2.00-2.15 p.m.
6	ED-O-040	Huangfu Zhounan Sombat Kotchasit Kanreutai Klangphahol	Effect of learning management using Problem-Based learning together with the Mobile Phone Application on Students' learning Achievement and the Ability of Landscape Design of College Students	Valaya Alongkorn Rajabhat University	2.15-2.30 p.m.
7	ED-O-041	Zhu Fengling Sombat Kotchasit Wang Tiansong	The Effect of Learning Management Using BOPPPS Teaching Method on Learning Achievement and Dance Performance Of University Students	Valaya Alongkorn Rajabhat University	2.30-2.45 p.m.
8	ED-O-042	Feifei Guo Premjit Kajonpai Larsen Rekha Arunwong	Effect of Problem-Based Learning (PBL) on Music Teaching Scheme Design and Teaching Practice of Music Teacher Students at Zhoukou Normal University	Valaya Alongkorn Rajabhat University	2.45-3.00 p.m.

The 5ᵗʰ National and International Research Conference 2022: NIRC V 2022

Oral Presentation Session (Education (7))

Google Meet Link: http://meet.google.com/qtd-qoad-ghn

*From 12.30 p.m. onward

No	Code	Name	Topic	Organization	Time
Featured Speaker		Dr. Bao Kham	International Practicum:What Students Gain and Are Challenged	Hue University, Vietnam	12.30-1.00 p.m.
1	ED-O-025	Tin Moe Yi	Ambiguity Found in Advertisements	Mandalay University	1.00-1.15 p.m.
2	ED-O-048	Zobi Mazhabi Yoyok Amirudin	Practicing Home Visit Program for School Resilience and School Effectiveness Amid the Covid-19Pandemic Crisis: Experience from Public Primary School of Pemepek at *Pringgarata, Central Lombok, West Nusa Tenggara, Indonesia*	National Pingtung University	1.15-1.30 p.m.
3	ED-O-049	Piyapat Klumgen Narumon Sakpakornkan Supatra Rukkamsil	Factors Influencing the Effectiveness of Sub-District School with Good Quality Administration in Nakhonchaiburin Provinces	Buriram Rajabhat University	1.30-1.45 p.m.
4	ED-O-057	Thanakorn Kamolwet Chookiat Jarat Nawamin Prachanant	A Collocational Error Analysis in English Narrative Essay Written by English Major Students	Buriram Rajabhat University	1.45-2.00 p.m.
5	ED-O-059	Nongnuch Homniam Siripinya Trakunram	Educational strategies aimed to improving student nurse's medication calculation skills: A systemic review	Buriram Rajabhat University	2.00-2.15 p.m.

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Zoom Link: https://us06web.zoom.us/j/9955292699

*From 12.30 p.m. (Thai Time) onward

No	Code	Name	Topic	Organization	Time
Featured Speaker		Dai Yuqiang	Culture Gathers Strength, Education leads the Future	Peking University	12.30-1.00 p.m.
Featured Speaker		Chen Dongsheng		Jiangxi Institute of Fashion Technology	1.00-1.30 p.m.
Featured Speaker		Huang Yingjie	A Brief Discussion on the Thought of Universities Serve the Development of Society	Sichuan University of Science and Engineering	1.30-2.00 p.m.
Featured Speaker		Zhuo Chen		Guizhou University	2.00-2.30 p.m.
1	ED-O-062	Chen Jianping Kraphan Sri Ngan	On the improvement strategies of university leaders' literacy in coping with public opinion pressure	WuZhou University	2.30-2.45 p.m.
2	ED-O-063	Jiang Renfeng Kraphan Sri Ngan	Deepening the Integration of Production and Education to Boost Regional Economic Development Explore New Modes of School-enterprise Cooperation	Hebei Academy of Fine Arts	2.45-3.00 p.m.
3	HU-O-006	Cai Lingling	Research on Jingdezhen Ceramic Industry Tourism under the Background of National Strategy	Ceramic Art Museum	3.00-3.15 p.m.
4	ED-O-033	Chang Yipeng Nitikorn Onyon Mesa Nuansri	Study of Flipped Classroom Teaching Method together with Cyberspace Learning to Promote Chinese Contemporary Literature History Achievement of University Students	Valaya Alongkorn Rajabhat University	3.15-3.30 p.m.
5	ED-O-034	Yuan Liangzhi Nitikorn Onyon Thitiporn Pichayakul	The Effect of Learning Management Using Cooperative Learning together with Superstar Mobile Library Application to Enhance the Searching for Information Ability of University students	Valaya Alongkorn Rajabhat University	3.30-3.45 p.m.
6	ED-O-043	WangDi Premjit Kajonpai Larsen Rekha Arunwong	Study of Problem-Based Learning Together with Questioning Technique to Promote Choreography Ability of Dance Students	Valaya Alongkorn Rajabhat University	3.45-4.00 p.m.
7	ED-O-044	Li Xiaofeng Ierlak Othakanon Danucha Saleewong	Study of Problem-Based Learning Approach for Enhancing Learning Achievement and Students' Satisfaction Among the First Year Students on Fundamentals of Information Technology Course, Zhoukou Normal University	Valaya Alongkorn Rajabhat University	4.00-4.15 p.m.
8	ED-O-045	Dou Jiayu Ierlak Othakanon Wassaporn Jirojpan	Study of State and Problems on Learning Management and Propose Guidelines on Ideological and Political Education Courses in Xinzhou Teachers University	Valaya Alongkorn Rajabhat University	4.15-4.30 p.m.

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Science and Technology

(Oral Presentation)

A Career Path in The Regional Universities of Turkey for Sustainable Development : Lessons Learned

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Born to a small-farmer family, I have recognized the agricultural problems impacting livelihoods from childhood. Agricultural sciences, therefore, became my major to study while giving hand to my family on-farm subject to arrangements between different duties. Consequently, planning and balancing different roles, result-based multitasking, working in different places and areas were the skills to be developed for me to survive and keep my studies first, and, later on to generate capacities and policies to function at the fresh universities to be worked for by using the skills gained on my growth before.

In the beginning of 1980s, Turkey restructured higher education under the roof of Higher Education Council of Turkey and founded new universities in less-populated areas with the idea of regional development. Number of agricultural faculties increased and expanded over the country. I started as a research assistant in 1984 in a fresh faculty of agriculture in a north-eastern university that started education in a temporary building and lacking initial infrastructure owned by the university for education and research & development activities. However, there were governmental institutions around, generous to share and cooperate with the faculty and students eager to learn and offer their contributions to improve facilities, that was the root of the approach to prosper.

Upon moving to my present university as a founding member of the Department of Field Crops in 1989, engaging farmers to reach their facilities to continue agricultural work was a real breakthrough. Instead of owning infrastructures by our present university, I chose to integrate available resources to do job on-farm cooperating with farmers, local administrations and public institutes. This strategy of innovating on-farm omitted the mid-person, i.e., extension services, so the farmers have preferably adopted new technologies among the choices around and has helped the community empowerment and regional development.

Sustainable development requires investment, but local innovative strategies offer the more than money can do. His Majesty the Late King of Thailand, Adulyadej Bhumibol, engaged His people and developed some 4,000 development projects. He was involved in their application for regional development, and He was awarded by the UN on His development efforts.

However, the present success criteria for the universities do not credit much to such initiatives for regional development, and science is not about making publications in high impact journals. These are the `lessons learned` part of the presentation to cover and discuss broadly to accomplish better the regional and sustainable development and the goals.

Life Cycle of *Papilio demoleus malayanus* Wallace, 1865
on Host Plant of Family Rutaceae in Minsu Environs in Kyaukse Township

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Abstract

In Minsu Environs, the life cycle of *Papilio demoleus malayanus* was studied during the study period from June 2020 to May 2021. Duration, length and size of each larval development stages were recorded. The mean duration from egg to adult was 27.83 days. The rate of survival was 60% and the rate of mortality was 40% due to 8 of 20 eggs were unable to continue living in the various developmental stages. The host plant of the studied species was respectively recorded as *Limonia acidissima* in Family Rutaceae.

Keywords : *Papilio Demoleus Malayanus*, Life Cycle, Survival Rate, Mortality Rate, Host Plant

1. Introduction

Butterflies go through the four stages: the egg, the larva, the pupa and the adult. The eggs are usually laid on or very close to the larval food plants. The appearance and the colour are different by the depending upon its species. (Preston- Mafham and Preston-Mafham, 1988). The second stage is the larva called as caterpillar. As the adults, the body is divided into the head, the thorax and the abdomen. The feeding behaviour is certainly different from the adult by not feeding on liquids. As the larva bites off the pieces of leaf by its mouthparts, they are the major pests of some crops (Borror and De Long, 1964). The third stage is the pupa called as chrysalis; the miraculous transformation into a butterfly. All parts of butterfly developed inside the chrysalis. The duration of the pupa stage varies a few days to months or sometimes a year or more. When development is complete and external conditions are suitable, the adult butterfly will emerge from the pupa through the transparent pupal skin (Imms, 1964). The final and fourth stage is the adult butterfly. The eclosion is commenced by pushing a wedge-shaped panel out with its legs. After the newly emerged adults have inflated the blood into the wing veins, they slowly expand to their full size to fly off. The adult butterflies feed on flowers nectar or fruit. In terms of the life cycle, the female butterflies' main task is to find a mate and to lay eggs (Preston-Mafham and Preston-Mafham, 1988). *Papilio demoleus malayanus* is classified as *Papilio erithonius* loc.

form *malayanus* (Wallace, 1865). The common name is derived from their larval host plants as the lime butterfly. They are the pest of citrus cultivation. Many previous researches investigated that *Papilio demoleus malayanus* larvae preferred to develop on leaves of citrus (Lewis, 2015). However, there are a few reports of life cycle of this species on *Limonia acidissima*.

Although there is no cultivation of *Limonia acidissima* plants commercially, many plants are planted not only in the backyard of some houses but also at the edge of paddy fields so that for the life cycle study this species was chosen.

2. Objective

To examine the life cycle of *Papilio demoleus malayanus* on *Limonia acidissima* in Family Rutaceae.

3. Methodology

3.1 Study area

Minsu is located at 21°30' of North Latitude and 96°08' of East Longitude and an area of 2.4 square kilo metre; from east to west 1.5 km, from south to north 1.6 km; and 93.57 metre above sea level.

3.2 Study periods

It is commenced in June 2020 and accomplished in May 2021.

3.3 Collection of eggs

The eggs of *Papilio demoleus malayanus* were searched carefully on the fresh leaves of host plants. After that, the leaves bearing the eggs were cautiously cut. They were put into separate plastic boxes.

3.4 Parametric record

The diameter of each egg was recorded in millimeter. The length and breadth of the larva and pupae were also recorded. The wingspan of an adult butterfly was also recorded from apex to apex by spreading the wings on the setting board.

4. Results

4.1 Ovum stage

The colour of the egg laid singly is light yellowish and round shape but is flattened at the base attaching the surface of leafy shoots (Plate 1A). The number of collected eggs was 20 eggs. The diameter of eggs was 1.06 mm. After 3.33 days, the eggs were hatched out by 18 larvae. The hatching rate was 90% (Table 1, 2 and 3).

4.2 Larval stage

The first instar larvae are black with a black head. The mean of lengths was 5.67 mm, and the mean of widths was 2.58 mm. After 3.33 days, the larvae moult to form the second instar larvae stage. Sixteen larvae moulted into second instar stage and the moulting rate to second instar stage was 88.89% (Table 1, 2 and 3).

The second instar larvae have a dark brown with v-shaped white marking (Plate 1B). The mean length and width were 11.17 mm and 3.42 mm, respectively. After 3.33 days, the larvae moult to form the third instar larvae stage. Fifteen larvae of second instar stage could be moulted themselves to third instar stage and the moulting rate to third instar stage was 93.75% (Table 1, 2 and 3).

The third instar larvae resemble to the second instar in colour and shape though the size is larger. The mean length and width were around 15.92 mm and 4.67mm, respectively. During 3.17 days, the larvae moult to form the fourth instar larvae stage. Thirteen larvae moulted into fourth instar stage and the moulting rate to fourth instar stage was 86.67% (Table 1, 2 and 3).

The fourth instar larvae are pale green in colour, cylindrical in shape, tapered towards the rear. The average length and width of fourth instars were 28.08 mm and 6.75 mm, respectively. The duration of this larval stage was about 3.25 days. Twelve larvae moulted into fifth instar stage and the moulting rate to fifth instar stage was 92.31% (Table 1, 2 and 3).

The colour and the shape of the fifth instar larvae resemble to the fourth instar larvae. However, the size is larger. The average length and width of fifth instar larvae were 35.00 mm and 7.42 mm, respectively. After 4.75 days, the larvae cease the eating in order to pupate. All larvae of fifth instar stage could be formed themselves into pupa stage and the pupating rate was 100.00% (Table 1, 2 and 3).

4.3 Pupal stage

The colour of pupae is green (Plate 1C). The mean of lengths of the pupae was 25.42 mm and the mean of widths was 7.33 mm. After 6.67 days, the imago emerged. All of pupa could be emerged themselves to adults and the emerging rate were 100.00% (Table 1, 2 and 3).

4.4 Adult

The wingspan was 84.67 mm (Plate 1D). Among the 12 adults, the male is 4 individuals, and the female is 8 individuals. The male emerging rate is 33.33% and the female emerging rate is 66.67% (Table 3).

4.5 Duration of life cycle

After 3.33 days of egg stage, the first instar larvae took 3.33 days to second instar larvae. The second instar larvae took 3.33 days to third instar larvae. The third instar larvae took 3.17 days to fourth instar larvae. The fourth instar larvae took 3.25 days to fifth instar larvae. The

fifth instar larvae took 4.75 days to pupae. The pupae took 6.67 days to adult. The mean of the duration from eggs to adults was 27.83 days (Table 2).

4.6 Survival rate and mortality rate

According to recorded data, from the 20 eggs, the 12 eggs were adult. The rate of survival was 60% and mortality was 40%. Eight eggs were unable to reach in the various developmental stages (Table 3).

Table 1. Relative mean of length (mm) and width (mm) of different life cycle stages (n=12).

Stages	Length		Width	
	Range	Mean ±SD	Range	Mean ±SD
Egg Size	1 - 1.1	1.06±0.05	1 - 1.1	1.06±0.05
1st Larva	5 - 7	5.67±0.65	2 - 4	2.58±0.67
2nd Larva	10 - 12	11.17±0.72	3 - 4	3.42±0.51
3rd Larva	15- 17	15.92±0.67	3 - 6	4.67±1.07
4th Larva	27 - 31	28.08±1.31	6 - 9	6.75±1.14
5th Larva	34 - 37	35.00±0.95	7 - 9	7.42±0.67
Pupa	25- 27	25.42±0.67	7 - 8	7.33±0.49

Table 2. Different life cycle stages of Papilio demoleus malayanus of encountered on Limonia acidissima as the host plant and Relative wingspan of the adult (n=12)

Stages	Range	Mean ±SD
Egg stage duration	3 – 4	3.33±0.49
1st larva duration	3 – 4	3.33±0.49
2nd larva duration	3 – 4	3.33±0.49
3rd larva duration	3 – 4	3.17±0.39
4th larva duration	3 – 4	3.25±0.45
5th larva duration	4 – 5	4.75±0.45
Pupa duration	6 – 7	6.67±0.49
Duration (Mean of Days)	25 - 32	27.83±2.37
Adult Wingspan (mm)	82 - 86	84.67±1.44

Table 3. Developmental stages of Papilio demoleus malayanus on Limonia acidissima (Chronology)

Total collected eggs		20
Hatching rate to 1st larva		18 (90.00%)
Moulting rate	To 2nd larva	16 (88.89%)
	To 3rd larva	15 (93.75%)
	To 4th larva	13 (86.67%)
	To 5th larva	12 (92.31%)
	To pupa	12 (100.0%)
Emerging rate to Adult		12 (100.0%)
Survival rate		12 (60.00%)
Mortality rate		8 (40.00%)

A. Oval Stage

B. Larval Stage

C. Pupal Stage

D. Adult

Figure 1: Plate 1. Developmental stages of Papilio demoleus malayanus.

5. Discussions

Corbet and Pendlebury (1992) described that the eggs of *Papilio demoleus malayanus* are laid singly as in the present study. Lewis (2015) described that the eggs are pale yellow, nearly spherical, about 1.5mm, basally flatten and smooth. But the eggs in the study area were not larger than 1.1mm.

D'abrera (1998) reported that the larvae of first instar resemble a birds-dropping, but later turned yellowish green with various blackish marks and white band. Wehling (2004) investigated that the caterpillars prefer young leaves, but larger caterpillars will eat mature leaves. The caterpillars studied consumed the mature leaves a little after consuming all fresh leaves. While the caterpillars are changed to new host plant of same species with full of fresh leaves, they deny eating the mature leaves and they voraciously devor as much as possible.

Wehling (2004) reported that there are at least 30 species of swallowtails that feed on citrus worldwide. Paul (2007) described that the caterpillar feed on the leaves and especially young seedlings and trees are seriously affected. Complete defoliation occurs in severe attack. The present study is similar to their findings.

Talbot (1939) also described that they feed on plants of the family Rutaceae. Corbet and Pendlebury (1992 revised by Eliot) described that they feed also on the plants of the family Fabaceae. In the study area, the larvae were recorded feeding only on Family Rutaceae. Although there were many kinds of plant in Family Fabaceae, the larvae were not recorded to feed on these plants.

Talbot (1939) stated that the pupation was formed on the underside of a leaf, against a stalk or twig and the supporting loop is rather short.

Corbet and Pendlebury (1992) described that the imago emerges about 8 o'clock in the morning. In the present study, the eclosion occurred between 6 and 8 o'clock in the morning.

Bingham (1907), Evans (1927) and Talbot (1939) reported that *Papilio demoleus demoleus* and *Papilio demoleus malayanus* were founded in Myanmar. However, Moore (1901-1903) and Kinyon (2004) described that only *Papilio demoleus malayanus* is discovered in Myanmar. In the present study area, only *Papilio demoleus malayanus* was recorded because it is commonest Papilio in central Myanmar.

Htet Htet Aung (2012) studied life cycle of *Papilio demoleus* and *Papilio polytes* in captive conditions on *Citrus medica* L. *C. limon* (L.) Brum and C. *mitis* Blanco as the host plants.

In the present study, the life cycle of *Papilio demoleus malayanus* was found on the host plant of *Limonia acidissima* belonged to Rutaceae family in captive condition.

6. Conclusion

Since the caterpillar of *P. demoleus malayanus* is a serious pest of citrus nursery stock and young tree where they are capable of defoliating, they become an economically important pest. The duration of complete life cycle of *Papilio demoleus malayanus* was around 27.83 days. The length of egg stage was around 3 days before initiation of larval stage. These results indicate that this duration is imported for pest control. The impact on the butterfly population by the

widespread use of insecticides needs to be assessed. It is suggested that people should avert to more environmentally friendly ecosystem by using both mechanical and biological controls.

7. Recommendation

In future research of the food preference of *Papilio demoleus malayanus*, this research results may be utilized and may be compared of other host plants.

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Genetic Diversity of the Genus *Thunbergia* Using ISSR and SRAP Markers

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Abstract

Rangjud is a medicinal plant that can be found in every region of Thailand in the evergreen forest. Each province has a different local name used to refer to medicinal plants. ISSR and SRAP Markers was used to identify local tungsten herbs and to investigate morphologically close to genus *Thunbergia* Retz. Field trips were made to collect leaf samples of plants of the genus *Thunbergia* Retz. at Pang Mapha District. Mae Hong Son Province Five villages were selected, each village collected at least 3 leaf samples from each village, and leaves samples of 3 species in the genus *Thunbergia* Retz were collected from the Queen Sirikit Botanical Garden for comparison and extraction of DNA from the samples. Collected from 5 villages before polymerase chain reaction using ISSR primer and SRAP primer under suitable conditions, then the PCR product is inspected for DNA fingerprint. DNA was separeated by electrophoresis method using 1.5 percent agarose gel by mass/volume. Electrical voltage of 100 V for 40 min. The agarose gel was then photographed under ultraviolet light. Before DNA fingerprint images were taken, the presence/absence of DNA bands was counted to analyse the data from DNA fingerprints to determine. Genetic diversity Similarities and genetic differences were also used to create dendrograms showing the relationship of plant samples in the genus *Thunbergia* Retz.

Keywords : Genetic diversity,   *Thunbergia* Retz.,   ISSR,   SRAP

1. Introduction

Rang Jued, scientific name *Thunbergia laurifolia* Lindl., is a plant in the genus *Thunbergia* Retz. The plant in this genus is a creeper found in evergreen forests (Kongkanda, 2005) in the family Acanthaceae, which Rang Jued is classified as a subfamily. Thunbergioideae (Hansen, 1985) In Thailand, there are 11 species of plants in the genus *Thunbergia* Retz., of which 8 are native plants, and 3 are imported as ornamental plants. In each province of Thailand, such as Rang Jued, White Elephant (Central Region), Joladie, Sangka, Por Ter, Pang Karla (Karen-Mae Hong Son), Namnong (Saraburi), Thit Phut (Nakhon Si Thammarat), Yam Yae, Adae (Phetchabun),

Rang Yen (Yala, Upper North) and others (Forest Herbarium Forest and Plant Conservation Research Office, 2014).

Rang Jued is a medicinal plant that has properties to neutralise toxins. Relieve itchy rashes from various-allergic reactions. The natural habitat found in the area along the creek and along the edge of the forest, plants of the genus *Thunbergia* Retz. have similar morphology, making it difficult. To be classified as a species. This led to research problems to find a molecular biology method to classify plants of the genus Thunbergia Retz. This is accurate and precise because molecular biology is a DNA-level test in which the DNA of each plant species specificity and the ability to differentiate between plants in the genus *Thunbergia* Retz. is more accurate than visual identification, allowing us to identify plants in the genus, *Thunbergia* Retz. what species it is

This research used two DNA Markers: the ISSR (Inter Simple Sequence Repeat) and the SRAP (Sequence-Related Amplified Polymorphism) Markers. It is reproducible with the same results and low cost (Robarts & Wolfe, 2014). Both DNA Markers were used to determine the DNA fingerprint obtained by PCR (Polymerase Chain Reaction) technique. The obtained can be used to examine the polymerization of DNA. The ability to use DNA as a Marker is due to variations in nucleotides in the DNA molecule or polymerization. (Polymorphism) of a base sequence in a molecule of DNA, which is used to determine DNA polymorphism (DNA polymorphism), can be done either by sequencing a DNA molecule (DNA sequencing) or by using DNA Markers to create a specific DNA pattern (Surin, 2009).

Recently, there was a report concerning the genetic diversity of Rang Jued by Sikarin *et al.* (2016). We assessed tungsten genotypic diversity using the AFLP (Amplified Fragment Length Polymorphism) Marker to classify 98 samples. Collected from 47 provinces covering all regions of Thailand, it was found that the Markers used could classify Rangjud into 3 groups; namely, Group 1 and Group 2 were Rang Jued and Group 3 were Soi Inthanin. When studying morphology together, it is possible to identify the type of Rang Jued Group 1 as the group that is not commonly used for medicinal purposes with the local name "Yam Yae," and Rang Jued Group 2 is the group that is popularly used. The medicinal benefits are consistent with a study by (Suwanchaikasem *et al.*, 2013) using the RAPD (Random Amplified Polymorphic DNA) Marker to examine 6 medicinal plants with similar morphological problems and common names: *Thunbergia laurifolia* Lindl., *T. grandiflora*, *T. erecta*, *Curcuma sp.*, *Rinorea sp.*, and *Crotalaria spectabilis* showed that DNA fingerprints derived from RAPD Markers could differentiate troughs from plants of the same genus as trapezoids and the remaining 3 plants. The 3 groups were *Curcuma sp.* 1, *Curcuma sp.* 2, T. laurifolia, *T. grandiflora*, *T. erecta*, and 3 *Rinorea sp.*, *Crotalaria spectabilis*. However, RAPD Markers were not replicable in some plants. For the use of ISSR Markers to study plant genetic diversity, Tabin *et al.* (2016) investigated 3 *Rheum* genus *R. emodi*, *R. spiciforme*, and *R. webbianum* distributed in the Kashmir Himalayas, and A study by Xie *et al.* (2015) used

the SRAP Marker to study 5 *Pinus* genus that is endemic to China. In Thailand, there have been no reports of studies on the genetic diversity of Rang Jued using both DNA Markers.

2. Research Objectives

2.1 To identify plants of the genus *Thunbergia* Retz. that have similar morphological characteristics.

2.2 To examine the species of specimens of the genus, *Thunbergia* Retz. were collected from 5 villages with plants of the same genus of known species.

3. Research Methodology

3.1 Samples

Field trips to collect samples of plants in the genus Thunbergia Retz. in Pang Mapha District Mae Hong Son Province The samples were collected from 5 villages in Pang Mapha District, namely, Mae Lana Village. Tham Lod Village Nong Tong Village Muang Pam Village Pung Yam village came to each village 3 times, and 3 species of plant samples were identified by plant taxonomists of the Queen Sirikit Botanical Garden Organization Mae Ram Subdistrict, Mae Rim District, Chiang Mai Province. To be used for inspection species of specimens of the genus *Thunbergia* Retz. collected from 5 villages.

3.2 DNA extraction

DNA was extracted from leaf segments using medicinal mortar, mortar, and liquid nitrogen. Leaves (Dried samples) were weighed 20 mg by digital balance. Then, the weighed dry leaf samples were placed in a granulator, liquid nitrogen was flooded with liquid nitrogen, and then a mortar was used to grind the dried leaves samples thoroughly before the crushed samples were placed in 1.5 ml test tubes. Follow the instructions in the manual provided in the box of MACHEREY-NAGEL's NucleoSpin® Plant II DNA Extraction Kit. The quality of the extracted DNA was examined using a nanodrop machine to determine the purity of the extracted DNA before storing the extracted DNA at -20 °C before use in the next step.

3.3 Polymerase Chain Reaction

Starting by preparing the components for 1 PCR reaction. The composition for 1 PCR reaction was 10 μl PCR 2X Master Mix, WizPureTM brand of *wizbiosolutions*, 0.6 μl ISSR primer, 2 μl sterile distilled water. 6 μl DNA extracted, 2 μl, total final volume 20 μl, the SRAP Marker segment differs from the single primer ISSR Marker by the S primer. RAP has 2 types of primers, Forward primer and Reverse primer. The concentration of primer is 0.6 μm. Forward primer and Reverse primer use 2 μl each, resulting in the total volume of the primer. Both to 4 microliters to make the final volume 20 microlitres the same. The amount of distilled water used was adjusted

to 4 μL. PCR 2X Master Mix and DNA were used at the same amount. When the composition for 1 reaction PCR is complete, all samples are taken. At least 30–35 cycles of polymerase chain reaction were used before DNA amplification using a Temperature Controller (Thermocycler) under appropriate reaction conditions.

3.4 Agarose Gel Electrophoresis

Weighed 1.5 mg of agarose powder, mixed with 100 ml of 1X TBE (Tris-borate EDTA) buffer, with a voltage difference of 100 V. It took about 40–42 min. The agarose sheet was examined for banding/no stripes DNA under UV light The DNA photographs were then recorded for further analysis.

3.5 Data Analysis

The DNA band was determined to be 1 and the DNA band to 0 was not formed before the recorded data were analyzed for related values by a population genetics program.

4. Research results

Table 1 lists the ISSR Primers used in the Polymerase Chain Reaction.

ISSR primer	Total bands	Polymorphic bands	(%) Polymorphism	Average GD
UBC807	9	8	88.9	0.3292
UBC808	9	9	100	0.3546
UBC809	8	8	100	0.3094
UBC810	11	11	100	0.3120
UBC811	11	10	90.9	0.2811
UBC812	10	10	100	0.3617
UBC834	9	9	100	0.3861
UBC840	6	5	83.3	0.2881
UBC841	14	14	100	0.3862
UBC842	14	14	100	0.4086
	101	98	97.03	0.3417

Table 2 lists the SRAP Primers used in the Polymerase Chain Reaction.

SRAP primer	Total bands	Polymorphic bands	(%) Polymorphism	Average GD
Me2Em6	8	8	100	0.3025
Me3Em12	8	8	100	0.2816
Me9Em6	10	10	100	0.4099
Me10Em1	10	10	100	0.3784
Me10Em2	9	9	100	0.3731

Table 2 (Continue)

SRAP primer	Total bands	Polymorphic bands	(%) Polymorphism	Average GD
Me10Em9	12	12	100	0.3441
Me11Em2	11	11	100	0.3367
Me11Em6	12	12	100	0.4048
Me12Em6	10	10	100	0.3648
Me13Em2	8	7	87.5	0.3480
	98	97	98.98	**0.3544**

Table 3 Genetic Similarity of 18 samples of the genus Thunbergia Retz. using ISSR Markers.

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18
S1	1																	
S2	0.693	1																
S3	0.683	0.614	1															
S4	0.782	0.554	0.624	1														
S5	0.822	0.594	0.644	0.921	1													
S6	0.842	0.614	0.663	0.881	0.941	1												
S7	0.871	0.604	0.713	0.772	0.752	0.792	1											
S8	0.822	0.614	0.683	0.762	0.782	0.743	0.891	1										
S9	0.782	0.594	0.644	0.703	0.703	0.703	0.832	0.861	1									
S10	0.663	0.614	0.644	0.644	0.644	0.644	0.653	0.624	0.644	1								
S11	0.644	0.614	0.663	0.663	0.663	0.663	0.693	0.743	0.703	0.743	1							
S12	0.604	0.515	0.644	0.545	0.545	0.545	0.594	0.564	0.584	0.564	0.525	1						
S13	0.594	0.505	0.495	0.535	0.515	0.515	0.604	0.554	0.574	0.515	0.495	0.673	1					
S14	0.554	0.525	0.594	0.515	0.495	0.495	0.584	0.535	0.554	0.475	0.535	0.693	0.723	1				
S15	0.525	0.436	0.505	0.525	0.485	0.485	0.554	0.505	0.525	0.545	0.485	0.703	0.693	0.653	1			
S16	0.614	0.525	0.653	0.693	0.653	0.614	0.683	0.713	0.634	0.535	0.594	0.614	0.564	0.604	0.574	1		
S17	0.624	0.535	0.624	0.644	0.604	0.545	0.634	0.624	0.624	0.584	0.564	0.703	0.594	0.653	0.584	0.713	1	
S18	0.683	0.554	0.663	0.624	0.584	0.624	0.673	0.644	0.644	0.604	0.604	0.644	0.574	0.614	0.624	0.713	0.703	1

Assign to

Example 1 = *Thunbergia laurifolia* Lindl.

Example 2 = *Thunbergia fragrans* Roxb.

Example 3 = *Thunbergia papilionacea* W.W.Sm.

Examples 4 to 6 were collected from Mae Lana Village.

Samples 7 to 9 were collected from Tham Lod village.

Samples 10 to 12 were collected from Pung Yam village.

Samples 13 to 15 were collected from Muang Pam village.

Samples 16 to 18 were collected from Nong Tong village.

Assign to

Example 1 = *Thunbergia laurifolia* Lindl.

Example 2 = *Thunbergia fragrans* Roxb.

Example 3 = *Thunbergia papilionacea* W.W.Sm.

Examples 4 to 6 were collected from Mae Lana Village.

Samples 7 to 9 were collected from Tham Lod village.

Samples 10 to 12 were collected from Pung Yam village.

Samples 13 to 15 were collected from Muang Pam village.

Samples 16 to 18 were collected from Nong Tong village.

Figure 1 A dendrogram showing the genetic relationship of 18 samples of the genus *Thunbergia* Retz. by ISSR-UPGMA.

Table 4 Genetic Similarity of 18 samples of the genus *Thunbergia* Retz. using data from SRAP Markers.

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18
S1	1																	
S2	0.418	1																
S3	0.49	0.398	1															
S4	0.755	0.48	0.49	1														
S5	0.735	0.48	0.449	0.939	1													
S6	0.776	0.48	0.449	0.878	0.898	1												
S7	0.755	0.398	0.531	0.755	0.755	0.776	1											
S8	0.602	0.429	0.622	0.704	0.684	0.724	0.847	1										
S9	0.694	0.439	0.531	0.796	0.796	0.837	0.816	0.786	1									
S10	0.663	0.429	0.622	0.704	0.704	0.684	0.724	0.714	0.765	1								
S11	0.663	0.51	0.622	0.765	0.724	0.745	0.724	0.755	0.786	0.816	1							
S12	0.592	0.418	0.612	0.612	0.571	0.571	0.531	0.602	0.531	0.622	0.643	1						
S13	0.633	0.48	0.49	0.612	0.592	0.571	0.571	0.52	0.592	0.5	0.602	0.673	1					
S14	0.612	0.418	0.571	0.612	0.612	0.653	0.612	0.582	0.633	0.622	0.622	0.612	0.571	1				
S15	0.673	0.439	0.531	0.592	0.592	0.592	0.653	0.582	0.592	0.602	0.622	0.531	0.633	0.571	1			
S16	0.602	0.367	0.582	0.561	0.541	0.622	0.643	0.694	0.643	0.633	0.653	0.663	0.541	0.684	0.52	1		
S17	0.602	0.429	0.52	0.602	0.602	0.643	0.602	0.633	0.602	0.592	0.633	0.724	0.561	0.643	0.48	0.796	1	
S18	0.612	0.439	0.633	0.612	0.571	0.612	0.612	0.724	0.633	0.663	0.704	0.776	0.592	0.571	0.592	0.786	0.745	1
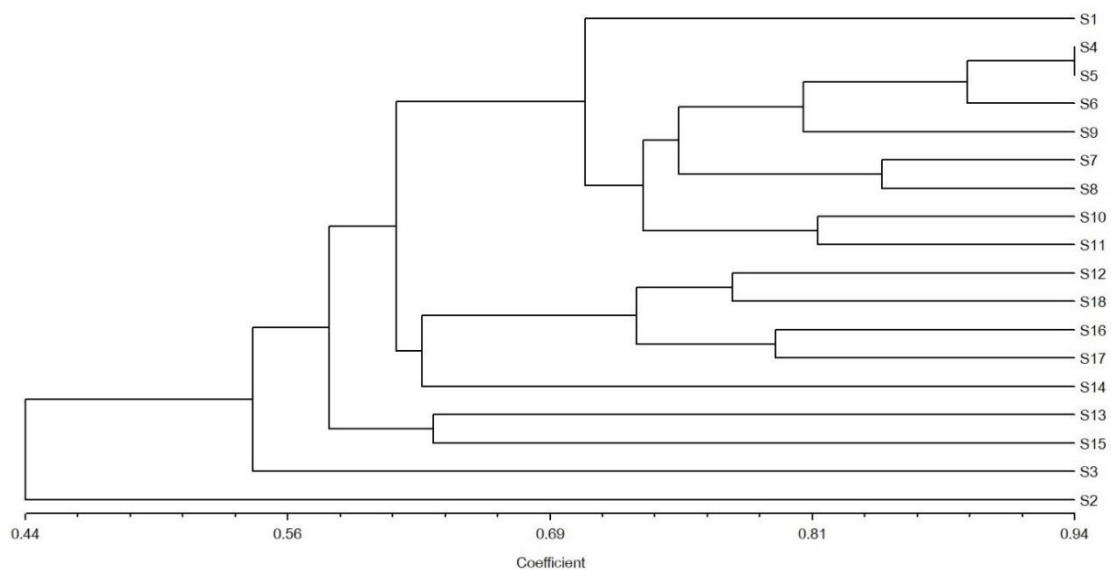
Figure 2. A dendrogram showing the genetic relationship of 18 samples of the genus *Thunbergia* Retz. by SRAP-UPGMA.

5. Discussions

Based on DNA band data on DNA fingerprints examined using ISSR and SRAP Markers. The results showed that 10 ISSR primers were used to form 101 DNA bands, 98 of which were polymorphic DNA bands, representing 97.03% polymorphism. SRAPs using all 10 primers produced 98 DNA bands, 97 polymorphic DNA bands representing 98.98% polymorphism, and the mean GD was the polymorphism. On the chromosome, it was found that the ISSR primer gave a GD = 0.3417, and the SRAP primer gave a GD = 0.3544, which is the calculated GD value. Close together Thus, the diversity of genes on the chromosomes obtained using the two Markers was not different in the examination. The data obtained from the presence/absence of DNA band counts were used to create a genotypic table of 18 samples of the *Thunbergia* Retz. Genus. For example, which samples are genetically similar to use for species identification, dendrograms were generated using NTSYSpc Version 2.10e (Rohlf, 2009) to identify 18 specimens of plants in the genus *Thunbergia* Retz. The dendrograms obtained from the ISSR could divide all 18 plants of the genus *Thunbergia* Retz. Into Three groups using coefficients. The coefficient was 0.65. In the dendrogram obtained from the SRAP Markers, all 18 Thunbergia Retz. Plants were divided into three groups using a coefficient. The coefficient of 0.61. This split from the resulting dendrogram shows us that specimen of the genus *Thunbergia* Retz., collected from the same village, are highly genetic affinity and therefore are grouped into the same group. However, some samples that were not collected from the same village were grouped into the same group because the samples that were grouped apart were genetically closely related before

but shortly after the geographic separation occurred. Enough to cause genetic changes due to physical factors affecting the growth of the plant itself. Additionally, the dendrogram was obtained by distinguishing three *Thunbergia* Retz. Species from each other enabled the identification of *Thunbergia* Retz. Specimens were collected from five villages.

The SRAP Markers distinguishes *Thunbergia fragrans* Roxb. and *Thunbergia papilionacea* W.W.Sm. from *Thunbergia laurifolia* Lindl. Like ISSR, the difference is that ISSR is different. The above-mentioned two species were not separated from *Thunbergia laurifolia* Lindl. When the coefficient was less than 0.65 but was divided into three groups when the coefficient was 0.65. Of the five villages, some samples were genetically associated with two plant species to determine the exact species of plant samples of the genus *Thunbergia* Retz. Sikharin et al. (2016) studied the genetic diversity of 98 samples collected from 47 provinces using AFLP DNA Markers. The samples were divided into three large groups. It can also be divided into several smaller groups. The results of the study will vary depending on the natural habitat in which they were collected and whether each DNA Marker is appropriate for one plant species but sometimes not for another. One symbol differentiates the results from the two symbols.

6. Conclusion

The ISSR and SRAP Markers can differentiate specimens of the genus *Thunbergia* Retz. from different reservoirs and identify species with specimens of the same genus of known species.

7. Recommendations

Morphological studies should be added to combine validation data with DNA-level data for the most accurate identification of the plant species.

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Utilization of Yeast-Fermented Broken Rice as Native Chicken Feed

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Abstract

The objective of this study was to utilized yeast-fermented broken rice as native chicken feed. was Ninety-six crossbred native chicken were used in this study. The experimental design was completely randomized design (CRD) by divided chickens into 4 treatments, each treatment consisted of 4 replication and each replication had 6 birds. The chickens received experimental diet that balanced the crude protein as 16 %CP and 3,200 Kcal/Kg ME; T1: control group (no yeast fermented broken rice), T2: diet replaced broken rice by yeast fermented broken rice at 50 percent, T3: diet replaced broken rice by yeast fermented broken rice at 60 percent, and T4: diet replaced broken rice by yeast fermented broken rice at 70 percent. The experiment was conducted for 70 days. The data of weight gain, average daily gain, feed conversion ratio, live ability, and carcass percentage were collected for analysis of variance (ANOVA) and compared the differences by Duncan's new multiple range test (DMRT).

The result has shown that the chickens that received yeast fermented broken rice at 70 percent showed the highest in gain weight, feed intake, growth rate, and live ability when compared with other groups (P<0.05). While the carcass percentage of the chickens that received yeast fermented broken rice at 60 percent was highest but there was no significantly different from the other groups. In conclusion, yeast-fermented broken rice could be used as native chicken feed, and the level in the ration could be used at 70 percent. This was an alternative to improve the nutritive value of feedstuff such as broken rice by yeast fermentation process and can be utilized as native chicken feed.

Keywords : Broken Rice, Yeast-Fermentation Process, Native Chicken Feed

Health Sciences

(Oral Presentation)

Effect of Opaque Porcelain Firing Temperature and Holding Time upon Interfacial Fracture Toughness of Milling Metal-Ceramic Alloys

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Abstract

The purpose of this study was to investigate the effect of varying opaque porcelain firing temperatures and holding times on the bond strength in terms of the interfacial fracture toughness of casting and milling metal-ceramic alloys. A total of 180 metal plates (25x8x1mm) were divided fabricated by casting and milling technique. Each technique was randomly distributed into nine groups, which were divided by matching the firing temperature (930, 940, 950 °C) and holding time (1, 2, 3 min). A pre-cracked sample was mounted in a four-point bending jig and subjected to loading and unloading cycle to determine the bond strength, which was measured by the G-value. The data were analyzed by three-way ANOVA. The metal-ceramic interface was also examined under SEM. The results revealed that the M_2 group had the highest G-value (116.52±11.17), while the C_1 had the lowest (42.13±9.09). Three-way ANOVA showed a statistical significance of the G-value across the fabrication technique, holding time, and interactions among factors ($p<0.05$), but no significant differences in the firing temperature ($p>0.05$). The SEM photograph showed the crack was identified along the interface in overall groups. When using the casting alloy and a shorter holding time, metal-ceramic restorations have a lower bond strength.

Keywords : Opaque Porcelain, Firing Temperature, Holding Time, Milling Alloy, Interfacial Fracture Toughness

1. Introduction

Metal-ceramic restorations have been considered the gold standard in reconstructive dentistry. Several clinical studies have showed that metal-ceramic restorations have a good clinical performance, with a high survival rate (Walton, 2013).

Base metal alloys are regularly selected over noble alloys for a metal substructure of metal-ceramic restoration because of their lower cost and better mechanical properties (Anusavice,

2003). Cobalt-Chromium (Co-Cr) alloys are a type of base metal alloy used as an option for those who are allergic to alloys containing nickel. The advantages of Co-Cr alloys are that they are biocompatible, weigh less, and are stronger, harder, and more resistant to corrosion than Nickel-Chromium (Ni-Cr) alloys (Roach, 2007).

Traditionally, the casting process fabricates a metal substructure of metal-ceramic restoration, which is time-consuming, difficult to polish, and prone to inaccuracy due to being technique-sensitive. With the advancement of computer-aided design and computer-aided manufacturing technology, a metal substructure can fabricate digitally by subtractive manufacturing. The advantages of these non-casting technologies are that they are more precise and eliminate errors, such as the flaws and porosity within the restoration (Zhou, Li, Yan, & Zeng, 2018). Several studies reported that their bond strength is not only comparable to the casting process alloy, but surpasses it (Farzin, Giti, & Asalforush-Rezaiye, 2018; Juntavee & Oeng, 2018). A fully sintered alloy blank saw limited use because of its hardness. This technology requires the milling center processing of metal substructure at a very high cost, as well as significant machine maintenance fees. To overcome the limitation of a fully sintered alloy blank, a pre-sintered alloy blank was introduced (Lee, Lee, Kim, & Lee, 2015).

The longevity of metal-ceramic restorations highly depends on the adhesion of veneering ceramic to the metal substructure. Chemical bonding, compression bonding, mechanical retention, and Van der Waals forces are used to achieve metal-ceramic bonding systems (Tony Johnson, 2016). The chemical bond is the most essential bond mechanism found in the opaque porcelain with an oxide layer at the metal-ceramic interface. This bond mechanism occurs during the porcelain firing process. Some changes in the porcelain firing process, such as number of opaque porcelain firings, and the firing temperature of the opaque layer (de Vasconcellos et al., 2010; Sembiring, Tamin, & Nasution, 2017) were all proposed by the author as ways to improve bond strength.

The investigation of the porcelain firing process, particularly the opaque porcelain firing temperature and holding time, could have a substantial impact on the quality of metal-ceramic restorations. However, little is known regarding the impact of opaque porcelain firing temperature and holding time on the adhesion of porcelain to metal alloy.

Many studies conducted shear and flexural tests that resulted in tensile failure to assess the metal-ceramic bond strength (Han et al., 2018; Juntavee & Oeng, 2018). However, the results are associated with stress gradients along the interface area and a stress concentration effect, making it difficult to determine true bond strength (Khung & Suansuwan, 2013). The interfacial fracture toughness is a reasonable alternative method for determining actual adhesion at biomaterial interface material. One advantage of the method is that the bond quality of various metal-ceramic systems can be compared directly (Suansuwan & Swain, 2003).

Thus, the purpose of this study was to investigate the effect of varying opaque porcelain firing temperatures and holding times on the adhesion of porcelain to the casting and milling alloy in terms of the interfacial fracture toughness. This study could aid in determining the appropriate firing temperature, holding time, and metal alloy fabrication technique required to provide the optimum bond strength in metal-ceramic restorations.

2. Research Objectives

This research consisted of three objectives:

2.1 To investigate the effect of varying opaque porcelain firing temperatures on the interfacial fracture toughness;

2.2 To investigate the effect of varying opaque porcelain holding times on the interfacial fracture toughness;

2.3 To investigate the effect of different fabrication techniques of metal alloys on the interfacial fracture toughness.

3. Null Hypothesis

This research consisted of three hypotheses:

3.1 There is no statistically significant difference in opaque porcelain firing temperatures on the interfacial fracture toughness;

3.2 There is no statistically significant difference in opaque porcelain holding times on the interfacial fracture toughness;

3.3 There is no statistically significant difference in the fabrication technique of metal alloy on the interfacial fracture toughness.

4. Research Methodology

4.1 Metal plate preparation

For the casting technique, 90 metal plates with dimensions of 25 mm length, 8 mm width, and 1 mm thickness were derived. First, a vacuum sheet of hard clear plastic (Essix ACE® Plastic, Dentsply Sirona, North Carolina, USA) was cut into the desired dimensions. Then, it was sprued and invested in a casting ring using a phosphate-bonded investment (Bellavest® SH powder and Liquid, Bego, Bremen, Germany). The investments were burnt out and cast with a Co-Cr alloy ingot (Auriloy® N.P.(Special), Aurium, San Diego, California, USA) in an electric centrifugal casting machine (Fornax T®, Bego, Bremen Germany). After casting, the metal plates were carefully divested.

For the milling technique, 90 metal plates with dimensions of 25 mm length, 8 mm width, and 1 mm thickness were derived. A pre-sintered Co-Cr blank (Ceramill Sintron®, Amann

Girbach, Koblach, Austria) was cut into cuboid shapes with a precision saw. Each cuboid shape was transverse cut to a 1.2 mm thickness using a rotary diamond-coated saw (Megatome T180, Presi, Grenoble, France). Then, the samples were fully sintered in an argon gas atmosphere at 1,300 °C in a sintering furnace (Ceramill Argotherm; Amann Girrbach, Koblach, Austria).

Each metal plate was finished using a tungsten carbide bur in one direction at a speed of 20,000 rpm until a homogenous polish surface was achieved. Then, a 110-micron aluminum oxide abrasive (Korox®, Bego, Bremen, Germany) was used to sandblast the samples at 2–4 bar pressure for 10 seconds at a distance of 10 mm. The metal plates were cleaned with distilled water in an ultrasonic cleaner for 10 minutes. Both alloys were degassed in a furnace (Progammat® P100 furnace, Ivoclar Vivadent, Schaan, Liechtenstein) according to the manufacturer's specifications and then removed the oxide.

4.2 Sample grouping and the application of porcelain

Both the casting and milling metal plates were divided into nine groups (n=10 per group) based on the firing temperature and holding time of the opaque porcelain. The manufacturer's instructions recommended a firing temperature of 930 °C and a holding time of 2 mins for IPS InLine® opaque porcelain. For investigation, the firing temperature was increased by 10–20 °C, and the holding time was altered by ±1 minute from the manufacturer's instructions, as showed in Figure 1.

Paste opaquer shade A3.5 (IPS InLine® System Paste Opaquer, Ivoclar Vivadent, Schaan, Liechtenstein) was applied to each metal plate and fired in the furnace (Progammat® P100 furnace, Ivoclar Vivadent, Schaan, Liechtenstein). A silicone mold with a thickness of 0.2 mm was used to control the thickness of the opaque porcelain.
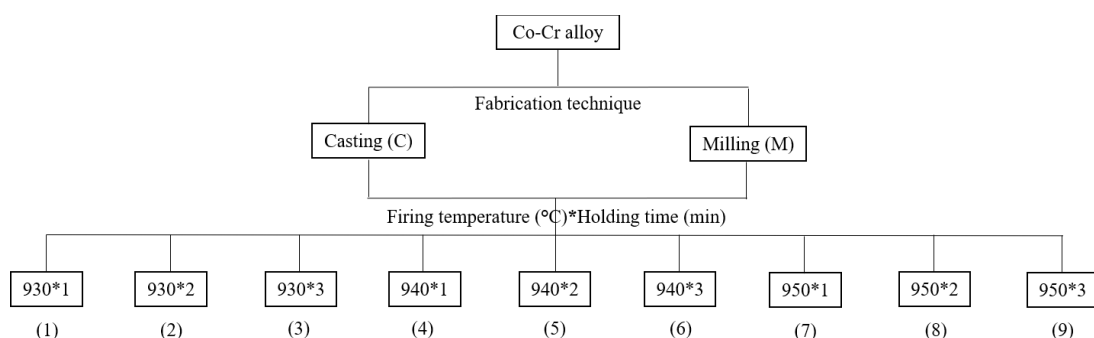
Figure 1 The flow charts of the experiment and sample grouping.

The normal steps for applying body porcelain were then followed. Finally, all samples were sequentially finished and polished with 400, 600, 800, 1,000, and 1,200-grit silicon carbide paper on a grinder-polisher machine (Ecomet® 3, Buehler, Lake Bluff, Illinois, USA).

4.3 Notching, pre-cracking, and testing

The sample was mounted in a special design apparatus for the final dimension of the notch, which was 0.25 mm in width and 1.5 mm in depth through the entire thickness of the porcelain layer. The sample was cut in the middle with a precision diamond disc.

To create a pre-crack at the base of the notch, the notched samples were placed on a four-point bending jig. Then, mounted in a universal testing machine (UTM) (INSTRON Model 5944, Instron®, Norwood, Massachusetts, USA), and subjected to compressive load at a crosshead speed of 0.05 mm/min until the crack extended along the interface with a total length of 1 mm.

The pre-cracked samples were subjected to a loading and unloading cycle (about four cycles) of compressive load at a crosshead speed of 0.05 mm/min until the crack extended beyond the inner rollers. One side of the sample was thinly coated with white correction liquid throughout crack propagation for clear visualization. To assess the crack length, a measuring ruler attached to a four-point bending jig and a digital camera (Canon Macro Lens EF 100mm f/2.8L with Canon EOS 80D in manual mode) were used simultaneously. During the crack extension, load-displacement curves were displayed on the monitor. When a stable crack propagated, the curve showed a horizontal plateau area. The mean load at a horizontal plateau area of each load-displacement curve was calculated as the strain energy release rate or G-value (J/m2). Figure 2. illustrated the testing configuration and load-displacement curve.

Following a four-point bending test, each group's representative sample was further prepared for scanning electron microscope (SEM) (SU3800, Hitachi®, Osaka, Japan) investigation of the metal-ceramic interface.
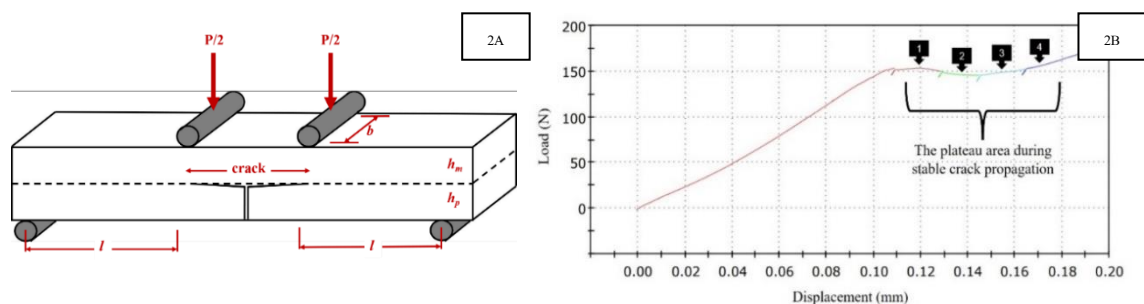
Figure 2 Schematic drawing of the interface fracture by a four-point bending test (A) and typical load-displacement curve and plateau area in each loading and unloading cycle (B).

4.4 The adhesion determination

The bi-material interface adhesion in terms of the interfacial fracture toughness was determined by the strain energy release rate. The G-value (J/m^2) was calculated by the following formula:

$$G = \frac{\eta(P^2 l^2 (1 - v_m^2))}{E_m b^2 h^3}$$

Where P is the load necessary to stably propagate the crack (given by the average of four load values in the plateau area, as showed in Figure 2), l is the moment arm or distance between inner and outer rollers on the same side (the distance between the inner rollers is 8 mm, and 22 mm between the outer rollers.), V_m and E_m are Poisson's ratio and elastic modulus of metal, b and h are the width and the total thickness of the sample, respectively. And n is the non-dimensional parameter of the modulus difference between metal and porcelain and is given by

$$\eta = \frac{3}{2}\left[\frac{1}{\left(\frac{h_m}{h}\right)^3} - \left\{\frac{\lambda}{\left(\frac{h_p}{h}\right)^3 + \lambda\left(\frac{h_m}{h}\right)^3 + 3\lambda\left(\frac{h_p h_m}{h}\right)\left(\frac{h_p}{h} + \frac{\lambda h_m}{h}\right)^{-1}}\right\}\right]$$ With

$$\lambda = \frac{E_m(1 - v_p^2)}{E_p(1 - v_m^2)}$$

Where V_p and E_p are Poisson's ratio and elastic modulus of porcelain, and h_m and h_p are the thickness of metal and porcelain, respectively.

4.5 Data analysis

The G-value was tested for normality (Shapiro–Wilk test) and homogeneity of variances (Levene's test). With the normal distribution of the data, a three-way ANOVA was used to compare three independent variables (the fabrication technique of the alloy, opaque porcelain firing temperature, and opaque porcelain holding time). After that, a multiple comparisons test at a statistical significance level of (p=0.05) is performed.

5. Research Results

5.1 The strain energy release rate (G-value)

Figure 3 presents the Mean and standard deviation (SD) of the G-value (J/m^2) of each group. The highest G-value is found in the M_2 group (116.52±11.17), followed by M_8 (91.90±11.11), M_6 (86.74±8.63), M_4 (86.28±12.07), M_9 (82.00±15.88), M_3 (81.17±14.63), C_6 (79.14±10.61), M_1 (78.70±22.93), M_7 (73.31±12.65), M_5 (73.08±7.47), C_8 (67.74±13.82), C_5 (61.35±12.80), C_9 (55.59±11.01), C_2 (49.24±5.57), C_7 (47.04±5.32), C_4 (45.19±6.84), C_3 (44.09±11.09), and C_1 (42.13±9.09), respectively.

Three-way ANOVA indicated a statistical significance of the G-value across the fabrication technique of the alloy, holding time, and interactions among these three factors ($p<0.05$), but no significant differences in the firing temperature ($p>0.05$), as showed in Table 1. Multiple comparisons among holding times showed a statistically significant difference ($p<0.05$) in terms of the G-value of holding times, except between 2 mins x 3 mins as showed in Table 2.
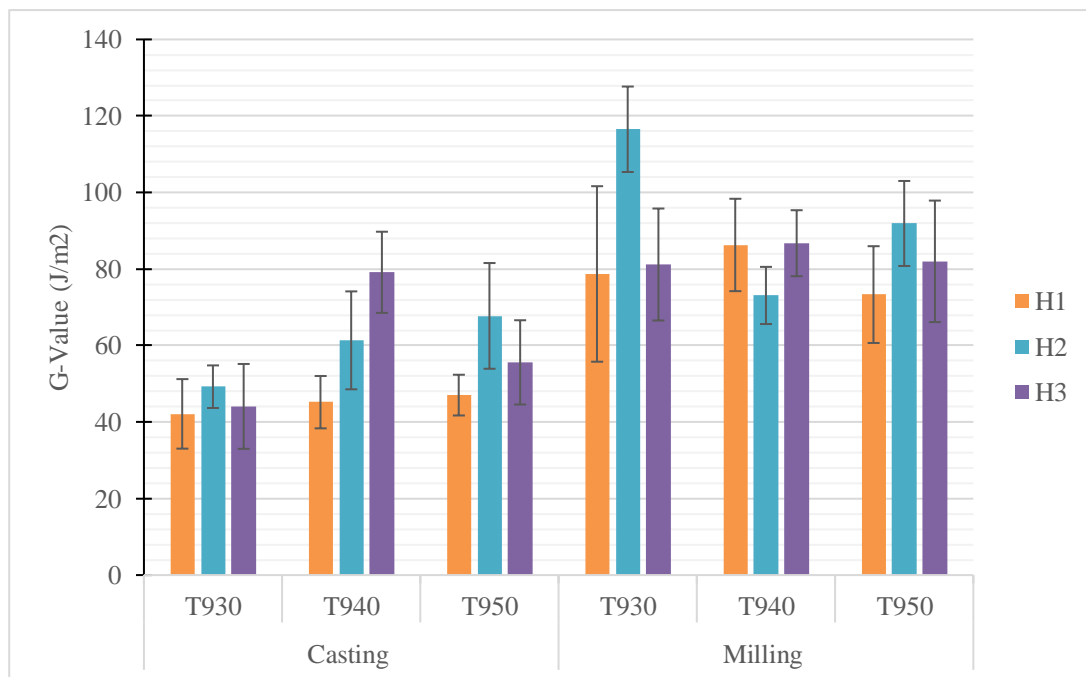
Figure 3 Bar graph of the mean and SD of G-value by tested groups.

Table 1 Three-way analysis of variance (ANOVA) of the mean G-value.

Effect	SS	df	MS	F	P
Fabrication technique	42,998.87	1	42,998.87	300.411	0
Firing temperature	350.825	2	175.412	1.226	0.296
Holding time	6,506.33	2	3,253.17	22.728	0
Fabrication technique*Firing temperature	6,033.94	2	3,016.97	21.078	0
Fabrication technique*Holding time	1,171.21	2	585.605	4.091	0.018
Firing temperature*Holding time	7,136.20	4	1,784.05	12.464	0
Fabrication technique*Firing temperature*Holding time	5,272.57	4	1,318.14	9.209	0

*at a statistical significance level of (p=0.05)

Table 2 Tamhane's T2 multiple comparisons of holding time.

Holding Time		Mean Difference	Std. Error	P	95% CI	
					LB	UB
1 min	2 mins	-14.5293*	4.22147	0.002	-24.756	-4.3025
	3 mins	-9.3464*	3.79361	0.045	-18.536	-0.1567
2 mins	1 min	14.5293*	4.22147	0.002	4.3025	24.7561
	3 mins	5.1829	4.05718	0.496	-4.6502	15.0159
3 mins	1 min	9.3464*	3.79361	0.045	0.1567	18.5361
	2 mins	-5.1829	4.05718	0.496	-15.016	4.6502

at a statistical significance level of (p=0.05)

5.2 Microstructure study

The SEM photographs of metal-ceramic interface examination are showed at x250, x500, x1,000, and x1,500 magnification in Figure 4. The crack was identified along the interface and partly in the porcelain layer overall groups. All the crack patterns were undulating. The remark is that the casting metal-ceramic alloy group has less irregularity than the milling metal-ceramic alloy group.
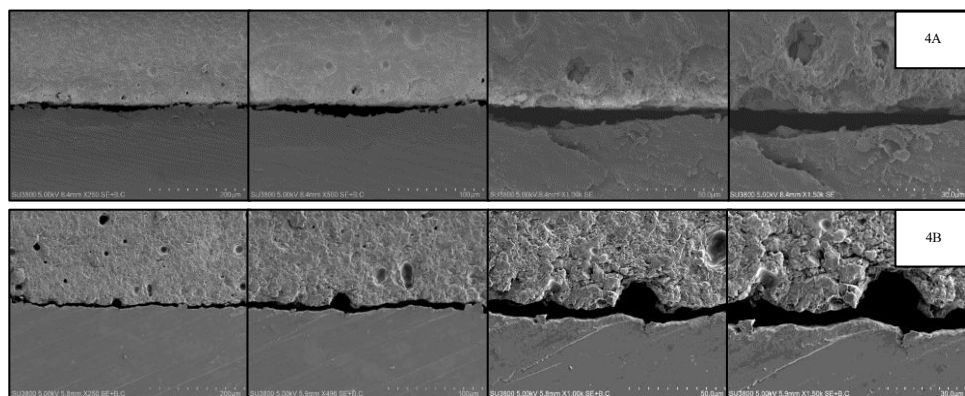
Figure 4 The representative SEM photograph comparisons of casting (A) and milling (B) alloy.

6. Discussion

This study aimed to investigate the effect of varying opaque porcelain firing temperatures and holding times on the adhesion of porcelain to the casting and milling alloy in terms of the interfacial fracture toughness, measured by the G-value. The results show that the opaque porcelain holding time and fabrication technique of alloy have statistically a significant effect on the G-value (p<0.05). Although, there are no statistically significant differences in opaque porcelain firing temperatures (p>0.05), increasing the firing temperature by 10–20 °C beyond the manufacturer's

recommendation resulted in greater G-value in this study. It was expected that increasing the opaque porcelain firing temperature by over 20 °C would cause statistically significant differences. As the temperature and holding time are raised, the porcelain completely fuses to the metal substructure, which will improve porcelain adhesion to metal alloys (Ning Xu, 2013; Wight, Bauman, & Pelleu, 1977). During the porcelain firing process, a chemical reaction occurs between the metal and porcelain interface. Metal atoms diffuse and react with oxides in ceramic. The firing temperature has a significant impact on the diffusion speed and thickness of a conversion zone. The solubility and diffusion of the metal alloy and ceramic increase as the temperature is raised, and the conversion zone steadily extends (de Vasconcellos et al., 2010; Zhang et al., 2015).

Regarding the fabrication technique of alloy, the G-value in the casting group were statistically significantly lower than the milling group in this study. A conventional Co-Cr alloy has a poorer bond strength than a pre-sintered Co-Cr alloy. This finding is consistent with an earlier study (Han et al., 2018) although it also contradicts other findings (Lee et al., 2015; Serra-Prat, Cano-Batalla, Cabratosa-Termes, & Figueras-Àlvarez, 2014). Different morphologies and thicknesses of the oxide layer resulted in this variation. Poor bonding will occur if the oxide layer is absent, very thin, or excessively thick. According to Wang et al. discovered that the casting group had a thicker porous oxide layer than other groups, allowing more oxide in the ceramic to participate in the chemical process, resulting in a wider interaction region and poorer chemical bonding (Wang, Feng, Li, & Xu, 2016). Metal oxide formation during the oxidation process is influenced by alloy composition and surface treatment (Joias et al., 2008). According to the SEM photograph of the milling metal-ceramic group interface exhibited more irregularity than the casting metal-ceramic group. This could explain why the bond strength of the milling group was higher than the casting group.

In the present study, the adhesion of metal-ceramic restoration was assessed as the G-value by using the four-point bending test. This test method has many advantages over other bond strength test methods. The pre-cracked specimen allowed direct measurement of the interfacial fracture energy and the stability of crack propagation extension along the interface was also observed. The crack began at the base of the notch and propagated horizontally along the interface, rather than propagating in an unstable manner within or through the porcelain. It prevented high-stress concentration and specimen overload at the onset of crack propagation, unlike other test methods. Another advantage of this method is that it includes Poison's ratio and elastic modulus in the test.

7. Conclusion

Within the limitations of this study, the following conclusions can be drawn:
7.1 The highest G-value was in the M2, while the lowest was in the C1.

7.2 Increasing the opaque porcelain firing temperature by 10–20 °C higher than the manufacturer's recommendation exhibited greater G-value. However, the differences between the groups were not statistically significant.

7.3 Using a shorter opaque porcelain holding time than the manufacturer recommended resulted in lower G-value.

7.4 The milling Co-Cr alloy exhibited higher G-value than the Co-Cr casting alloy. A pre-sintered Co-Cr alloy is an alternative to the conventional casting alloy for metal-ceramic restorations.

7.5 The interfacial fracture toughness in terms of the G-value determination is more reliable for quantifying the adhesion in biomaterial systems.

8. Recommendations

Based on the results, the following recommendations are suggested:

8.1 Minor modifications to laboratory firing parameters, such as raising the firing temperature and holding time of opaque porcelain, could enhance the bonding of metal-ceramic restorations.

8.2 A pre-sintered Co-Cr alloy is an alternative to a conventional casting alloy as a metal substructure of metal-ceramic restorations.

8.3 As a limitation of the in-vitro study, further controlled experiments with other factors will be required to confirm the clinical utility.

8.4 Additional microstructure investigations, such as energy dispersive X-ray microanalysis (EDX), should be performed to characterize the metal-ceramic interface to more clearly explain the influence of porcelain firing parameters on metal-ceramic adhesion.

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The Effect of Different Sintering Times and Temperatures on the Translucency of Monolithic Zirconia

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Abstract

The purpose of this study is to investigate the translucency of monochrome and multilayer monolithic zirconia with different sintering parameters.

One hundred fifty monochrome zirconia ceramic bars (Cercon XT) and one hundred fifty multilayer zirconia ceramic bars (Cercon XT ML), shade A2, were cut from pre-sintered block and divided into ten groups (n = 15) according to sintering time (10, 15, 30 and 135 minutes) and sintering temperature (1450 °C, 1500 °C and 1550 °C). The translucency parameter was measured by a spectrophotometer. One specimen from each group was selected randomly and its microstructure was evaluated by scanning electron microscope (SEM). A three-way ANOVA and Tukey's HSD test were used to analyze the data obtained (p = 0.05). The results show that $Z_XT_lH_S$ and $Z_MT_lH_SL$ have the highest TP values (3.76 $\pm$ 0.36 and 3.29 $\pm$ 0.25, respectively). With an increase in temperature, the TP value of zirconia, both monochrome and multilayer, increases. There were no significant differences in the TP value between $Z_XT_RH_R$ and $Z_XT_lH_S$. Similarly, the TP values of $Z_MT_RH_R$ and $Z_MT_lH_SL$ were not significantly different. Increasing the sintering temperature resulted in grain growth. Sintering zirconia at a high temperature and with a short time provides acceptable translucency.

Keywords : Monolithic Zirconia, Multilayer Zirconia, Sintering, Translucency

1. Introduction

Nowadays, esthetic requirements in dentistry have increased; all ceramics have become more popular for dental restoration than porcelain fused to metal, due to their superior properties in esthetics, biocompatibility and chemical stability (Ghodsi & Jafarian, 2018). Glass ceramics are recommended for esthetic restoration due to their translucency. However, the limitations of glass ceramics are their low strength and their ability to mask the color of the abutment. Zirconia ceramics are an interesting material that have been introduced due to their advantages: tooth-

colored materials, excellent mechanical properties, wear resistance, chemical inertness, low thermal conductivity and a high melting temperature. Pure zirconia is polymorphic crystalline. It has a cubic structure at high temperatures (> 2370 °C), a tetragonal structure at intermediate temperatures (1200 °C – 2370 °C) and a monoclinic structure at low temperatures (< 950 °C). When it cools, a tetragonal phase can transform to a monoclinic phase at temperatures around 950 °C, and when heating, a monoclinic phase can transform to a tetragonal phase at temperatures around 1150 °C. An interesting property of zirconia is transformation toughening (Garvie, Hannink, & Pascoe, 1975). This happens when a crack occurs and a tetragonal phase transforms into a monoclinic phase around the crack tip. Changing a tetragonal phase into a monoclinic phase increases the volume of crystalline (Hannink, Kelly, & Muddle, 2000), which can stop crack propagation. Although the tetragonal phase is unstable at room temperature, the addition of solubility dopants can enhance stability. Dopants such as yttrium (Yt), calcium (Ca), magnesium (Mg), cerium (Ce) and titanium (Ti) are used to stabilize the tetragonal phase of zirconia at room temperature (Stawarczyk et al., 2017). The most common dopant added to zirconia is 3mol% of yttrium oxide.

Optical properties are important for restoration in the field of esthetics. Although zirconia is a tooth-colored material with excellent mechanical properties, it has limitations for restoring anterior teeth. Due to its opacity, using zirconia veneering with porcelain can mask the whitish substructure and enhance esthetics. However, the problem with porcelain-layering zirconia is its high rate of chipping (Ghodsi & Jafarian, 2018; Stawarczyk et al., 2017). The problem of ceramic fracture and chipping is reduced by introducing monolithic zirconia restoration. The advantage of monolithic zirconia is the reduced thickness of restoration when compared with veneered restoration or other monolithic ceramics (Rinke & Fischer, 2013). For clinical use, a thickness of 0.5–0.75 mm can be considered (Manziuc et al., 2019; Weigl et al., 2018). Conventional zirconia has excellent strength but poor translucency. The translucency of monolithic zirconia is an improvement. In the first generation, increasing the sintering temperature provided a large grain size of zirconia and more light transmission (Ebeid et al., 2014; Jiang, Liao, Wan, & Li, 2011; Stawarczyk et al., 2014; Stawarczyk et al., 2013), but the strength was reduced. In the second generation, the number and grain size of aluminum oxide (Al_2O_3) were reduced and the position of Al_2O_3 was rearranged at grain boundaries, leading to an increase in light transmission and a decrease in light scattering, which resulted in an increased translucency in zirconia. However, the second generation had inferior translucency compared to glass ceramics. For the third generation, a higher percentage of yttrium-stabilized zirconia composition (approximately 9.3 wt%/5mol%) was added, which enhanced 10–15% of the cubic phase, interposed with the tetragonal phase in zirconia (Elsaka, 2017; Stawarczyk et al., 2017). The cubic structure had a higher volume and was more isotropic than tetragonal, which means that light scatters less at grain boundaries.

Translucent zirconia contains more than 5mol% of Y_2O_3. Translucent zirconia can be used for restoration in both anterior and posterior teeth because this material combines strength with improved esthetics. Due to its high esthetics and its similarity to natural teeth, multilayer zirconia was developed. It mimics the shade of natural teeth along the incisal to cervical areas (Stawarczyk et al., 2017), while monochrome zirconia contains only one color.

The blocks of monolithic zirconia are available in two process stages: pre-sintered and fully sintered. Milling from pre-sintered blocks is more popular than from sintered blocks, due to the milling process being easier, faster and having a reduced wear on machine milling. The sintering procedures of zirconia material take time: the holding time is about two to three hours, and the total time is approximately seven hours. The time-consuming nature of fabrication of zirconia restoration is not convenient for one-visit, chair-side applications. Short-time sintering may offer benefits such as high productivity and saving time and energy (Baroudi & Ibraheem, 2015). There are few studies about short sintering times and their effect on the translucency of zirconia. Therefore, sintering parameter adjustments are of interest for saving precious time and decreasing visit appointments.

2. Research Objectives

The aim of this study is to investigate the translucency of monochrome and multilayer monolithic zirconia with different sintering parameters.

3. Research Hypothesis

The hypothesis of this study states that decreasing the sintering time will not decrease the translucency of monochrome and multilayer monolithic zirconia.

4. Research Methodology

Sample preparation

One hundred fifty monochrome zirconia ceramic bars (Cercon XT, Dentsply Sirona, USA) and one hundred fifty multilayer zirconia ceramic bars (Cercon XT ML, Dentsply Sirona, USA) with a dimension of 12.5 x 25 x 2.5 mm^3 (Fig. 1), shade A2 were cut from pre-sintered block and divided into 10 groups (n = 15) according to sintering time (10, 15, 30 and 135 minutes) and sintering temperature (1450 °C, 1500 °C and 1550 °C). Cercon XT and Cercon XT ML are translucent zirconia that contain 5 mol% yttrium oxide. All specimens were polished with silicon carbide abrasive paper at grits of 600, 800, 1000, 1200, 1500 and 2000 grit particles and polished with a 1 μm diamond suspension by using a polishing machine (Ecomet®3 polisher, Beuhler, Lake Bluff, IL, USA). The sintering procedure is shown in Table 1. After the preparation of the dimensions of the specimens, the specimens were cleaned with ultrasonic cleaning (Vitasonic

II, Vita Zahnfabrik, Germany), dried at room temperature for 60 minutes and sintered with a manufacturer sintering furnace (inFire®, HTC, Sirona Dental Systems GmbH, Bensheim, Germany). After the completion of the sintering process, the specimens were measured by using a digital vernier caliper (Mitutoyo, Mitutoyo Corp, Tokyo, Japan), and the final dimension was 10 x 20 x 2 mm^3.

Evaluation of optical properties

Specimens were placed over a white background and a black background, and CIELAB coordinates were measured for each specimen using a spectrophotometer (Color Quest® XE, HunterLab, USA). For monochrome zirconia, three measuring points were taken at the left, center and right sides, and their average was recorded. For multilayer zirconia, nine measurements were taken at the incisal area (U), transitional area (M) and dentin area (L). Each area was measured at the left, center and right side, and their average value was recorded.

The data from the CIELAB coordinates was recorded and the translucency parameter was calculated according to the following equation:

$$TP = \sqrt{(L_B - L_W)^2 + (a_B - a_W)^2 + (b_B - b_W)^2}$$

where B refers to a black background and W refers to a white background.

Microstructure analysis

One specimen from each group was selected randomly. The specimen was cleaned, dried and gold-sputter coated, and the surface was evaluated by scanning it with an electron microscope (SEM) (Hitachi S-300N, Osaka, Japan).

Statistical analysis

The data was checked for a normal distribution and analyzed by a three-way ANOVA, followed by Tukey's HSD test (SPSS version 20, Chicago, Illinois, USA). Statical significance at $p \leq 0.05$ was determined for the effect of different sintering times and temperatures on the variables test.

Table 1 Sintering procedure of monochrome zirconia (Z_X) and multilayer zirconia (Z_M)

Material	Temperature (°C)	Time (minute)			
Monochrome **(Z_X)**	1450 (T_D)	10 (H_E)	15 (H_U)	30 (H_S)	-
	1500 (T_R)	10 (H_E)	15 (H_U)	30 (H_S)	135 (H_R)
	1550 (T_I)	10 (H_E)	15 (H_U)	30 (H_S)	-
Multilayer **(Z_M)**	1450 (T_D)	10 (H_E)	15 (H_U)	30 (H_S)	-
	1500 (T_R)	10 (H_E)	15 (H_U)	30 (H_S)	135 (H_R)
	1550 (T_I)	10 (H_E)	15 (H_U)	30 (H_S)	-

Z_X = Monochrome zirconia, Z_M = Multilayer zirconia, T_D = Decreasing temperature,
T_R = Regular temperature, T_I = Increasing temperature, H_E = Extremely short,
H_U = Ultra-short and H_S = Short
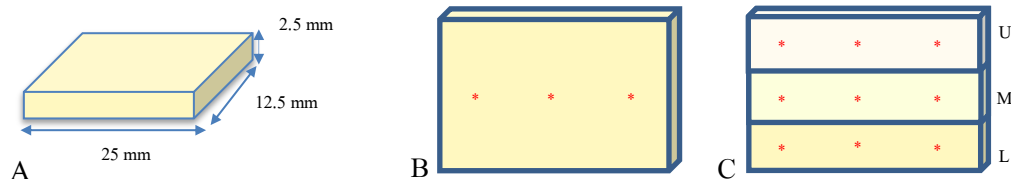
Figure 1 Dimension of specimens (A), Measuring area in Z_X (B) and Z_M (C) specimens by spectrophotometer

5. Research Result

Optical properties

The mean of the translucency parameter (TP) evaluation and three-way ANOVA revealed significant differences in the TP values between subgroups when they were sintered using different times, temperatures and materials ($p < 0.001$). In the monochrome group, $Z_X T_R H_R$ had a higher TP value (3.76 ± 0.36), and $Z_X T_D H_U$ had a lower TP value (1.06 ± 0.39), as presented in Table 2. In the multilayer group, $Z_M T_I H_S L$ had a higher TP value (3.29 ± 0.25), and $Z_M T_D H_U U$ had a lower TP value (0.75 ± 0.23), as presented in Table 2. Sintering at an increased temperature resulted in a significantly higher TP value ($p < 0.001$) than decreased or regular sintering temperatures, as presented in Table 3. A regular sintering time resulted in a higher TP value than extremely short, ultra-short and short sintering times, as presented in Table 4. $Z_M T_I H_S L$ had no significantly higher TP values than $Z_M T_R H_R L$ ($p > 0.05$). The TP value in each layer of the multilayer group, the U area showed a significant difference in the TP value for the M and L areas ($p < 0.001$), as presented in Table 5.

Microstructure

The scanning electron microscope was used to observe the grain size of the zirconia. The different sintering procedures resulted in different grain sizes, as presented in Fig.3, 4, 5, 6 and 7. Decreasing the temperature led to small grains, while increasing the sintering temperature resulted in grain growth and an increase in medium and large grain sizes. Sintering at an increased temperature revealed a greater number of large-sized grains than regular and decreased temperatures. It was also shown that the longer the sintering time, the greater the grain growth.
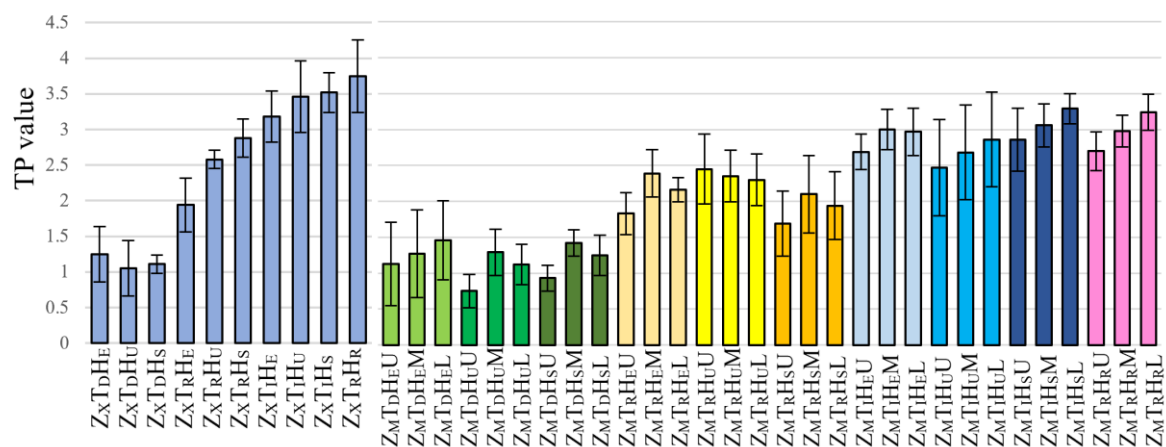
Figure 2 TP value in monochrome and multilayer zirconia

- S = small grain size (0.3–0.9μm)
- M = medium grain size (0.91–1.5μm)
- L = large grain size (1.51–2.1μm)
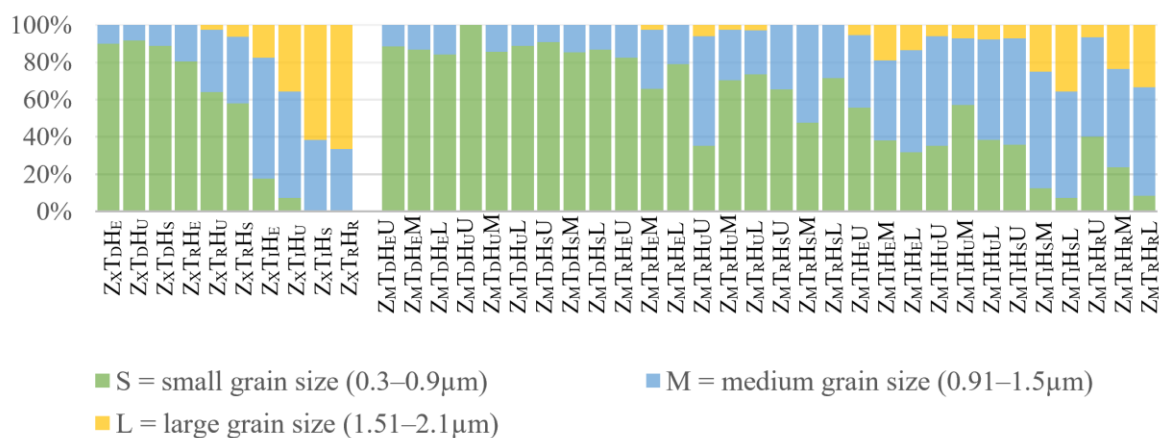
Figure 3 Percentage of grain sizes of monolithic zirconia
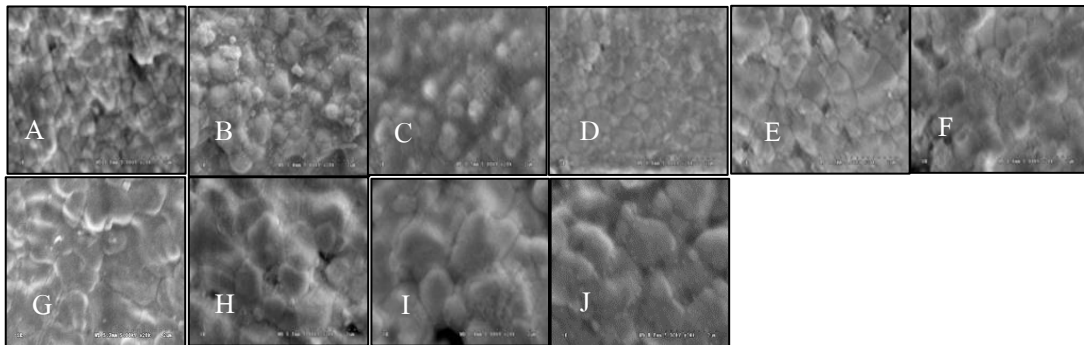
$Z_X T_D H_E$ (A), $Z_X T_D H_U$ (B), $Z_X T_D H_S$ (C), $Z_X T_R H_E$ (D), $Z_X T_R H_U$ (E), $Z_X T_R H_S$ (F), $Z_X T_I H_E$ (G), $Z_X T_I H_U$ (H), $Z_X T_I H_S$ (I) and $Z_X T_R H_R$ (J).

Figure 4 SEM image of monochrome zirconia group
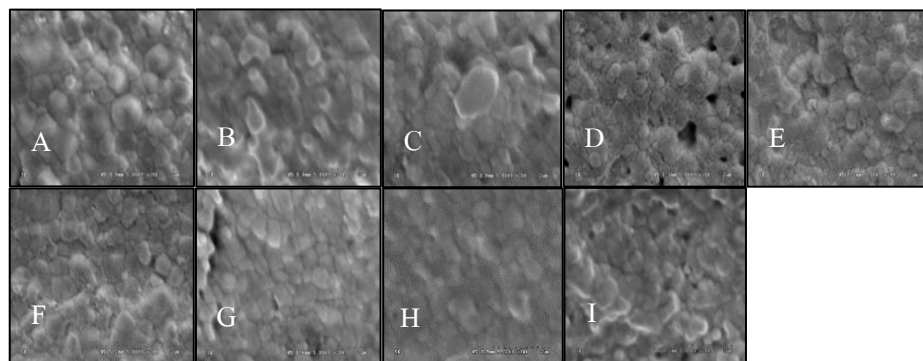
$Z_M T_D H_E U$ (A), $Z_M T_D H_E M$ (B), $Z_M T_D H_E L$ (C), $Z_M T_D H_U U$ (D), $Z_M T_D H_U M$ (E), $Z_M T_D H_U L$ (F), $Z_M T_D H_S U$ (G), $Z_M T_D H_S M$ (H) and $Z_M T_D H_S L$ (I).

Figure 5 SEM image of multilayer zirconia group sintered at 1450
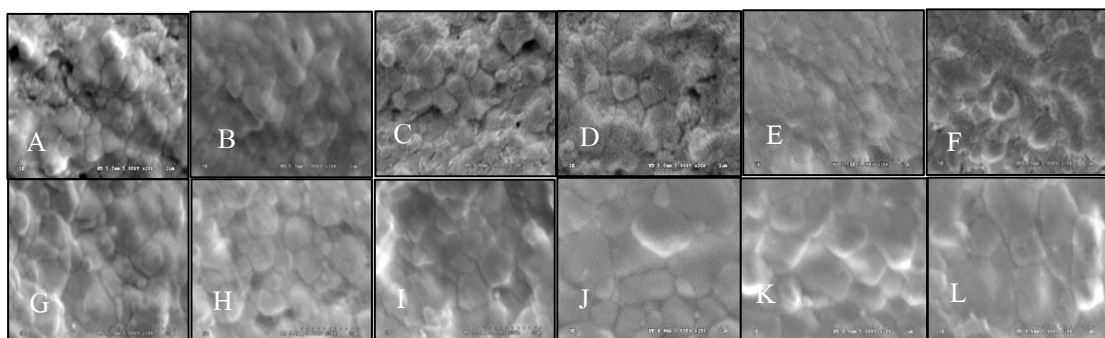
$Z_M T_R H_E U$ (A), $Z_M T_R H_E M$ (B), $Z_M T_R H_E L$ (C), $Z_M T_R H_U U$ (D), $Z_M T_R H_U M$ (E), $Z_M T_R H_U L$ (F), $Z_M T_R H_S U$ (G), $Z_M T_R H_S M$ (H), and $Z_M T_R H_S L$ (I). $Z_M T_R H_R U$ (J), $Z_M T_R H_R M$ (K) and $Z_M T_R H_R L$ (L).

Figure 6 SEM image of multilayer zirconia group sintered at 1500
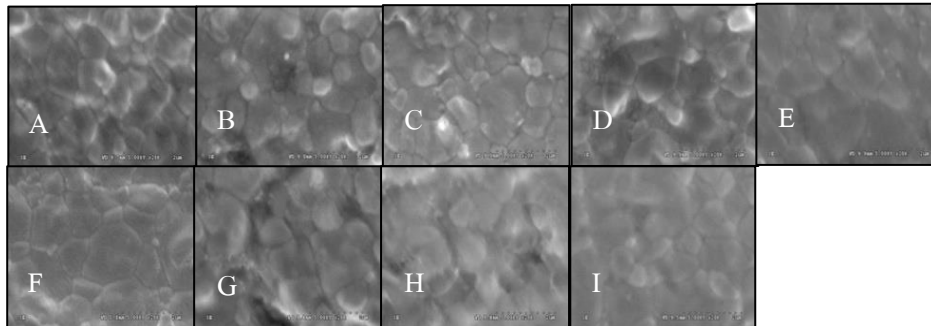
$Z_M T_I H_E U$ (A), $Z_M T_I H_E M$ (B), $Z_M T_I H_E L$ (C), $Z_M T_I H_U U$ (D), $Z_M T_I H_U M$ (E), $Z_M T_I H_U L$ (F), $Z_M T_I H_S U$ (G), $Z_M T_I H_S M$ (H) and $Z_M T_I H_S L$ (I).

Figure 7 SEM image of multilayer zirconia group sintered at 1550

Table 2 The means of TP values of monochrome zirconia (mean ± SD)

Group	TP	Group	TP	Group	TP
$Z_X T_D H_E$	1.25 ± 0.39	$Z_M T_D H_S U$	0.93 ± 0.18	$Z_M T_I H_E U$	2.69 ± 0.67
$Z_X T_D H_U$	1.06 ± 0.39	$Z_M T_D H_S M$	1.42 ± 0.18	$Z_M T_I H_E M$	3.00 ± 0.66
$Z_X T_D H_S$	1.1 ± 0.13	$Z_M T_D H_S L$	1.25 ± 0.28	$Z_M T_I H_E L$	2.97 ± 0.66
$Z_X T_R H_E$	1.94 ± 0.38	$Z_M T_R H_E U$	1.83 ± 0.29	$Z_M T_I H_U U$	2.47 ± 0.44
$Z_X T_R H_U$	2.57 ± 0.13	$Z_M T_R H_E M$	2.39 ± 0.33	$Z_M T_I H_U M$	2.68 ± 0.30
$Z_X T_R H_S$	2.88 ± 0.27	$Z_M T_R H_E L$	2.16 ± 0.17	$Z_M T_I H_U L$	2.86 ± 0.21
$Z_X T_R H_R$	3.76 ± 0.36				
$Z_X T_I H_E$	3.18 ± 0.50	$Z_M T_R H_U U$	2.45 ± 0.49	$Z_M T_I H_S U$	2.86 ± 0.27
$Z_X T_I H_U$	3.46 ± 0.28	$Z_M T_R H_U M$	2.35 ± 0.36	$Z_M T_I H_S M$	3.06 ± 0.22
$Z_X T_I H_S$	3.52 ± 0.51	$Z_M T_R H_U L$	2.30 ± 0.36	$Z_M T_I H_S L$	3.29 ± 0.25
$Z_M T_D H_E U$	1.13 ± 0.58	$Z_M T_R H_S U$	1.69 ± 0.45		
$Z_M T_D H_E M$	1.26 ± 0.61	$Z_M T_R H_S M$	2.1 ± 0.54		
$Z_M T_D H_E L$	1.46 ± 0.55	$Z_M T_R H_S L$	1.94 ± 0.47		
$Z_M T_D H_U U$	0.75 ± 0.23	$Z_M T_R H_R U$	2.70 ± 0.25		
$Z_M T_D H_U M$	1.29 ± 0.32	$Z_M T_R H_R M$	2.98 ± 0.28		
$Z_M T_D H_U L$	1.12 ± 0.28	$Z_M T_R H_R L$	3.24 ± 0.33		

Table 3 The means TP values of different sintering temperatures (mean ± SD)

	T_D	T_R	T_I
Z_X	1.14 ± 0.33[a, b, c]	2.79 ± 0.72[a, c]	3.39 ± 0.46[b, c]
Z_M	1.18 ± 0.44[a, b]	2.34 ± 0.57[a, c]	2.88 ± 0.49[b, c]

Different letters indicate statistically difference (P < 0.05)

Table 4 The means TP values of different sintering times (mean ± SD)

	H_E	H_U	H_S	H_R
Z_X	2.12 ± 0.91[a, b, c]	2.37 ± 1.04[a, e]	2.50 ± 1.09[b, f]	3.76 ± 0.36[c, e, f]
Z_M	2.10 ± 0.85[c]	2.03 ± 0.80[e]	2.06 ± 0.86[f]	2.97 ± 0.36[c, e, f]

Different letters indicate statistically difference (P < 0.05)

Table 5 The means TP values of different layer of multilayer zirconia (mean ± SD)

	U	M	L
Z_M	1.95 ± 0.86[a, b]	2.25 ± 0.79[a]	2.26 ± 0.86[b]

Different letters indicate statistically difference (P < 0.05)

6. Discussion

The success of the esthetic restoration was the optical appearance. The color and translucency of the esthetic restorations were crucial optical properties. The high TP value represented greater translucency of material. The results revealed that altering the sintering times and temperatures affected the translucency of zirconia. Previous studies reported that increasing the sintering temperature enhanced the TP value (Denry & Kelly, 2008). The results of the present study agree with previous studies that sintering zirconia above 1500 °C enlarges the grain size and increases the TP value. Owing to this, the porosities of the microstructures were eliminated with the increasing temperature. During this process, the pores between particles could be diminished due to neighboring grains fusing to form larger grains. A large grain size produced few grain boundaries and resulted in a high translucency because of reduced light scattering at the grain boundaries and increased light transmission. When the sintering temperature was low, the grain compaction was inhibited because of insufficient energy for particle diffusion. Light scattering relied on the grain size and the wavelength of incident light. It is recommended to sinter the zirconia between 1350 °C and 1600 °C. Stawarczyk et al. (2013) concluded that the sintering temperature should not exceed 1550 °C to provide a good result for the optical and mechanical properties.

The TP value significantly increased with the increase in the sintering temperature and the sintering time. Sintering zirconia at a high temperature or increasing the time could reduce the pores between the grains and increase the density of zirconia (Ebeid et al., 2014), which causes greater light transmission and reduces light scattering, providing more translucency. There was probably enhanced isotropic properties of the crystal structure, which provided better transmission of light and diminished light refraction. The SEM image showed the growth of the grain size of zirconia against the increase of the sintering temperature and the increase of the sintering time. Accordingly, the combinative effect of the pore reduction and the compactness of the crystalline structure was assumed to increase the homogeneity of the crystal structure. A previous study reported that translucency decreased when a translucent zirconia was sintered with a high-speed program (Lawson & Maharishi, 2019). The authors suggested that increasing the temperature caused grain growth and the formation of porosities. But increasing the heating rate may provide inadequate time for the fusing of grains and the formation of large grains. The results of the present study do not support those of the previous study. The translucency of sintered zirconia at an increasing temperature and short time was not different from sintering according to a regular program. $Z_XT_RH_R$ had the highest TP value in the monochrome group, and $Z_MT_IH_SL$ had the highest TP value in the multilayer group. There were no significant differences in the TP value between $Z_XT_RH_R$ and $Z_XT_IH_S$ (p > 0.05). Similarly, the TP values of $Z_MT_RH_R$ and $Z_MT_IH_SL$ were not significantly different (p > 0.05). $Z_XT_IH_S$ and $Z_MT_IH_SL$ were sintered at high temperatures and for a short time. According to the results, this sintering time may provide enough energy for contributing to particle diffusion and creating large grains and eliminating pores. Sintering zirconia at high temperatures and for a short time resulted in acceptable translucency; thus, the research hypothesis was accepted.

Pores are highly efficient light scatterers. Moreover, the other factors that affect light transmission are grain boundaries, impurities, the second phase of the component, light scattering from rough surfaces, material thickness and the refractive index of the material (Jiang et al., 2011; Stawarczyk et al., 2017; Zhang et al., 2011). The thickness of the material is one of the important factors for the translucency of the restoration. The minimum thickness requirement for fabrication in zirconia restoration is 0.5 mm, which can provide esthetics and strength (Weigl et al., 2018). In this study, the thickness of specimens was 2 mm, and the TP value was low when compared with other studies.

In this study, monochrome zirconia provided higher TP values than multilayer zirconia. It may be that the pigment added into multilayer zirconia provides the multicolor. Pigmentation in the materials may be the factor that affected light scattering and reduced translucency. Each layer of the multilayer zirconia showed a significant difference between the U and M areas and between the U and L areas. There was no significant difference between the M and L areas. The

difference might be due to a great discrepancy or to alterations in the pigmentation. Although the packaging instructions of the material communicated the thickness of each layer which helped with measuring, each layer did not have an obvious margin. Due to the sintered shrinkage of material, it was difficult to indicate the precise margin. The lack of an edge for each layer was a parameter that affected the accuracy of the measurements of optical properties.

7. Conclusions

Within the limitations of this study the following conclusions can be drawn:

1. Sintering zirconia at a high temperature for a short time can provide acceptable translucency.

2. Translucency increases when the sintering temperature increases.

3. Translucency increases when the sintering time increases.

8. Recommendations

Further studies should investigate the flexural strength of the materials when sintering parameters are changed.

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Effects of Walking Combined with Arms and Legs Weight Loading Exercise on Physical Performance in Elderly Women

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Abstract

The aims of this study were (1) To compare physical performance between control group and experimental group after walking exercise combined with arm and leg weight loading exercise. (2) To develop physical performance in elderly women by using walking exercise combined with arms and legs weight loading exercise.

The twelve volunteer elderly women, aged between 60-69 years old were divided into 2 groups, control group (n=6) and experimental groups (n=6). They used the exercise program walking exercise combined with arms and legs weight loading exercise for 40 minutes a day exercise, 5 days per week for 8 weeks. Physical performance was measured after 8 weeks training. The anthropometry and physical performance included hand grips, leg strength, trunk flexibility, 30 seconds chair stand and distance of six-minute walk test (6MWT) were investigated. All parameters of physical performance were tested before and after training. The physical performance showed increase significant difference (p<0.05) in hand grips strength, leg strength, muscle endurance at lower body and cardio-pulmonary capacity experimental group compare with control group after 8 weeks of training. It was indicated that walking exercise combined with arms and legs weight loading exercise improved physical performance in elderly women.

Keywords : Elderly,   Physical Performance,   Walking Exercise Combined with Arm and Leg Weight Loading Exercise

1. Introduction

At present, in the society of the elderly, Thailand has grown into an aging society since 2005. The structural proportions current population when categorizing the population into three major groups, first the childhood population is less than 15 years, second the working-age population 15-59 years, third is the elderly proportion 60 years old and over. Between 2010 to 2015, the proportion of the childhood population and the working-age population has trend is

declining, while the proportion of the elderly population tends to continue to increase consist of men 4.6 million and 5.7 million women (Foundation of Thai Gerontology Research and Development Institute 2016). Any person reaches the age of 60 that person became an elderly person so resulting in Thai society now become aging society is inevitable. Different lifestyles, health and wellness among the elderly all deteriorate with age, Which resulted in various health problems in the elderly. Elderly people 60 years and over will have a deterioration in the body. Including various body systems with a decrease in strength of muscles, increasing the risk of falls and death (Wagner et al.,2015).

How to behave in a hygienic way. Exercise can prevent and develop various systems of the body to be effective. Doing daily activities will help to be more effective. No matter what form of exercise, all forms of exercise develop various body systems, whether it is the muscular system, the respiratory system, or the physical performance of many other areas. Regular physical exercise helps prevent the diseases of affluence such as cardiovascular disease and heart disease (Stampfer et al, 2000). Arm swing exercises are very popular in Thailand also arm swing exercise using in the elder women because they are simple and easy to do it in exercise. By having to set the posture for a period of time to make the move relationship. Make all organs work well including the various systems of the body are related to each other effectively (Petchan, 2006). Physical fitness consists of cardio respiratory fitness, endurance, strength and body composition or proportions of the body (Johnson & Stolberg, 1971). Walking is a daily routine that people do. Can be practiced regularly as an aerobic exercise and if increasing the speed and duration appropriate to the exercise Walking does not require much skill. Can be practiced easily, walking continuously will allow the body's systems to function normally and efficiently (Jinajin & Kritpet, 2008).

Therefore, it is not surprising that the elderly like to take them for a walk in the morning. Whether it's a group or an individual, it's all about strengthening the body and reducing the risk of various diseases as well. From various research studies, systematic reviews related to exercise with walking patterns that affect the physical fitness of the elderly. It is not studies research of walking exercise combined with arm and leg weight loading exercise on Physical Performance of the elderly women. Researcher is interested in research studies in the effects of walking exercise combined with arm and leg weight loading exercise on physical performance of the elderly women

2. Research Objectives

1. To compare physical performance between control group and experimental group after walking exercise combined with arm and leg weight loading exercise.

2 To develop physical performance in elderly women by using walking exercise combined with arm and leg weight loading exercise.

Research Question:

Can exercise by using walking exercise combined with arms and legs weight loading exercise improve physical performance?

3. Methodology

3.1 Samples

Study design and population

A design of this study is Quasi - experimental research in human. The participants to assignment.

Participants were the performed all parameters of anthropometry and physical performance were tested at the beginning (pre-test) and the end (post-test) at running field Buriram Rajabhat University.

Sample size

Number of participants is twelve volunteer elderly women (n=12), aged between 60-69 years old. The subjects were divided into 2 groups control group (n=6) and experimental groups (n=6) were recruited in this study.

3.2 Research methodology

Participants examined physical healthy. Control group lived a normal life. Experimental groups exercise training program by using walking exercise combined with arm and leg weight loading (weight loading use at arm 2 lbs and leg 2 lbs) at arm and leg) exercise for 8 weeks, exercise 5 days per week and 40 minutes per a day. Control and experimental groups physical performance was measured during pre-test and post-test (after 8 weeks). Their anthropometry and physical performance which included hand grips, leg strength, trunk flexibility, 30 seconds chair stand and distance of six-minute walk test (6MWT) were investigated at running field Buriram Rajabhat University.

Inclusion criteria

1 Female aged between 60-69 years old.

2 Exercise by walking regularly 5 days a week.

3 Non regular alcohol drinking or smoking.

4 No high blood pressure and other chronic diseases

Exclusion criteria

1 Non female aged between 60-69 years old

2 Exercise by walking regularly less than 5 days a week.

3 Regular alcohol drinking or smoking.

4 High blood pressure and other chronic diseases

3.3 Data Collection

Anthropometry

Height (cm)

Participants in a free-standing position with the feet together and heels, buttocks and upper parts of the back touching the scale of balance scale were weighted.

Body weight (kg)

Participants will be barefoot and wear as a little clothing as possible and stands on the platform of the scale with her weight distributed evenly over both feet. The arms hang by the sides of the trunk, with palms facing the thighs. They were instructed to maintain a stable position while the measurement is taken.

Body mass index (BMI)

Height and body weight were then used to calculate body mass index (BMI) using the formula BMI = body mass (kg) / height (m)^2. (ACSM, 2009).

Physical performance

Muscle strength of upper body was determined by hand grips (kg) and muscle strength of lower body was determined by leg strength (kg). Flexibility is determined by trunk flexibility (cm) of sit-and-reach test. Muscle endurance determined by 30 Seconds Chair Stand (times). Distance of six minutes walk test (6 MWT) (meters) test is indicated muscle endurance and cardio-pulmonary capacity (ATS, 2002).

3.4 Data Analysis

Statistical Analyses

Data were presented as mean ± standard deviation (SD). A paired t-test was used to compare beginning (pre-test) and the end (post-test) of the control group and experimental group after walking exercise combined with arm and leg weight loading exercise. Data Analysis using the statistical test (T-Test). Statistical analyses are made using difference is significant at the 0.05 level

4. Research Results

Baseline characteristics

Data of baseline characteristics of control group and experimental group. Data of baseline characteristics in both groups (pre-test) and (post-test) such as height (cm), body weight (kg), body mass index (BMI) and heart rate (HR) show at (Table 1, 3).

Results of physical performance

Results of physical performance in control group compare between pre and post-test period are shown no significant difference (p<0.05) in hand grips, leg strength, trunk flexibility, 30 seconds chair stand and distance of six-minute walk test (6MWT) show at table 2. While, results of physical performance in experimental groups exercise training program by using walking exercise combined with arm and leg weight loading exercise increase significantly (p<0.05) of all parameters (Table 4) compare between pre and post-test period. As well as, the results of physical performance in both groups compared at pre-test are shown no significant difference of all parameters (Table 5). While results of physical performance compared between control group and experimental group post-test period increase significantly (p<0.05) in hand grips, leg strength, trunk flexibility, 30 seconds chair stand and distance of six-minute walk test (6MWT) as show table 6.

Data analysis results

Table 1 Comparative results of anthropometry control groups (n=6) between pre and post-test period.

Test list	Mean	
	Pre	Post
Height (cm)	157.33±2.66	157.33±2.66
Body weight (kg)	58.70±10.91	58.83±10.35
Body Mass Index (BMI) (kg/m2)	23.68±4.06	23.74±3.84
Heart rate (HR) (beats/min)	79.17±10.76	78.33±16.44

Data were presented as mean ± SD. Height, Body weight, BMI; body mass index, HR; heart rate.

Table 2 Comparative results of physical performance control groups (n=6) between pre and post-test period.

Test list	Mean		t	P-value
	Pre	Post		
Leg Strength (kg)	37.00±18.47	41.17±16.89	-1.49	0.20
Hand Grip (kg)	19.03±2.52	19.33±2.26	-0.68	0.53
Flexibility (cm)	7.50±5.09	8.33±4.93	-0.96	0.38
30 Seconds Chair Stand (times)	18.67±5.61	20.67±3.98	-2.00	0.10
6MWT (meters)	580.00±48.99	595.50±58.04	-1.29	0.26

*The mean difference is significant at the 0.05 level

Table 3 Comparative results of anthropometry experimental groups (n=6) between pre and post-test period.

Test list	Mean	
	Pre	Post
Height (cm)	158.83±4.88	158.83±4.88
Weight (kg)	50.82±4.12	50.72±3.89
Body Mass Index (BMI) (kg/m2)	20.22±2.37	20.19±2.38
Heart rate (HR) (beats/min)	72.67±6.65	70.50±6.53

Data were presented as mean ± SD. Height, Body weight, BMI; body mass index, HR; heart rate.

Table 4 Comparative results of physical performance experimental groups (n=6) between pre and post-test period.

Test list	Mean		t	P-value
	Pre	Post		
Leg Strength (kg)	41.58±7.17	54.08±3.12	-3.10*	0.03
Hand Grip (kg)	19.08±1.55	20.98±0.99	-4.00*	0.01
Flexibility (cm)	4.33±3.33	6.17±3.76	-3.84*	0.01
30 Seconds Chair Stand (times)	22.17±2.04	30.00±3.03	-5.69*	0.00
6MWT (meters)	613.83±10.01	676.50±7.29	-10.74*	0.00

Table 5 Comparative results of physical performance between control groups (n=6) and experimental groups (n=6) pre-test period.

Test list	Mean		t	P-value
	Control	experimental		
Leg Strength (kg)	37.00±18.47	41.58±7.17	-0.57	0.58
Hand Grip (kg)	19.03±2.52	19.08±1.55	-0.04	0.97
Flexibility (cm)	7.50±5.09	4.33±3.33	1.28	0.23
30 Seconds Chair Stand (times)	18.67±5.61	22.17±2.04	-1.44	0.18
6MWT (meters)	580.00±48.99	613.83±10.01	-1.66	0.13

*The mean difference is significant at the 0.05 level

Table 6 Comparative results of physical performance between control groups (n=6) and experimental groups (n=6) post-test period.

Test list	Mean		t	P-value
	Control	experimental		
Leg Strength (kg)	41.17±16.89	54.08±3.12	-1.84	0.12
Hand Grip (kg)	19.33±2.26	20.98±0.99	-1.64	0.13
Flexibility (cm)	8.33±4.93	6.17±3.76	0.86	0.41
30 Seconds Chair Stand (times)	20.67±3.98	30.00±3.03	-4.57*	0.00
6MWT (meters)	595.50±58.04	676.50±7.29	-3.39*	0.02

5. Discussion

This exercise program for seniors adopts a form of continuous walking to improve cardio-pulmonary capacity, known as aerobic exercise. Resistance exercise improved muscular endurance and muscular strength. Along with the use of weights on the arms and legs during exercise or resistance training together. To develop increase strength, endurance and cardio-pulmonary capacity of physical performance in all aspects for the elderly. Analysis of physical performance parameters at the beginning (pre-test) and the end (post-test) of the research of walking exercise combined with arm and leg weight loading exercise on Physical Performance of the elderly women. Muscle strength of upper body was determined by hand grips (kg) and muscle strength of lower body was determined by leg strength (kg). Flexibility is determined by trunk flexibility (cm) of sit-and-reach test. Muscle endurance determined by 30 Seconds Chair Stand (times). Cardio-pulmonary capacity determined by Distance of six minutes walk test (6

MWT). Results of physical performance in pre-test showed no significant difference between both groups of participants. While, results of physical performance post-test showed increase significant difference (p<0.05) in between both groups of all parameter. This study showed that exercise program can increase muscle strength of upper body, muscle strength of lower body, flexibility, muscle endurance and cardio-pulmonary capacity which similar to the study of Saelao and Kanungsukkasem, (2012) Was study the effects of Arm Swing Exercise, Walking and Walking Exercise combined with Arm swing exercise on health-related physical fitness of the elderly women. It can be improved muscular endurance, muscular strength and flexibility. Hataichanok and Sota (2019) Was study the effect of elastic band combined with chair exercise on leg muscle strength and balance in female elderly people. Age range 60-69 years, divided into 2 groups each group was 24 peoples. Experimental group can improve on leg muscle strength in female elderly more than control group Also, (Chun et.,al 2017) Study the effects of elastic resistance exercise on body composition and physical capacity in older women with sarcopenic obesity. After exercise for 12 weeks can improved leg muscle strength. However, in this research control group and experimental group showed improve results in distance of 6MWT exercise by walking it good for elderly.

6. Conclusion

This study was compared physical performance between control group and experimental group before and after 8 weeks of new exercise training program by using walking exercise combined with arms and legs weight loading exercise. This study found that experimental group showed significant improved and increased muscle strength of upper body by hand grips strength and muscle strength test of lower body by leg strength test. Flexibility by trunk flexibility of sit-and-reach test. Muscle endurance by 30 Seconds Chair Stand. Cardio-pulmonary capacity by distance of six minutes walk test (6 MWT). While, control group non show significant difference. This study showed an effective strategy to improve physical performance in elderly women.

7. Recommendations

7.1 Recommendations for application

It should develop walking exercise combined with arm and leg weight loading exercise to elderly use in the elderly exercise for health.

7.2 Recommendations for Future

The further study may be compared more type of exercise to improve more physical performance of the elderly man and women for investigate physical performances. The next study may investigate other psychological performances with elderly.

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Effects of High-intensity Interval Training on Obesity: A Mini Review

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Abstract

In recent years, high-intensity interval training (HIIT) has been promoted as a time-efficient strategy to improve body composition, or in another way, lose weight. Therefore, the purpose of this mini review is to integrate the published studies on the effects of high-intensity interval training on obesity and thereby offer suggestions to all the overweight and obese people who are trying to improve body composition or lose weight. Studies exploring the effects of high-intensity interval training on obesity, no matter which kind of subject is, were included. And the included studies were required to have some direct measures (e.g., whole-body fat mass or abdominal fat mass) or indirect measures (e.g., waist circumference). There were total 368 studies regarding these keywords ("High-intensity interval training" and "Obesity"), and 12 studies were eligible to be selected in this research. Although there were still a few studies showed no significant reduction, most of these studies had demonstrated that HIIT can significantly reduce the total fat mass, the abdominal visceral fat and the abdominal subcutaneous fat. Therefore, high-intensity interval training can have a positive effect on improving body composition or losing weight.

Keywords : High-intensity Interval Training Obesity, Review

1. Introduction

Obesity, or more specifically the accumulation of excess body fat, is a significant and rapidly increasing global health issue (Baker et al., 2021; Wewege et al., 2017). Currently, according to the study of which estimated the global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013, 2.1 billion individuals, approximately 30% of the world's population, are overweight or obese (Ng et al., 2014). Being overweight or obese is strongly associated with diseases including atherosclerosis, type II diabetes, metabolic syndrome, stroke, hypertension, and certain types of cancer.

In order to lose weight, effective strategies, including dietary or physical activity interventions, or both, are required (Baker et al., 2021; Sevild et al., 2020; Tang et al., 2020; Wewege et al., 2017). More recently, high-intensity interval training (HIIT), consisted of repeated high-intensity exercise bouts interspersed with passive/active recovery (Zhang et al., 2017), has been promoted as a more time-efficient way to improve body composition and lose weight. Although sufficient evidence for the positive effect of HIIT on improving body composition and losing weight has been provided, little systemic reviews targeted the effect of HIIT on all the overweight and obese people has been conducted. The aim of this mini review is to integrate the published studies on the effects of high-intensity interval training on obesity and thereby offer suggestions to all the overweight and obese people who are trying to improve body composition or lose weight.

2. Research Objectives

This research consisted of two objectives: 1) To integrate the published studies on the effects of high-intensity interval training on obesity; 2) To offer suggestions to all the overweight and obese people who are trying to improve body composition or lose weight.

3. Research Methodology

3.1 Search Strategy

An electronic search of the published studies was performed to offer an integrated review regarding the effects of high-intensity interval training on obesity, using these databases below: Web of Science and Science Direct. The search was conducted using the terms related to "High-intensity interval training," "Obesity." The reference lists of the included studies were also examined for any new references not found during the initial electronic search. There were no subjects in this research.

3.2 Inclusion Criteria

3.2.1 Type of study, all papers (from 2000 to 2017 years) retrieved by the search strategy regarding the keywords above were included for next screening. Studies involving randomized controlled trial or matched controlled trial designs, written in English were included, while uncontrolled, cross-sectional, and animal studies were excluded from analysis.

3.2.2 Type of participants, we decided to focus the review on the effect of high-intensity interval training on obesity, so subjects were not restricted by age, sex, healthy condition or even ethnic origins.

3.3 Data Extraction and Analysis

The full text of studies identified from the search were reviewed and integrated one by one. The data including purposes, population, methodology and results was extracted from these studies.

4. Research Results

4.1 Study Selection

The search strategy identified 368 articles from electronic databases. Following removal of duplicates and exclusion after analysis of title and abstract, 356 articles were initially screened. Of all the remaining articles, 12 fulfilled our inclusion criteria. So the final number of publications included in our review was 12 (10 for controlled trials and 2 for review relating to the effect of high-intensity interval training on obesity) (Fig.1).
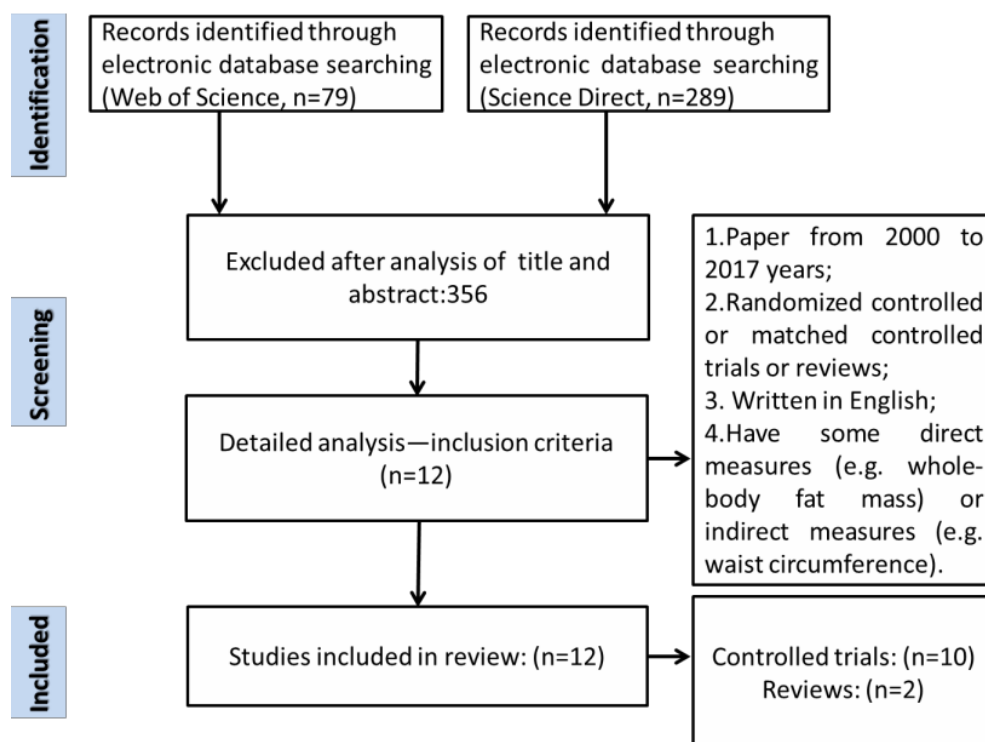
Fig.1 Systematic review process

4.2 Study Characteristics

For all the studies selected in this review, the primary and most important purpose was to explore the effect of HIIT on obesity, so subjects were not restricted by age, sex, healthy condition, or even ethnic origins. The age of subjects in these studies vary from 7 to 70. And they are healthy people with obesity or patients who suffer from type 2 diabetes or other obese related diseases. The body mass index (BMI) of subjects from these studies is mostly between 25 kg/m^2

and 30 kg/m^2. Although there were still a few studies showed no significant reduction, most of these studies had demonstrated that HIIT can significantly reduce the total fat mass, the abdominal visceral fat and the abdominal subcutaneous fat. Study Characteristics are summarized in Table1.

Table 1 Characteristics of studies included in the review

Study	Number of subject	Gender (Female/Male)	Age	BMI	Methods	Outcomes
Dias et al., 2018	99	NA	7–16 years old	BMI >30kg/m^2 at age 18	12-week, 3 times/week HIIT protocol (4*4-min bouts at 85–95% maximum heart rate, interspersed with 3 min of active recovery at 50–70% maximum heart rate and nutrition advice.	HIIT stimulated significant increases in relative VO$_{2peak}$. No significant effect on visceral and subcutaneous adipose tissue, whole body composition or cardiometabolic biomarkers.
Zhang et al., 2017	43	Female	18–22 years old	BMI >25kg/m^2	12-week, HIIT protocol (repeated 4-minute cycling exercise bouts at an intensity of 90% VO$_{2max}$, followed by a 3-minute passive recovery until the targeted 300KJ of work was achieved), the times of each week changed.	HIIT reduced the abdominal visceral fat area and abdominal subcutaneous fat area of the participants. HIIT also reduced the total fat mass and the fat mass of the android, gynoid, and trunk regions.
Ouerghi et al., 2017	18	Male	17-20 years old	BMI >25 kg/m^2	8-week, 3 times/week HIIT protocol consisted of two series of 30-second runs at 100-110% of the maximal aerobic velocity interspersed with 30 seconds of active recovery.	The eight-week HIIT protocol resulted in a slight improvement in physical fitness and a significant decrease in plasma lipids in the obese. Short duration HIIT may contribute to an improved cardiometabolic profile in the obese.
Lapierre et al., 2013	29	NA	46-58 years old	NA	18-month, 2 times/week of intense lifestyle intervention including high-intensity interval training and mediterranean diet nutritional counseling.	Intense lifestyle intervention of 18 months including HIIT and mediterranean diet nutritional counseling improves and maintain body composition, cardiometabolic risk, maximal exercise capacity and muscle endurance in obese patients.
Gremeaux et al., 2012	62	NA	44-63 years old	BMI = 35.8 ± 5 kg/m^2	9-month program consisting of individualized nutritional counseling, optimized high-intensity interval exercise, and resistance training two to three times a week.	A long-term lifestyle intervention with optimized high-intensity interval exercise improves body composition, cardiometabolic risk, and exercise tolerance in obese subjects.

Table 1 (Continue)

Study	Number of subject	Gender (Female/Male)	Age	BMI	Methods	Outcomes
Khammassi et al., 2018	20	Male	18-21 years old	BMI >25 kg/m^2	12-week HIIT program consisted in 3 exercises sessions per week (30 sec of work at 100% maximal aerobic velocity) interspersed by 30 sec of active recovery at 50% maximal aerobic velocity, starting by 15 repetitions to reach 27 by the end of the program.	Following 12 weeks of HIIT, waist circumference, BMI, and fat mass percent were significantly decreased. Maximal aerobic velocity and VO$_{2max}$ were significantly improved.
Maillard et al., 2016	17	Female	68-70 years old	BMI = 31 ± 1 kg/m^2	16-week, 2 days/week HIIT [60 × (8s at 77–85% HR max ,12s of active recovery)].	Total fat-free mass significantly increased after 16 weeks HIIT. Total abdominal and visceral fat mass significantly declined after 16 weeks HIIT.
Martins et al., 2016	46	Female (30) Male (16)	26-43 years old	BMI = 33.3 ±2.9 kg/m^2	12-week, 3 times/week HIIT protocol consisted of 8s of sprinting and 12 s of recovery phase.	Significant reduction in body weight, waist and hip circumference, trunk, and leg fat mass after 12 weeks HIIT. An increase in trunk and leg fat free mass and cardiovascular fitness after 12 weeks HIIT.
Kong et al., 2016	18	Female	18-30 years old	BMI >23 kg/m^2	5-week, 4 times/week HIIT involved 60 × 8s cycling at ∼90% of peak oxygen consumption (VO$_{2peak}$) interspersed with 12s recovery.	Short-term HIIT have no training effects on body composition or the relevant systemic hormones.
Zhang et al., 2015	43	Female	NA	BMI >25 kg/m^2	12-week, 4 times/week HIIT [4 x 4-minute running at 85–95% maximum heart rate, 10-minute recovery].	Whole-body fat and abdominal visceral and subcutaneous fat areas significantly declined after 12 weeks HIIT.

Note: Not available (NA), body mass index (BMI); high-intensity interval training (HIIT)

5. Discussion

This systemic review assessed 12 full studies and explored the effects of HIIT on obesity. Although there were still a few studies showed no significant reduction, most of these studies had demonstrated that HIIT can significantly reduce the total fat mass, the abdominal visceral fat and the abdominal subcutaneous fat.

According to the previous study (Martins et al., 2016), Moderate-intensity continuous training (MICT), referring to focus on longer-duration sessions involving moderate-intensity exercise

performed continuously without rest, may appear to be similarly effective on obesity when compared with HIIT. While Zhang et al. (Zhang et al., 2017) and Kong et al. (Kong et al., 2016) demonstrated that HIIT appeared to be the predominant strategy for controlling obesity because of its time efficiency. To our knowledge, the exercise duration of MICT, which is always more than 60min per session, was almost double that of the interval exercise in the HIIT. Thus, despite the similar effect on body fat elimination, HIIT may be a better choice to obese people who are trying to improve body composition or lose weight.

These studies selected in this review covered almost all kind of subjects with obesity, and the methods of HIIT are varied, which means that we should draw up the exercise plan according to the condition of subjects involved in study.

6. Conclusion

In conclusion, HIIT is a more time-effective way on improving body composition or losing weight, while the intensity and duration should be adjusted according to the condition of subjects involved in study.

7. Recommendations

Based on the findings of this review, it is suggested that future well-designed research with improved methodology and larger sample size on this field are much warranted for further verification. Moreover, it is recommended that the effect of HIIT on overweight and obese people with hypertension or other complication is also worth investigation.

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Pathological Effects on Biomechanical Function
and Strategy Adjustments during Gait Termination: A Systematic Review

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Abstract

As an essential part of locomotor, gait termination (GT) is defined as the transition from a steady-state gait to a static state of equilibrium. Some diseases can influence the termination strategy that inevitably results in biomechanical changes. This systematic review aimed to investigate the I impact of related diseases on gait characteristics and compensatory strategies during GT and discuss pathology-related biomechanical mechanisms and possible rehabilitation treatment strategies. The electronic literature search was performed in ScienceDirect, Google Scholar, and PubMed databases from 2000 to February 2021. The quality and risk of bias of each article were rated by two independent reviewers, using a modified version of a quality index. By screening all the identified studies, 12 studies were included by matching the inclusion criteria, involving five different types of diseases. Of all the studies included, the largest number have been on parkinsonism (5 studies: 41.7%) and cerebellar ataxia (3 studies: 25.0%). Moreover, there were six studies on planned gait termination (PGT) and three on unplanned gait termination (UGT). The remaining studies focused on the comparative analysis of the two GT types. Overall, these diseases will affect the patient's postural control ability, resulting in the change of gait characteristics and instability during GT. Meanwhile, a series of compensatory strategies would be adopted to adjust abnormal movement patterns. GT trials may be an effective tool for assessing rehabilitation treatment and investigating motor control alterations.

Keywords : Gait termination, Gait characteristics; Stopping, Pathology; Compensatory strategy

1. Introduction

Human locomotion is performed through coordinating body segments employing an interaction between internal and external forces (Ying et al., 2021). However, this phenomenon is considered an extremely complex process that needs to be described by multidisciplinary methods (Cappozzo, 1984; Dempster et al., 2021). The most representative aspect is gait analysis by

biomechanics approaches. Human gait sustains progression from initiation to termination, and the dynamic balance should be maintained in position movement. Although the steady-state pace has been extensively studied, gait termination (GT) as a gait sub-task has received less attention. Sparrow & Tirosh (2005) defined GT in the review as when both feet stop moving either forward or backward based on displacement and time characteristics. Compared with steady-state gait, the process of executing GT demands higher control of postural stability and complex integration and cooperation of the neuromuscular system (Cen et al., 2021b; Conte et al., 2012). During GT, the body needs to rapidly increase braking impulse and decrease propulsion impulse to form a new body balance (Bishop et al., 2002; Jaeger & Vanitchatchavan, 1992). GT also can be divided into planned and unplanned gait termination according to different control processes. In planned gait termination (PGT) condition, individuals can know when and where they will stop. Unplanned gait termination (UGT) is a stress response to an unknown stimulus. When confronted by an unexpected stimulus that requires one to stop suddenly, the initial dynamic balance will be disrupted. Due to the need for continuous control of the body's center of mass (COM) and feedback control, UGT poses a more significant challenge to the ability of postural control (Cen et al., 2019; Sparrow & Tirosh, 2005).

Aging has been an essential factor in difficulties precisely terminating gait (Sparrow & Tirosh, 2005; Zhang & Lu, 2020). However, many diseases such as diabetes could accelerate the neurodegenerative process, which results in a further decline in motor control during GT (Meier et al., 2001). Besides, many other diseases may also reduce the patient's ability to GT. For example, patients with balance disorders such as vestibular hypofunction and cerebellar damage show significantly slower velocity in the forward direction to enter the final stride during PGT compared to healthy controls (O'Kane et al., 2003). Although these diseases may cause changes in gait parameters for patients during GT, the body will take a series of compensatory strategies to attenuate postural instability and adjust abnormal movement patterns (Bishop et al., 2003; Tirosh & Sparrow, 2005). However, no related article synthesizes gait parameters alterations due to disease in a single review paper.

2. Research Objectives

The purpose of this systematic review was to obtain an improved insight into the present state of knowledge regarding the impact of diseases on gait parameters and compensatory strategies during GT. An appreciation of pathology-related biomechanical mechanisms would greatly value informing rehabilitation treatment strategies (Cen et al., 2021a).

3. Research Methodology

3.1 Search Strategy

The search strategy was applied to find the relevant published literature on disease-related biomechanics during GT. The extensive systematic search for all electronic publications from 2000 to February 2021 was conducted using ScienceDirect, Google Scholar, and PubMed. The English-language literature search employed the following search terms: "gait termination" OR "gait stop". The snowballing method was applied to identify other potentially relevant studies in the reference list of all eligible articles. And these studies that have been accidentally overlooked were searched in different electronic databases to get full-text by entering the specific information of authors and article titles.

3.2 Eligibility Criteria

After deleting duplicate articles, the retrieved articles were screened first by titles, then assessed by abstracts and full-text to conform to the following inclusion and exclusion criteria, inclusion criteria: (i) article was written in English and published in the peer-reviewed journal; (ii) subjects should be patients with a disease that may cause abnormal gait; (iii) study designs should include relevant GT trials (PGT and/or UGT); (iv) the research results should cover biomechanics data relating to kinetics, kinematics or electromyography (EMG), etc. Exclusion criteria: (i) conference abstracts, review articles, book chapters, and case reports; (ii) only healthy subjects were recruited in the study; (iii) gait trials in the study design did not include GT; (iv) articles relating to physiological analysis only.

3.3 Data Extraction and Quality Assessment

Characteristics of studies (i.e., authors, year), features of subjects (i.e., sample size, types of disease), primary outcome measures (i.e., temporal-spatial, kinematics, kinetics, EMG), types of GT (i.e., PGT, UGT), study design and main findings were extracted.

The quality of each article was rated by two independent reviewers, using a modified version of a quality index developed by Downs and Black (Downs & Black, 1998). This QI checklist allows measuring the quality of reporting, external and internal validities. By modifying the original QI checklist, the questions that did not apply to this review were excluded, and the revised version was adopted from previous studies (Birfer et al., 2019). Additionally, "yes", "no" or "unable to determine" can be answered for each question of the QI checklist and award 1, 0, and 0 points, respectively. Finally, the QI scores total (% of maximum score) is divided into three levels according to the following criteria: high quality, ≥80%; moderate quality, ≥40% and <80%; poor quality, <40% (Kim et al., 2018). Specifically, items in the modified version of the QI checklist outlined below: 1) Clear aim/hypothesis; 2) clear primary outcomes; 3) evident patient characteristics; 6) clear main findings; 7) random variability of primary outcomes provided; 9) characteristics of patients lost to follow-up described; 10) actual probability values reported; 11)

subjects asked to join representative of all population; 12) subjects prepared to join representative of all population; 16) explicit mentioning of data dredging; 18) appropriate statistical tests for assessing primary outcomes; 20) accurate outcome measures; 26) losses of the participant to follow-up taken into account.

4. Research Results

4.1 Study Selection

A total of 137 articles were produced by searching electronic databases (ScienceDirect, Google Scholar, and PubMed). After removing duplicate and irrelevant articles, 55 articles remained. Twelve articles did not meet the initial eligibility criteria as potentially inappropriate for the current study. After checking the eligible articles' reference lists, one additional article was included, and three articles were removed due to duplicates between these databases. The final selection in this systematic review included twelve articles. Fig. 1 presents a flow diagram illustrating the search history and selection process.
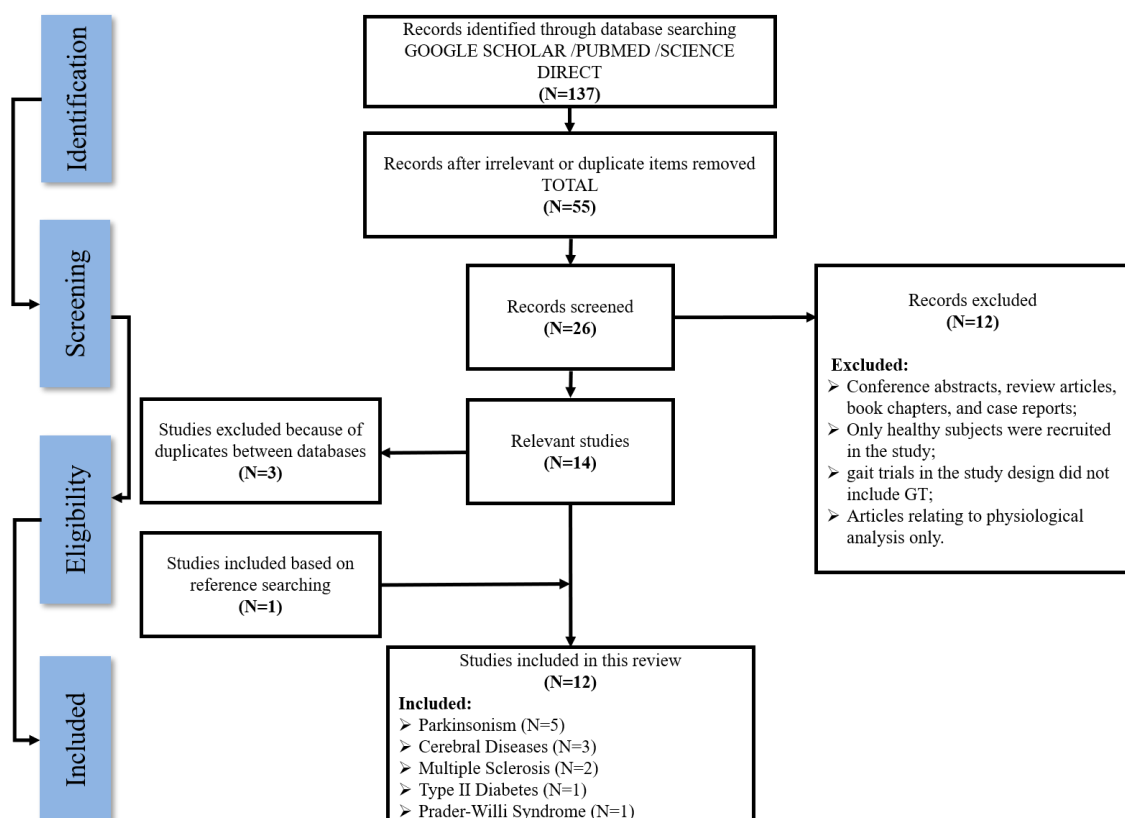
Fig.1 Flow diagram of the literature inclusion and exclusion process

4.2 Summary of Search Results

Table 1 shows the disease types and primary outcome measures for twelve articles included in this review. Table 2 summarizes the research contents, including characteristics of subjects, types of GT, study design, and main findings of each study. Of the included studies, five studies (41.7%) reported parkinsonism; three studies (25.0%) reported cerebral diseases; two studies (16.7%) reported multiple sclerosis; one study (8.3%) reported Prader-Willi syndrome, and one study (8.3%) reported type II diabetes. In the majority, multiple outcome measures were assessed simultaneously. Most studies reported spatiotemporal parameters, kinematics, and kinetics as the primary outcome measures, while only two analyzed EMG. Moreover, there were six studies (50.0%) on PGT and three (25.0%) on UGT, and the remaining studies focused on the comparative analysis of the two types of GT. By assessing quality, moderate quality was found from all the included studies (Table 1).

Table 1 The primary outcome measures and quality assessment results of included studies

Disease Type	Included Papers	TS	KINM	KIN	EMG	Quality Assessment
Parkinsonism	Bishop et al., 2003			✓	✓	46% (M)
	Bishop et al., 2006			✓	✓	62% (M)
	Alison et al., 2008	✓	✓	✓		54% (M)
	Cameron et al., 2010	✓				54% (M)
	Oates et al., 2013	✓	✓	✓		54% (M)
Cerebral Diseases	O'Kane et al., 2003	✓	✓	✓		62% (M)
	Conte et al., 2012	✓	✓	✓		62% (M)
	Serrao et al., 2013	✓	✓	✓		69% (M)
Multiple Sclerosis	Roeing et al., 2015	✓	✓			54% (M)
	Roeing et al., 2017	✓		✓		62% (M)
Type II Diabetes	Meier et al., 2001	✓	✓	✓		77% (M)
Prader-Willi Syndrome	Cimolin et al., 2017			✓		54% (M)

Note : Acronyms:

- TS : temporal-spatial;
- KINM : kinematics;
- KIN : kinetics;
- EMG : electromyography;
- M : moderate quality

Table 2 Disease-related biomechanics studies

Papers	Subjects	Type	Study design	Main findings
Meier et al., 2001	Fifteen patients with type II diabetes Fifteen control subjects	PGT	All subjects were asked to walk at their self-selected speed along the walkway and stop in a marked terminating line.	Patients with type II diabetes show a reduced ability of GT as indicated by more significant ML and AP the COP and COM overshoots.
O'Kane et al., 2003	Twenty-five patients with vestibular hypofunction Twenty patients with cerebellar damage Fifty-two control subjects	PGT	All subjects walked barefoot along a 10-meter-long walkway toward the eye-level marker and stopped 30cm before the marker.	Converting excessive kinetic energy from forward into lateral as a termination strategy may be used by patients with balance disorders.
Bishop et al., 2003	Fourteen patients with parkinsonism Fourteen control subjects	UGT	The subjects started as during the normal walking condition, and a random light signal positioned four feet from the end of the walkway cued them to perform gait termination.	Subjects with parkinsonism cannot provide sufficient net braking impulse with time-critical conditions during UGT.
Bishop et al., 2006	Fourteen patients with parkinsonism Fourteen control subjects	PGT &UGT	For PGT trials, all subjects walked and then stopped at the line drawn on the walkway. For UGT trials, the subjects were instructed to start during normal walking conditions and perform gait termination if a random light signal cued them.	Control subjects did not change muscle activation from PGT to UGT, although they increased the response amplitude. On the contrary, subjects with parkinsonism required additional steps to terminate walking during UGT.
Alison et al., 2008	Eight patients with idiopathic parkinsonism Ten control subjects	PGT & UGT	All subjects were asked to perform planned and cued gait termination under slippery and nonslippery conditions, respectively. An infrared beam controlled the stopping signal.	Parkinsonism did not affect the ability to terminate or integrate a balance-correcting response into stopping but influenced speed and stability during voluntary GT.
Cameron et al., 2010	Fourteen patients with parkinsonism Fourteen control subjects	PGT	Subjects were asked to walk along the walkway, come to a comfortable termination at the level of a sign, and walk carrying the tray with two glasses, coming to a satisfying ending at the level of the stop sign.	The central control mechanisms regulating PGT appear to be intact in patients with mild to moderate parkinsonism.
Conte et al., 2012	Ten patients with the primary degenerative cerebellar disease Ten control subjects	PGT	All subjects were asked to walk at different speeds along a 5-m walkway and stop walking in response to the acoustic signal.	Patients with cerebellar ataxia adopt a series of compensatory strategies to keep balance during PGT, e.g., decreased speed and step length, increased step width.
Oates et al., 2013	Eight patients with parkinsonism Ten control subjects	PGT & UGT	All subjects were asked to complete UGT, PGT, and cued GT on the slippery surface, respectively.	Patients with parkinsonism adapted and integrated feed-forward (shorter, wider step, and stability margin modifications) and feedback-based (longer and wider subsequent step) components in two types of GT.
Serrao et al., 2013	Twelve cerebellar ataxic patients Ttwelve control subjects	UGT	The ataxic patients and control subjects were required to walk barefoot at high and low speed along the 5-m walkway, respectively. They were needed to stop walking quickly in response to the auditory cue delivered and to remain still.	Patients with cerebellar ataxia will adopt a multistep termination strategy. They occasionally performed the feet parallel strategy to compensate for the body's inability to form a coordinated flexor extensor pattern in the lower limb joint and braking forces to decelerate the body progression in the sagittal plane.

Roeing et al., 2015	Twenty-five patients with multiple sclerosis Thirty control subjects	PGT	Under cognitively distracting and non-distracting conditions, subjects were instructed to start walking after hearing the auditory cue and stop when they reached the expected stop zone.	Under cognitively distracting conditions, the function of PGT was impaired in patients with multiple sclerosis, and the task performance of PGT decreased in both groups.
Roeing et al., 2017	Thirty-one patients with multiple sclerosis Fourteen control subjects	UGT	Under distracting and non-distracting conditions, subjects were asked to walk at normal speed on the walkway and stop as quickly and safely as possible when a visual cue was given.	Compared with the control group, multiple sclerosis patients with assistive devices showed an increase in GT time.
Cimolin et al., 2017	Twelve patients with Prader-Willi syndrome Twenty obese Nineteen control subjects	PGT	Subjects were instructed to walk at their self-selected speed, stop on the force platform and stand still for at least 3s.	During PGT, patients with Prader-Willi syndrome revealed longer durations similar to obese subjects than healthy subjects. And gait velocity was reduced compared with obese and healthy subjects, especially in the terminal phase and medial and lateral direction.

Note: Acronyms: PGT: planned gait termination; UGT: unplanned gait termination; GT: gait termination; COP: center of pressure; COM: center of mass.

5. Discussion

5.1 Parkinsonism

Parkinsonism has been studied more than any other disease regarding GT researches and has been one of the diseases with the most significant impact on gait characteristics of patients. Compared with the control group, the gait characteristics of parkinson patients showed longer time, lower speed, and shorter step length during PGT (Cameron et al., 2010). These gait characteristics alterations were also observed in the UGT of the patients. Also, patients may need additional steps to maintain body stability and complete GT. The degree of disease, age, slippery surface, and unexpected perturbation will affect the GT performance of patients with parkinsonism (Cameron et al., 2010; Oates et al., 2008; Oates et al., 2013).

Bishop et al. (2003) observed the activity of related muscles in Parkinson's patients during UGT. They found similar patterns of muscular activation of soleus, tibialis anterior, and gluteus medius to control subjects, although at significantly reduced amplitude levels. Moreover, they indicated that Parkinson's patients might not produce enough braking force in GT, so they required extra steps to stop walking (Bishop et al., 2006).

5.2 Cerebellar Ataxia

The primary clinical manifestation of cerebellar ataxia is balance disorder, which will produce an irregular gait pattern. Compared to the healthy subjects, the GT parameters of patients with cerebellar ataxia showed a reduced step length, greater step width, and additional steps to stop (Conte et al., 2012). Moreover, researchers found that the patients could not generate a flexor extensor pattern to coordinate the lower limb joint and appropriate braking forces to

decelerate the sagittal plane's body progression (Serrao et al., 2013). This multistep compensation strategy may help the patient stop walking more safely to some extent.

O'Kane et al. (2003) compared the kinetic parameters of GT in patients with balance disorders, including vestibular hypofunction and cerebellar damage, with healthy subjects. During GT, poor eccentric muscle control would lead to excessive energy transfers for patients with cerebellar damage in the final stride. And they dissipated forward kinetic energy by using a transfer of upper body energy from onwards to lateral. Lateral stability could be affected for patients with vestibular hypofunction once they had stopped walking due to vestibular feedback's weakness regarding changes of forwarding velocity. In general, converting excessive kinetic energy from forward into lateral as a termination strategy may be used by patients with balance disorders.

5.3 Multiple Sclerosis

Roeing et al. (2017; 2015) reported PGT and UGT successively in multiple sclerosis patients in two studies. On the level of macro-control strategy, patients with multiple sclerosis had a similar failure rate compared with controls during the planned transition from dynamic to static posture. Nevertheless, under cognitively distracting conditions, the failure rate of GT had a fold increase for patients with multiple sclerosis owing to cognitive-motor interference. Similarly, during UGT, patients with multiple sclerosis need more time to stop walking. And assistive devices might improve the termination behavior.

At present, it is generally accepted that patients with multiple sclerosis have gait disorders due to muscle weakness, sensory impairment, decreased coordination, and other symptoms (Givon et al., 2009). As a result, they show a slower gait speed in the characterization of temporal-spatial parameters. Because of the loss of somatosensory processing, the patient passively adjusted the gait strategy (e.g., more significant foot displacement, higher loading force, etc.) to prevent falls. Especially during the cognitively distracting dual-task, strategy adjustment was more significant due to limited attentional resources being competed by cognitive and motor tasks (Roeing et al., 2015).

5.4 Other Diseases

Besides, there were also studies involving GT in patients with Type II diabetes and Prader-Willi syndrome (Cimolin et al., 2017; Meier et al., 2001).

Aging has been reported to be an essential factor in the ability decline of GT (Sparrow & Tirosh, 2005). Type II diabetes, a common disease of the elderly, might further worsen the performance of GT. Compared with healthy elderly, diabetic subjects exhibited lower velocity of anterior-posterior (AP) center of pressure (COP) and larger medial-lateral (ML) and AP-COP and COM overshoots. The slowness strategy was considered partial compensation for the pathology-related decrease in postural stability during goal-oriented gait termination (Meier et al., 2001).

Although the Prader-Willi syndrome can cause pathological obesity, the patients showed slower speed in the terminal phase of GT than the obese subjects. Moreover, a longer duration of GT was observed compared with healthy subjects. This slower GT strategy was adopted for gait alterations caused by excessive body mass and motor control decrease of Prader-Willi syndrome (Cimolin et al., 2017).

5.5 Limitations

Several limitations should be noted in this systematic review. While different types of disease may imply other pathological mechanisms, we did not differentiate these factors in this study. Furthermore, the review did not consider the confounding effects, which may limit the research value of this study. Different gender, ages, walking speeds, and body weight might affect the results of the reviewed studies (Cen et al., 2020; Ridge et al., 2016; Sparrow & Tirosh, 2005; Zhou et al., 2020). Finally, the review should consider that relevant, valuable research may be overlooked due to not thinking non-English language journals.

6. Conclusion

The present study is the first review investigating the impact of diseases on gait characteristics and compensatory strategies during GT. Overall, most of the illnesses reported in the study will affect the patient's postural control ability, resulting in the alterations of gait parameters and instability during GT. Meanwhile, a series of compensatory strategies would be adopted to adjust abnormal movement patterns.

7. Recommendations

Based on the findings of the present review, the GT studies have provided several valuable insights into pathological effects on biomechanical function and strategy adjustments. Moreover, GT trials may be an effective tool for assessing rehabilitation treatment and investigating motor control alterations.

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Humanities and Social Sciences

(Oral Presentation)

Conservation and Ecotourism : Case Study of Don Island, Myeik Archipelago, Myanmar

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Abstract

Don Island in Myeik Archipelago, Taninthayi Region, located in Kyunsu Township and the southern part of Myanmar. It is the largest island in the Myeik Archipelago, with rich aquatic flora and fauna, high biodiversity and a (largely) intact ecosystem. Don Island is the marine tourism area in Myeik Archipelago and Salon people who live there is the old indigenous group of Myanmar. They are one of the attractions of ecotourinsm activities. At present the two main economic activities that prevail in these areas are fishing and tourism. In view of intensive transformation processes, particularly since 2010, it is of scientific interest and importance to identify the major indigenous people, livelihood, economic and social developments in the area and the major drivers pushing the recent changes. After long decades of more or less constant low level of development, the current faster changes can lead to unbalanced and unsustainable developments among indigenous people, livelihood, economic and social respects. This presentation aims to investigate the current state of conservation and livelihood in order to analyze key issues and problems and to underline possible recommendations for a more sustainable development of Don Island and Salon people.

Keywords : Conservation, Ecotourism, Archipelago and Indigenous People

The Study of Murals Illustrating the Sutta Nipāta Found in the Ancient Temples of Pakokku Region

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Abstract

There is a plethora of studies concerning with the ancient mural paintings of Myanmar but most of the studies have been conducted tends to concentrate on the murals of the famous temples of Bagan. The present paper focuses on the mural paintings of ancient pagodas located in the region of Pakokku township, Myanmar. This paper is based on the survey of ten selected ancient pagodas of Pakokku region and the murals found in these pagodas are of artistically unique. The murals found in the ancient pagodas of Pakokku will be of a great help not only to understand the Nyaungyan (1597-1752) and Konbaung (1753-1885) wall painting styles but discover that the mural paintings are enormously correlated with commentaries, anthologies and translations of Pāḷi texts by erudite monks and laymen scholars as well. While the murals are paid great attention of the study, the method of the paper uses the murals as the symbolic statements of Theravada Pāḷi literature and the study of the murals is based on Pāḷi literature, including the aforementioned commentaries, anthologies and translations. There are murals in these ten pagodas depicting the stories which are not explicitly revealed in Pāḷi Canon but stated in Myanmar translations, anthologies and commentaries complied by Myanmar scholars. In conclusion, the findings of the present research can be interpreted that the murals of the selected pagodas are greatly influenced by the commentaries, anthologies and translations of Nyaungyan and Konbaung Periods as these periods are truly the renaissance eras of transcribing Pāḷi literature into vernacular tongue.

Keywords : Mural, Buddhavaṃsa, Jātaka, Nissaya

1. Introduction

Pakokku township is situated in the central region of Myanmar and it's also the largest township of Pakokku District in Magway Division of Myanmar. Pakokku district is located between north latitude 20°45' and 21°50' and east longitudes 94°15' and 95°20'. Its total length from east to west is thirty-four miles while the length from north to south is about eleven miles. As it is located on the western bank of the Irrawaddy River, Pakokku is well-known as the Westside City of

Irrawaddy. Pakokku was just a small village in the early 19th century but later got prosperous in the late Konbaung period as it became not only a port village but also the trading place for villages of Pakhan region. (Toe Hla; 2004) It was later established as the Pakokku District. Now, Pakokku township is the administrative seat of Pakokku District and the towns included in Pakokku township are Pakokku, Kanma and Myitche. The murals of ten selected temples and pagodas, all of which are in the Pakokku township, are studied and presented in this paper.

Murals of Nyaungyan and Konbaung-eras

It is part and parcel of culturally related research, especially in the study of cultural heritage which are of historically and culturally significant, to have a strong reliance on such evidences as fossils, ancient historic building, architectural designs and works, mural paintings, sculptures, stucco, stone carvings, terracotta plaques, stone-inscriptions, palm-leaf inscriptions, and folding-book manuscripts. Cultural heritage, according to Kenneth G. Willis, is the legacy of physical artifacts and intangible attributes of society inherited from the past generations. The present research, thus, places emphasis on the study of murals found in the temples and pagodas of Pakokku township. The ten pagodas are selected to be able to study the murals which are of Nyaungyan and Konbaung eras. The pagodas are as follows:(1) Phaung Taw Oo Pagoda (17th century), (2) Phaung Chi Tai Pagoda (17th century), (3) Thiri Mingalar Pagoda (1715), (4) Shwe Motedaw Pagoda (1698), (5) Yote Sone Pagoda (c. 1810-1815), (6) Kyuk Taw Kyaung Pagoda near Lelywar village (presumably the early 17th century), (7) Shwe Pwint Linn Pagoda (1813), (8) Maharbodhi Pagoda (c.1907), (9) the cluster of Ngamonkone Pagodas near Na-tel village (18th century) and (10) Shwe Tant Tit Pagoda (1907), which is dated by an inscription in the paintings to 1907. (Alexandra Green, 2020). The murals of these ten pagodas are studied comparatively with the Buddhist literature, especially the Sutta Piṭaka of Pāḷi Canon.

Significances of Nyaungyan and Konbaung Periods' murals

Mostly, white, black, yellow, and red colour were used in early paintings. Later, blue and green colors were added. Ochre colour (dark yellowish orange colour), yellow colour, ochre colour and straw (strong and pale) were common. The formula of colour processing is said to use chalk for white, black from crude oil and soot, yellow from the yellow ochre, blue from indigo, red from vermillion and red ochre, green from vitriol etc.. Beside Bagan stone inscriptions mention the purchases of colouring materials such as orpiment realgar, etc. for use in painting. (Sanda Khin; 2007, p.15). The murals found in the temples and pagodas of Pakokku region are   of Nyaungyan and Konbaung periods. The costume and hair style were portrayed in detail and the architectural designis prominent. The colour scheme of the murals was changed into contrast and complementary colours of red and green. (p.17. Pyiet Phyo Kyaw, 2017). Dr. Cristophe Munier-Gunier-Gaillard's Importance and role of Bagan in the history of painting in Burma: 15th to early 19th C. It has been stated by Munier-Gaillard in 2017 in his paper Buddhist Narrative Murals,

the murals after the Bagan-Period can be classified into original of the Nyaungyan narrative format (Late 15th c. – early 16th c.), Proto-Nyaungyan style (2nd half of 16[th]c.), Nyaungyan archic stye (1st half of 17th c.), and Konbaung I style (1780-1800). According to Munier-Gaillard (2017), the murals of both Ngamonkone pagodas and the pagoda near Nyaunghla village are Nyaungyan early classic style of the second half of the 17th century.

The murals portraying 28 Buddha images

The mural paintings of 28 Buddha images, amongst the mural paintings of ancient temples of Pakokku, are generally discovered at the pagodas of Nyaungyan and Konbaung Periods. It is usual to see a Buddha statue at the center of the cave temple, facing straight towards the entrance of the cave. Apart from the wall behind the Buddha statue, the other walls of the temple are beautified with the mural paintings of 28 Buddha images, especially in the first row of the murals, and selected episodes from Buddhavaṃsa, the life stories of the Buddha. Buddhavaṃsa is a Buddhist text which explicates the life stories of Gotama Buddha and other the 24 Buddhas who preceded him and prophesied him for the attainment of Buddhahood and about the twelve worlds. It can be generally perceived, according to the words of Gotama Buddha, that there are slight differences in the life stories of Buddhas. Buddhavaṃsa, which can be divided into three main parts, is a hagiographical text generally considered as a late addition to the Pāḷi Canon. In earlier texts, it is found out that only the life of Gautama Buddha and the life stories of six Buddhas who preceded Gautama Buddha were mentioned. Daw Ohne (1956) has assumed that Buddhavaṃsa, which describes the accounts of 24 Buddhas, can be interlinked with Mahāyāna Buddhism as it is, together with the Apadāna and the Cariyāpiṭaka, a late addition to the Pāḷi Canon. In Part 2 of Mahā Buddhavaṃsa - The Great Chronicle of the Buddhas Volume I compiled by Tipiṭakadhara Mingun Sayadaw Vicittasārābhivaṃsa (1996), only the twenty-four Buddhas are mentioned. Buddhavamsa is a Buddhist text which recounts the life stories of twenty-five Buddhas, from Dīpaṅkara Buddha to Gautama Buddha (U Lay Myint, 1976). In Ngamonkone pagodas, the mural paintings illustrating the images of twenty-five Buddhas can be found. Then it is also studied that these twenty-five Buddhas were added with the three Buddhas, namely Taṇhaṅkara Buddha, Medhaṅkara Buddha, Saraṇkara Buddha, to be able to termed as the twenty-eight Buddhas (Buddhavamsa Pali, 1960). It can be held into an assumption that the murals depicting the episodes from Buddhavams were mostly based on Buddhavamsa, Cariyāpiṭaka and Miliṅda Pañña written in Pāḷi language (Therā Padan Myanmar translation, 1993). It is generally stated that there are twenty-eight Buddhas, by adding three Buddhas Taṇhaṅkara Buddha, Medhaṅkara Buddha, Saraṇkara Buddha to the 25 Buddhas starting from Dīpankara Buddha to Gotama Buddha (Buddhadattha, 1906, Dhammapala, 1959, Buddhaghosa, 1959). To be able to read and understand the life stories of Buddhas, learned Buddhist monks and scholars has put great effort to translate Buddhavaṃsa into Myanmar language. There are

many published Myanmar translations of Buddhavamsa such as Buddhavamsa Myanmar transaltion by Dipeyin Sayadaw, Malarliṅkāra by Mel Htee Sayadaw, Jinattha Pakāsanī by Kyee Thel Lay Dut Sayadaw, Sudhammavatī Buddhavaṃ, Mahā Buddhavaṃsa, and YMBA's Buddha Sāsanavam.

In Visuddhi Magga, it is revealed that in following the path to become the Enlightened One, it took Gotama Buddha four incalculable aeons or four-asamkheyyas plus one hundred-thousand world-cycles called Kappas. During that incalculable course of time, innumerable Buddhas arose and the Bodhisatta conserved mental energies of the highest order through the practice of the ten paramitas to become the Buddha (Visuddhamagga, I., 291). It's now customary for traditional Buddhists to pay respect to twenty-eight Buddhas. From Bagan Period of 11th century to Konbaung Period, the images of 28 Buddhas were drawn on the walls of temples and pagodas. The ancient temples of Pakokku region also have mural paintings illustrating the 28 Buddha images. It can be concluded that the murals of Ngamonkone pagodas were based on the Buddhavaṃsa Pāḷi text as the 24 Buddhas were stated in that Pāḷi text and only 24 Buddha images were depicted in the wall paintings of Ngamonkone pagod as. (See: Figure 1) In some pagodas, it's also found out that 28 Buddha images together with the trees under which they obtained enlightenment were depicted on the walls. On the wall behind the Buddha statue and in the corners of the cave, images of Devas, Great Serpent, Garuda, Ogre, and Keindara-mythical bird were beautifully drawn with reference to the section on the jewel-walk of Buddhavaṃsa (Buddhavaṃsa, 1993). The images are supposed to be drawn with reference to Ratanacaṅkama, the first section of Buddhavaṃsa, of Khuddhakanikāya. In this part of Buddhavaṃsa, it is stated that Devas created the magnificent jeweled path for the Buddha who showed miraculous powers to them. At the moment, gods, Gandabba who are class of minstrel spirits inhabiting in the Myin-Mo, human, ogre, Nāga, Garuda and Kinnarā brought flowers and spread them out on the path of Gautama Buddha. So, the pictures of Garuda, Ogres, Kinnarā are drawn in both right and left sides of the pedestal and in some free space of the wall in order to depict this marvelous event. (Buddhavamsa; 1993) In Thirimingala Pagoda of Nyaungyan period, built in 1715, the accounts of 28 Buddhas were depicted on the walls of the temple.

Figure1. *24 Buddhas painting Ngamonkone pagoda (early 17th Century).*

Figure2. *28 Buddha painting at Yote Sone Pagoda (c. 1810-1815)*

The images of the Buddha sojourning in seven places

After attaining Buddhahood in this way, as the first waning day of the month of Vesākha newly broke, the Buddha breathed forth a solemn utterance of joy (*udāna*), and while sitting cross-legged on the *Aparājita* Throne. It is termed as The Week on the Throne or Pallaṅka Sattāha.

The pictures of the Buddha sojourning in seven places, for seven day each after enlightenment and eight great conquests of Buddha over His enemies are drawn in the late Koneboung painting style. The account of Buddha sojourning in seven places after His enlightenment is stated only with four places in Vinaya Piṭaka. (Vinayapiṭaka Mahāvagga Pāḷi,1995). These four places are *Palliṅka sattāha* (staying on the throne), *Ajapāla sattāha* (staying under the *Ajapāla* tree), *Mucalinda sattāha* (staying near the *Mucalinda* lake) and *Rajāratana sattāha* (staying in the jewelled house). These abodes of Buddha's sojourn are added with the places described in *Jātaka* stories and it's finally stated as the seven abodes of Buddha's sojourn. These *Sattāha* as *Animitta sattāha, Caṅkama sattāha and Ratanāgara sattāha* which appeared in Jātaka are placed between the first *Pallaṅka sattāha and* the second *Ajapāla sattāha* to form seven *sattāha* of Buddha (Thein Lwin, 1997). The description of the seven places where the Buddha stayed after the Enlightenment can't be found in one particular Pāḷi text as the mention of these places are scattered in many texts, apart from Majjhimapanatha Atthakatha. That's why Majjhimapaññāsa Atthakatha can be considered as the source for the murals of 28 Buddha images (Buddhaghosa, 1957). In Mahavagga of Vinaya Piṭaka, Bodhikathā, Ajapālakathā, Mucalindakathā and Rājāyatanakathā are explicitly mentioned. In Tathāgata Udhana Dīpanī, all of these seven places where the Buddha stayed after the Enlightenment were not described (Sirisaddhammābiliṅkāra, 2008). During the reign of King Bagyidaw(1819-1837), Pahtama Ngarkhon Sayadaw wrote Mahā Buddhavaṃsa in prose, to be able to read in Myanmar language, and the accounts of these *sattāha* were mentioned in it (Ādiccavaṃsābhidhaja, 1992). These *sattāha* were detailed in one of the most famous introductory books about Buddhavaṃsa which is well-known as Jinattha Pakānī (Munindābhidhaja Ashin, 1982). As the murals depicting the *sattāha* found in the temples of Pakokku region are of late Konbaung period and colonial period, the mural paintings of the *sattāha* would not take reference from the Pāḷi canon but from the Myanamr translations.

Figure3 *The Buddha sojourning in seven places (c.1907) at Maharbodhi Pagoda (c.1907)*

Figure 4 *The Buddha sojourning in seven places at Ngamonkone Pagodas (18ᵗʰ centuary)*

The mural paintings of the Buddha's Vassa – the places of rain retreat

The Buddha had no fixed rain-residence for twenty years during the early period after His Enlightenment (Pathama Bodhi), as He went from place to place wherever sentient beings could be saved from the round of suffering. Then for the next twenty years, the Buddha resided at Sāvatthi. The places of the Buddha's rain retreat are painted as the murals in the temples and pagodas. The places of the Buddha's Vassa are found in Yoke Sone Pagoda, Ngamonkone Pagodas and Shwe Pwint Lin Pagoda. The places of the Buddha's rain retreat were not stated in Buddhavaṃsa. These places of Vassa were mentioned in Khuddaka Nikāya Aṭṭhakathā (Buddhaghosa,1958). The places of the Buddha's rain retreat are also enumerated in Jinālinkāra ṭīkā (Fragile palm leaves, 1996). In Sammantacakkhu Dīpanī, the rain residences of the Buddha are mentioned (Monyway Sayadaw, 1985). In the first volume of Maha Buddhavaṃsa compiled by Phatama Ngarkon Sayadaw, the rain residences of the Buddha are revealed (Ardisavamsa, 1992). However, it can be drawn to the conclusion that the mural paintings of the places of rain retreat by the Buddha are not directly referred to the Pāḷi texts but from the Myanmar translations of Aṭṭhakathā and most of the wall paintings are of late Konbaung period.

Figure 5 *The places of the Buddha's rain retreat, Yote Sone Pagoda (c. 1810-1815).*

Figure 6 *The places of the Buddha's rain retreat, Shwe Pwint Linn Pagoda (1813),*

The Eight Glorious Victories of the Buddha

It is stated that the eight conquests of the Buddha can classified into two kinds; the eight victories over internal enemies and the eight victories over external enemies (Thein Mg, 1982). The victories over internal enemies are generally regarded as implication to the conquest over ignorance, lust and defilement and the mural paintings of the temples and pagodas usually represent the victories over external enemies. The scenes of Buddha, taming *Cinjhamāna* the evil woman, *Āḷāvaka* – the ogre, *Angulimāla,* the collector of ten thousand human forefingers, *Naḷagīri* – the wild elephant, *Māra* –the evil one, *Saccaka* – the sophist, *Baka* – the *Bhyāhmā* and *Nandopannada*, the mythical serpents are painted inner wall of the cave. The origin of the legend of Māra is differently interpreted by scholars as Māra is not vividly stated in the Pāḷi Canon as a

living person. In the Buddhist literature, the Pāḷi term - Māra is associated with death or it simply mean causing death. Some scholars suggest that the term Māra is the personification of the forces antagonistic to enlightenment while other assume that as there is the term *Devaputra-māra-*Mara is the deva of the sensuous realm, who tried to prevent Gotama Buddha from attaining liberation from the cycle of rebirth on the night of the Buddha's enlightenment. The word Māra is for some scholars a metaphorical term to represent defilements because his ten-fold army is Lust; Aversion; Hunger; Thirst; Craving; Sloth and Torpor; Cowardice; Doubt; Hypocrisy and Stupidity; False Glory; and Conceit. In Jinatthta Pakāsanī, the war between the Māra and the Buddha was detailed. In Māha Buddhavaṃsa of Pahtama Ngarkon Syadaw, the eight victories of the Buddha were not mentioned. In Tahtāgata Udhāna Dīpani of Depayin Sayadaw compiled in 1772, the Buddha's victory over the enemies of the Māra was stated (Sirisaddhammābiliṅkāra; 2008). The mural paintings depicting the eight victories of the Buddha found in Ngamonkone Pagoda, Thiri Mingalar Pagoda and Shwe Motedaw Pagoda can be concluded that they murals took reference not only from the Buddhavaṃsa written in Pāḷi canon but also the commentaries and Myanmar translations of Buddhavaṃsa. (See: Figure 7)

Figure7 *The mural painting of the Eight conquests of the Buddha at Shwe Motedaw Pagoda (1698)*

Figure 8 *The mural painting of Eight conquests of the Buddha at Maharbodhi pagoda (c.1907)*

The mural paintings of Ten Great Jātaka Tales

Ten Great Jātaka Tales can be assumed as the frequently found murals of Myanmar which are a set of stories from the Jātaka tales describing the ten final lives of the Bodhisatta who would finally be born as Siddhttha Buddha and eventually become Gotama Buddha. There are actually 547 stories but the number is often rounded up to 550 which is well-known as the 550 Jataka stories. The last ten birth stories of the Bodisattva, from story no. 538 to 537, detailed in the Jātaka-aṭṭhakathā are called as the Ten Great Jātaka Tales. The Jātaka tales, since Ava-Period, were not only translated into Myanmar language and became the source of inspiration for scholars and poets for classical poetry as well. Since that time, the images of the selected episodes which can truly represent the whole Jātaka story, with reference to the Pāḷi literature and Myanmar

translations of Jātaka stories, have been painted on the walls of the temples. In the mural paintings of the pagodas of Pakokku region, it is discovered that the murals of Ten Great Jātaka tales were drawn with reference to the Jātaka-aṭṭhakathā. In Nyaungyan-period murals of Ngamonkone Pagoda, Temiya Jātaka and Mahosadha Jātaka, according to the ink inscriptions below the mural paintings, were respectively named as Mugapakkha Jātaka and Umiṅga Jātaka.(See: Figure 10) It can, therefore, be concluded that the murals of early Nyaungyan-period depicting the Ten Great Jātaka tales took reference to the Pāḷi Canon.

In Konbaung-period murals of Ten Great Jātaka tales, the names of the Jātaka stories were written in prose-style of the vernacular language of that day. The Jātaka stories have been illustrated in sculptures and paintings throughout the Buddhist world. Almost all the ancient temple walls of Myanmar have wonderful paintings of the Jataka stories. The main objectives of depicting the Ten Great Jātaka tales as the wall paintings of the temples are probably to teach people of that time the moral lessons from the tales, to be able to imitate what's decent and to avoid what's evil and to put the lessons into practice in their daily lives. The visitors to the temples can learn from the mural paintings of the Ten Great Jātaka tales. There were translation works of Jātaka-aṭṭhakathā at that time of Ava-period. The majority of *pyo*, a type of traditional lyric poetry, narrate episodes from the Buddha's life or adapt the Buddha's birth stories and under the reign of King Anaukpetlun (1606 -1628), Taungphilar Sayadaw composed *Vessantara Pyo* (Pe Maung Tin, 2003). Myanmar translation of Jātaka-aṭṭhakathā was written by Ashin Manitharadaza of Wet-Khut village of Pakokku region in the reign of King Badon (1752 – 1819). Commentary books on Jātaka-aṭṭhakathā were compiled by Dant-Tai Sayadaw in the time of King Shin Phyu Shin (1554-1581) and U Nyaryadhammabi in the time of King Sagaing (1819-1837) (Maharthiri Zeyathu, 2000). Jātaka-aṭṭhakathā was also composed as Myanamr-prose by Minbu Sayadaw U Awbartha. Asīti Nipāta Aṭṭhakathā was written by Pahtama Shintel Sayadaw Ashin Ňānasaddhamma, native of Shintel village, Phakhangyi. Pahtama Bargayar Sayadaw born in Alalkhan village of Myaing wrote Aṭṭhakathā of Dassaka Nipāta and Ekādasaka Nipāta (Shin Kaylartha, 1967).

The Jātaka stories such as Temiya, Jātaka, Suvaññasāma, and Nimiya of Jātaka Aṭṭhakathā were composed into Myanmar language by Dant-Tai Sayadaw Shin Ňānaliṅkra and Myaing village Sayadaw Shin Guṇaraṃsāliṅkāra. Aṭṭhakathā of Mahosadha Jātaka was written by Dant-Tai Sayadaw, Nayyin Sayadaw Ariyāliṅkāra, Yesagyo Sayadaw Shin Ganddhasāra. Bhūridatta Jātaka aṭṭhakathā was composed by Paik-Thin Sayadaw Shin Narinda, Myaing village Sayadaw and Yesagyo Sayadaw Khandathara. Sandakhumara Jataka aṭṭhakathā was also composed by Dant-Tai, Paik-Thin, Myaing Sayadaw. Nārada Jātaka aṭṭhakathā was scribed by Dant-Tai, Paik-Thin, and Myaing Sayadaw. Vidhūra Jātaka aṭṭhakathā was written by Dant-Tai, Paik-Thin, Myaing and Yesagyo Sayadaw. Today, the works of these Sayadaw were collected

and anthologized as the Jātaka aṭṭhakathā Nissaya by the Ministry of Religious Affairs of the Republic of the Union of Myanamar (Shin Kaythara, Shin Pannyananda, 2012). It is discovered that the aforementioned learned monks who wrote Jataka Aṭṭhakathā Nissaya were from villages of Pakokku region. As the dates of the mural paintings and Jataka aṭṭhakathā Nissāya more or less belonged to the same era, the murals and Jātaka Aṭṭhakathā Nissāya can be regarded as contemporaneous. It can be deduced that the Buddha's *Sāsana was prosperous in Pakokku region by the evidence of the emergence of scholar monks, the ancient temples and the murals of Ten Great* Jātaka *tales drawn in Nyaungyan and Konbaung periods.*

Figure 9 *Mahājanaka jātaka at Phaung Taw Oo pagoda (17th century)*

Figure10 *Umiṅga jātaka at Ngamonkone Pagodas (18th Century)*

The wall paintings of Hell-realm

The wall paintings depicting the evildoers suffering after being existed in hell-realm are commonly found at the lowest row of the murals while the images of 28 Buddhas painted in the upper or first row of the murals. It is studied that the wall paintings of the images of evildoers suffering in hell-realm are usually from Nemi Jataka in which the name of the king is described as Nemiya in Dīpavamsa and Cariyāpiṭaka. Moreover, the ink inscriptions below the murals of hell-realm described the causes of being reborn in hell-realms, the depiction of hell can be painted in reference to Aṅguttara Nikāya. In Phaung Chi Tai Pagoda, the image of a *Peta* or hungry ghost with enormous testicles is found in the murals and the story of that *peta* was described in Pāḷi literature. (see Figure 11)The hungry ghost was a corrupt judge in his former life who took bribe and prejudiced and the image of that hungry ghost can be seen as a kind of warning to the pilgrims because the murals can serve as a major deterrent for the viewers not to follow the evil path (Vinaya Piṭaka, 1994 and Saṃyutta Nikāya, 1991). In Shwe Tant-Tit Pagoda, it's discovered that pictures of foreigners who can be assumed as British colonialists are drawn as the evildoers suffering in hell in the mural paintings of hell-realm. (see Figure. 12)The hell-realm murals depicting foreigners as hell-sufferers can clearly indicate the resentment or the general

outlook of Myanmar people of that time, presumably the early colonial period and the time before the fall of Konbaung dynasty, towards foreigner who are of different religious background.

Figure 11 Wall painting of Hell-realm *at Phaung Chi Tai Pagoda (17th century)*

Figure 12 Wall painting of Hell-realm *at Shwe Tant Tit Pagoda (1907)*

Figure 13 Wall painting of Hell-realm *at Shwe Tant Tit Pagoda (1907)*

The significances of murals with images of gun-holding soldiers

During the time of King Anaukphetlun (1606-1628), Taungoo was surrounded and attacked by enemies which commanded by Felipe de Brito, a Portuguese adventurer and Governor of Syriam now called Thanlyin, but later Syriam was attacked by the Taungoo dynasty king, Anaukphetlun, and De Brito was captured and executed. The Portuguese community of Syriam, problably about 500 people, was taken prisoner and brought to the Taungoo capital, Ava (Thein Hlaing, 2018). According to D. G. E Hall (1945), king Anaukphetlun marched his troops to attack Tenasserim and Chiang Mai in 1614 and he took an English merchant called Thomas Samuel when he returned to his capital. Anaukpehtlun had took the European-Portuguese captives to Ava and Bago where they were known as *Bayingyi* and served as gunners for the Burmese armies later. Than Tun (2011) suggested that there were European-Portuguese soldiers served under the Myanmar army who were known as *Bayingyi*. That is the reason why the gun-holding soldiers were painted in the murals of temples and pagodas as foreigners or *Bayingyi* were familiar with Myanmar people. (See: Figure 15 & 9) The images of gun-holding missionary soldiers can also be found in the Nyaungyan-period mural paintings. In the wall paintings of colonial period, there were gun-holding soldiers in the army of Mara, in the mural of the Eight Conquests of the Buddha, and it can be assumed that the foreigners probably the English soldiers were drawn as the soldiers of the armies of Mara.(See: Figure 16) The mural of drawing English soldiers as the soldiers of Mara who is attacking the Buddha, as revealed by Than Tun, not only reveals the resentment towards the colonialist but also to arise the national spirit of the public (Toe Toe Win, 2018).

Figure 14 *Foreigner in the mural of Kyauk Taw Kyaung (17th century)*
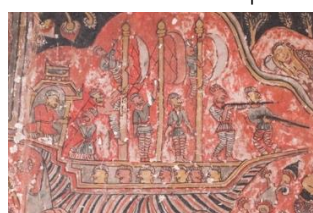
Figure 15 *Portuguese soldiers at Stupa no.51,Pakkhangyi (17th century)*

Figure 16 *Gun-holding soldiers in the army of Mara at Maharbodhi Pagoda (c.1907).*

2. Conclusion

As the teaching of the Buddha or the Pāḷi Canon are visually represented by mural paintings in the temples and pagodas, the comparative study of murals with their respective Pāḷi texts of Buddhist literature will be beneficial both in secular affairs and religious affairs (Myo Nyunt, 2001). Myanmar traditional painting has a long-standing tradition as the evidence of Myanmar painting around 11 AD was discovered and most of the ancient painting was commonly found as the mural paintings in temples and pagodas. Aside from the general purpose of beautifying the inner walls of the temples, the murals were drawn to be of great help in the proliferation of *Buddha-sāsana* or the Buddha's Dispensation. The episodes which can be the perfect description of the Buddha's teachings, Sutta or Jataka of the Pāḷi Canon, are carefully selected and pained as the murals in temples and pagodas. To be able to impart the knowledge concerning with Buddhavaṃsa towards the pilgrims especially about the life stories of Gautama Buddha and the previous life stories of the other Buddhas, Jataka tales are chosen and depicted as the murals in temples and pagodas. Earliest known *Panchi* or traditional paintings of Bagan had to imitate the painting style of India. As it is generally accepted by scholars that the style of wall paintings at Bagan was derived from the Pala style first developed in India. However, learned Buddhist monks, who were proficient and knowledgeable in Pali literature, of that time would be consulted concerning with the murals of Buddha's Nipāta. When a temple or pagoda has been built, the inner walls of the temple or pagoda were adorned with murals for not only the visual decoration of the walls but also the enhancement of religious knowledge for the pilgrims. The custom of painting the inner walls of the cave and the wage for the craftsmen paid for the wall painting of the temple were recorded in stone inscriptions of Bagan period. In Shwe Pwint Lin Pagoda, the ink inscription has revealed that the artist of the mural painting was paid over one tical of gold pieces. In drawing the murals, the main emphasis of the painting is to portray the Jātaka tales. However, the images of the Buddhas, Buddhavaṃsa, images associated with Mahayāna and Tantrayana Buddhism and the images of Devas can also be found in the mural paintings at religious buildings of Myanmar. The mural paintings can also reflect the historical, cultural, social and economic facts and conditions of their respective time. Mural paintings can also be seen as a kaleidoscope bridging the past times with the present because the cultures and ancient lives of olden times are disclosed in ancient mural paintings. The murals found in the ancient pagodas of Pakokku will be of a great help to understand Nyaungyan and Konbaung wall painting styles. According to the study, it's also discovered that the mural paintings illustrating the Buddhist literature are immensely interrelated with commentaries, anthologies and translations of Pāḷi texts composed by erudite monks and laymen scholars of Pakokku region as well. The method of the paper uses the murals as the symbolic statements of Theravāda Pāḷi literature and the study of the murals is based on the Pāḷi Canon, including the aforementioned commentaries,

anthologies and translations. There are murals in these ten pagodas depicting the stories which are not explicitly revealed in Pāḷi Canon but stated in Myanmar translations, anthologies and commentaries complied by Myanmar scholars. According to the findings of the research, it can be drawn to the conclusion that the murals of the selected ten-pagodas are greatly influenced by the commentaries, anthologies and translations of Nyaungyan and Konbaung Periods as these periods are truly the renaissance eras of transliterating the Pāḷi literature into Myanmar language.

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Overviewing the Organizational Culture of Historical Masterpiece in Bagan

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Abstract

Bagan is one of the archeological site in Asia, located on the eastern bank of the Ayeyawaddy river ; near to Pakokku township on each side. The whole regional area is covered by pagodas with all sizes and shapes. At one time, there were situated 4446, 733 pagodas (A.D.11 - 13) . The architecture building was a total number of 444,5. These art and architectural designs attained at a peak of achievement to Myanmar , a saying " Hlae wyn yoo than tit nyan nyan Pagan paya paung". There are many beautiful handicrafts, crafts and gifts , pagodas and temples represent to cultural "size, technology , diversity , history and ownership". Handy,C., (1981: 398), "Organizational theory" is used to measure and area survey data collection is based on mix correlation methods with specific area at Bagan . Related theories are *Organizational climate* by Invancevitch et al (2008), Dr. Than Tun (2017) , *Defacing Old Bagan* and Harrison (1972) *Organizational ideologies*, Dr. Karthikeyan,"*The theory of Organizational Culture*" and etc., Finding is with archeological view and artistic value , cultural diversities in Bagan. This research investigates archeological site rationale behind defacing of ancient Bagan, which contributes to values, norms, beliefs, artefacts and management styles of old great Kings and Queens glory of Bagan.

Keywords : Cultural, Technology, Architecture, Diversity, Defacing

1. Introduction

"*Culture*" can be influenced by the attitudes of organizations, and also influenced by the prevalent attitudes at the time in which the organization has began and it can also be affected by the *local and national cultures*. In the early 1950s, Kroeber and Kluckhchn (1952, 296: 15) identified more than 160 different definitions of the term culture. The study of culture has ranged from the study of its external architecture and landscape to the study of a set of impact values to a large group of members in a community subscribe. The term originates from the Latin word cultura or cultus : Frelich (1989: 2) According to Handy. C., (1981: 398) , there are four types of *organizational culture*: power culture, role culture, task culture and person culture as shown in the following organizational culture diagram:

Table 1 H. Robinson Organizational Theory
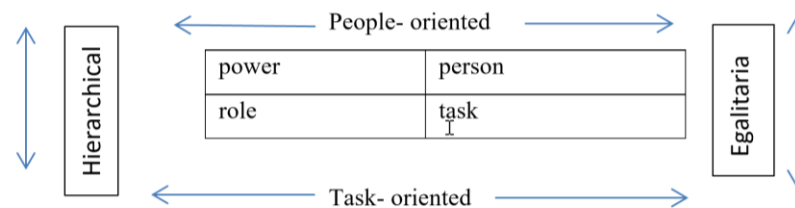
Table 2 Type of Organizational Culture

Greek God	Type of organizational culture
Zeus	Power Culture
Apollo	Role Culture
Athena	Task Culture
Dionysius	Person Culture

Handy's theory led to differentiate between four types of organization in terms of culture. According to Handy, power culture emerges from a few individuals and found in entente cordial organizations having few rules with little bureaucracy and the decision making is swift which is derived from "Greek god", Zeus. Role culture is the structural role and people clearly delegated authorities as highly and typically detail organizational structure and the decision making is slow, and which is come from "Greek god" Apollo. "Task culture'' is derived from "Greek god" Athena, which is formed by team formation conquer particular problems with power deriving from expertise. "Person culture", which is ruled by "Greek god" Dionysius : people believe themselves as the superior to the organization and common in the firms of professional success depending on the personality . Influence of "Organizational culture'' is according to "*size, technology, diversity, history* and *ownership*".

1.1 Study Area

Geographical base of Bagan , nominated at 4 miles distance , Twein Ywa village , to the northeast 4 miles, Kontangyi village , from which 2 and a half mile , Tetthe village, to the eastwest 2 miles distance, Kyaukgu Umin, to the north, along the river beach of Ayeyarwaddy until 11 miles to get to Twein Ywa village , around the 20 square miles as an enrichment of pagodas and stupas , standing as a great masterpiece of archeological city in South East Asia, Bagan . With the three main aspects of archeological view, the ancient monuments and historical zones are preserved by conservation, preservation and restoration.

1.2 Archeology Department at Bagan

The headquarters of Archaeology Department was moved from Mandalay to Yangon in January 1985. U Po Latt marked out a two year (1958 -1959) programme for Bagan as follows: record and publish 1) all masonary works 2) all stone works 3) all metal works 4) all works of gold 5) all works of iron 6) all wall paintings 7) All buildings in wood 8) Modes of dancing 9) Coiffure and costume 10) pictures depicting the way of Aria 11) pictures of battle, martial art, bull fight and cock fight 12) Requisite of monk 13) Paraphernalia of king 14) Things of commoner's everyday use 15) Toys 16) Coins 17) History of Myanmar Culture 18) Descriptions of the centers of political power in Myanmar 19) History of ancient monuments.

1.3 History of Study Area

Bagan was founded by King Thamoddarit in the early 2nd century, established as a walled city, with twelve gates and a moat by King Pyinbya in 849 AD as the 34th king and in the list of 42th king, Anawrahta. Bagan emerged into glorious history in Myanmar. Two and a half centuries from Anawrahta (1044 AD - l077 AD) accession to the throne in 1044 the flight of Narathihapate (1256 AD – 1287AD) from the capital in 1283 in the face of the Mongol invasion were the years of Bagan greatness. The royal city could draw upon the rich rice granaries of Kyaukse , 90 miles to the northeast , and Minbu, 70 miles to the south, known as Tattadesa, the Preached land. The capital city Srikeshtra was invaded from the northeast by foreign invaders. The disintegration of Pyu Kingdom, Srikestra , Pyu had already connected with the other Pyu nations and resettled other Pyu cities including Bagan , a magnificent place at there. Bagan where Pyu and Thet kinsfolk moved and relocated, as an approximately 19 miles all around in this area. It can be assumed that this was an assembly of highly intelligent, knowledgeable and capable of people to raise as an empire such a small and seemingly in significance place. This achievement can be attributed as an organizational ability and as an outstanding military leadership of King Anawrahta; to have the enthusiastic participation, unity and patriotic spirit of Bagan citizens. They themselves united the wholehearted cooperation of talented, skillful kith and kin who had migrated to Bagan, a mighty power site standing at the center of culture and civilization. These contributions of monarches were the success of King Anawrahta . Acknowledgement through enedavours, the Bagan people were capable of ability to raise and matain his great empire that equals the areas and boundaries of "Today Myanmar''.

1.4 Rationale of Research : Defacing old Bagan

"Mongol invaders end of 13th century , rulers abandoned it on 22 September 1361 and subsequent Shan inroads of 1442, 1444 and 1456 and Amyui:sa (native) thieves who opened frequently the pagoda relic chambers as mentioned in the ink inscriptions of 14 January 1575, 17 Apirl 1759, and 2 December 1770 and foreigners who came to rob Bagan of its antiquities very often , the great flood on 19 July 1331 and earth-quakes of Cansu II's regin 1165-1121 .25

November 1372, 6 May 1380, 14 july 1485, December 1658 and 8 July 1975 and the natural calamities bayan (Ficus) destruction caused fissures at walls and roofs of pagodas and temples . " The earthquake of 1975 caused fissures in the pyramidal spire (sikhara) of Ananda temple and decided to remove some 200 bricks within the spire which was a solid block to lessen the weight as protection against future shocks from earthquake. After the fall of Bagan in Inwa period, the Ananda temple smelted down and other objects made from the melted metals for saleor for some other use." "The image seen on pedestal today, a craved teak wood figure of a large standing buddha image on the western faÇade of the main pagoda" See also (appendix i, ii, iii)

2. Research Objectives

The overall aim of this critical appraisal is :

1)To investigate how organizational culture developed in the history of Bagan. In order to accomplish this aim: 1) To analysis the deprecition of Bagan art and historical, cultural and archeological report of Bagan 2) To classify cultural valules, norms, beliefs, artefacts and management style of Bagan Era 3) To study Organizational Culture in Bagan Era ruling by 55 Kings (Traditional 107AD -1017 AD to Historical 1044 AD-1369 AD)

3. Hypothesis

Charles Handy (1981: 398) states "In organization, there are deep-set beliefs about the way work should be organized, people are rewarded, people are controlled. What are the degrees of formation required? How much planning and how far ahead? What combination of obedience and initiative is looked for in subordinates? "Harrison (1972 : 390) classifies organization ideologies and his theory states that Power- oriented organization is competitive and responsive to personality rather than expertise, People- oriented organization leads to consensual and sometimes controlling by rejected management style; Whatsoever Task – oriented focus on competency, and dynamic, and Role_ oriented focus on legality, legitimacy, and bureaucracy. Nevertheless, Harrison and Handy (1981) states   "The power culture is one with a central power source that exercises control. There are few rule and procedures and the atmosphere is competitive, power-oriented and political." "The role culture in which work is controlled by procedures and rules and the role or job   description, is more important than the person who fills it. Power is associated with positions not people." "The task culture in which the aim is to bring together the right people and let them get on with it. Influence is based on expert power than in position or personal power. The culture is adaptable and team work is important." "The person culture in which the individual is the central point. The organization exists only to serve and assist in it." Schein (1985:390), power culture is in which leadership resides a few and rests on ability, role culture is balanced power, achievement power is personal motivation and value commitment, and

support culture is people contribute out of a sense of commitment and solidarity. Organizational culture can be described in terms of *values, norms, artefacts and management style*.

3.1 Organizational Culture Definition

There have been many attempts to categorize organizational culture by a number of theorists : Eldridge and Crombie (1974) states "The culture of an organization refers to the unique configuration of *norms, values, beliefs and ways of behaving that characterize the manner* in which groups and individuals combine to get things done. An aspect of Deal and Kennedy (1982) ," Culture is a system of informal rules that spells out how people are to behave most of the time. Schein (1985) proposed in a different view of theory; "A pattern of basic assumptions_ invented, discovered or developed by a given group as it learns to cope with the problems of external adaption and internal integration_ that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to this problems. Furnham and Gunter (1993) theory proposed that "Culture is the commonly held *beliefs , attitudes and values* that exists in an organization'', as simply as more , culture is " the way we do things around here". Organizational culture , alternatively as Corporate culture is the pattern of values, norms, beliefs attitudes and assumptions to be expressed or to be articulated not enough but to shape the ways in which what are people organizational behaviors and what things get done in practices. "Values" refer to the beliefs what are to be important as organizational behaviors and "norms" refer to "what are the unwritten behavioral rules " . This definition emphasizes an organizational culture going on organizations. Abstractions such as values and norms that pervade the whole or part of a business that may not be defined, nevertheless, culture can have significant influences on people's behavior.

3.2 Organizational Climate Definition

Many researchers propose enormous definitions upon organizational climate in different views. Ivancevitch et al (2008) states: "A set of properties of the work environment, perceived directly and indirectly by the employees, that is assumed as a major force of influencing employee behavior." A distinguish theory of Denison (1996) highlights "Culture", a deep structure of organizations penetrating to rooted in values, beliefs and assumptions which are practicing by organizational members. A contradiction of "*Climate theory*" to the environmental consciously perceivision by organizational members: Rousseau (1988) defines that "*climate*'' is a perception and a description. Perception is sensation or realization of individual experiences and description is what interpretation to these sensations by individual aspect of view. As a debate, organizational climate is what percept, how people see and feel about culture existing in organization as an artifact. French et al (1985) defines that "It is relatively persistence on set of perceptions practiced by hierarchical organization concerning with the characteristics and quality of culture which is distinguished by actual situations, culture and the cultural perception of cultural climate.

3.3 Varieties in Myanmar Culture

Myanmar Buddhists are followers of Theravada Buddhism. Since the third Buddhist synod in Palliputra in 241 BC (283 Buddhist Era) , theravada is regarded as the true form of Buddhism. King Anawrahta purified Buddhism during his reign, since then, Myanmas have been followers of Thera-vada Buddhism. Early societies had innumerable deities, sun, moon, stars, planets, clouds, rain, coordiles, tigers, lions, trees, plants, rivers, lakes, mountain, hills and even enphemeral events such as thunderflash had been deities for others. Spirit worship predates before the arrival of Buddhism and disappeared. So, the new animism has survived in new forms not for worshipping, not paying obeisance , the nats are respected and feared , and being paid by propitiation .

3.4 Myanmar Cultural Norms

Report on Archaeological Work in Burma for the year 1901-02 is the first annual report in Myanma. In 1904, "The ancient Monument Preservation Act" was nominated and applied. In the year 1906-07   the name was changed to Report of the Superintendent, Archeological Survey, Burma for the year ending 31st March 1907. From 1927 to 1937 the reports from Myanmar appeared in the Annual Reports of the Archeological Survey of India. When Myanma was separated from the British Empire, Myanmar reports appeared under separate cover again. There were 1938,1939, 1940 and 1941 numbers before the war and no reports during the war. Reporting was resumed in 1947 until 1965. In spite of such normal activities like exploration, excavation, there was a conservation and publication of books on epigraphy. Dr. Emil Frochammer was to begin archeological work in Myanma, landed inYangon on the 7th of January, 1878. In 1881, he was made Government Archologist in addition to his original work as Pali Professor at the Yangon College. Judgementing by his work Essay on the Sources and Development of Burmese Law, 1885 (The Jardine prize Essay) . Lord Curzon, viceory of India, visited Myanma in December 1901. In Mandalay he said that Myanma architecture was quite interesting and it was important to preserve it. According to C. Duroiselle, archaeology was properly established in Myanma since then (ASB 1937-38,16) . A museum at bagan was also ordered by Curzon in December 1901 (AWB 1903-04,2).

3.5 Myanmar Historical Belief

It can be seen what the Queen Pwa Saw made the prayer of dedication:

"May my noble husband lord the king, my son the king, my grandson the king, these three kings, and all the future kings to come square equally with me the merit of this work. May the prince and the princess, the queen and all her ladies-in- waiting, the ministers and all the hosts, the Thangya , Brahma, the four guardians of the world and all the spirits , Tataw the Yama King, men and other beings who dwell in our world- system and other world-systems from Avici

hell below to the celestial realms above also get a share of my merit. May they escape miseries of samara and reach nibbana which is free from misery. "With great magnanimity, then, the Queen Pwa Saw shared the merit of her act with all beings of the thirty - one realms : the twenty celestial realms of the brahmas, the six celestial realms of the thagyas or devas , the mundane realm, and even the four hells.

The donors of Bagan indeed gave lavishly to the Religion. These were the expenses of pagodas and temples which is built in such profusion. It is to be remembered that the workmen employed for the building were free men who had to be provided with board and wages. Princess Asawkyun made the list of expenses for the building of a temple:

Grand total of silver	1747 (ticals) 3 pya
Grand total of copper	74 viss
Grand total of loincloth	113 pieces
Grand total of gold for smearing the spire	23 ticals
Grand total of quicksilver	92 ticals
Grand total of paddy	1867 ½ ticals
Grand total of areca nuts	2 barrels and ll66 baskets
Grand total of black pepper	7123 viss
Grand total of salt	7 ½ viss
Grand total of copper for the spire	66 viss

Reference (see also appendix iv, v, vi)

4. Research Methodology

4.1 Research measurements and techniques

Culture consists of patterns of traditions, beliefs, values, norms, meaning and symbols that are passed on from one generation to next and are shared to varying degrees by interacting members of community. Culture is an iceberg ; 4 layers from the upper most to the dig deeper : for the first hidden viewing what can be seen as pop culture : popular culture (Zelizer , 2001) fashion, music , and mass appeal to deep , the second deep level culture , traditions, beliefs and values, (subjective culture theory : Triandis 1972, 1994, 1995). To the depth, intermediate level culture, symbols, meanings and norms. Next, the dig deeper into the universal human needs level: human respect, connection and security. Survey data collection is based on mix correlation methods with the specific area at Bagan with archeological view and artistic value. Cultural diversities of different eras with historical view of technological and archaeological shape of gestures from historical stupas are investigated how developed archeological site with social and cultural background.

4.2 Data Analysis and Assessments

To analysis the ancient city Bagan, it can be classified into 6 categories according to archeological background; to study 1) ancient historical cave, monastery, zedi (stupa and pagoda) and monuments, 2) the ancient architecture design 3) ornaments arts and crafts, 4) ancient paintings, 5) inscriptions and depictions, 6) Buddha images and other statues, and stone inscriptions.

4.3 Research Result

4.3.1 Data analysis of artefacts : "Organizational Culture

A study to Buddha images and other statues: Buddha Mudras. Mudra is used to the iconography of Hindu and Buddhist art of Indian subcontinent and described in the scriptures such as Natyasastra, which list 24 asarmyuta (separted, one han) and 13 samyuta (joined, two hand) mudras. Mudra positions are usually formed by both the hand and fingers. There exist about 339 mudras. Most of the Buddha images can be classified into six types on the background theory of positions and hand gestures. Type (1) The buddha is seated in the position of meditation. The left hand lies in the lap, and the palm upward while the right hand hangs down palm inward in the gesture of touching of the earth. This recalls the moment when buddha was challenged by Mara (evil one). He was also as to his worthiness to become the buddha. Gotama touches the earth and call upon it as a witness to his deeds in the past buddha. This type represents the buddha as enlighterment when aspiration and fulfillment came together. Bhumisparsa mudra ; At Shwezigon pagoda. Type (2) also has the buddha seated in the position of meditation but the hands are at the breast. The thumb and the index finger touching a finger of the left hand which has the plam turned inward, it is the guster of turning the wheel of the law. This represents the first preaching of the Sermon in the deer park the Dhammacakka or wheel of the law of Sermon. The wheel of the religion was set into motion according by Dhammacakka , dharmachakra mudra; At Alotawpyae Temple . Type (3)has the buddha seated in the position of meditation. Both hand lies in the lap, the palms are upward, the right is upon on the left. It is in the gesture of meditation. This represents the buddha in a state of meditation. Samadhi mudra ; At Shwezigon pagoda . Type (4)The buddha has in standing position. The feet planted firmly and set slightly apart. The left hand is extended forward. The palm is outward. In the gesture of bestowing gifts while the right hand is raised to the level of the breast, palm outward it is in the gesture of reassurance. The ascriptions review that some of the standing images were made to conform to the height of the donor. Warada mudra ; At Shwezigon pagoda , and Anada temple .Type (5) The buddha in a standing position but with both hands are at in the gesture of turning the wheel of the law and sometimes with abaya mudra . At Ananda Temple, Htilominlo Temple,. Type (6) The buddha in a reclining position lying on his resting on his right hand. This represents the buddha at the point parimibbana, the decrease of final Weration. Pareiniraana mudra; At Shwezigon pagoda,

Shinbinthalaung temple . The images of the buddha at Bagan follow the combustion of the Buddhist iconography. It is not only larious position and hand gestures but also in such thing as the inclusion of the sign the Mahapurusha or great being.

4.3.2 Data Analysis: Four Main Types of Pagodas in Bagan

4.3.2.1 A study of data analysis on dimension of architecture task–orientation :

Type (1) An early form which has a bulbous dome shape and is exempliflied more study area - the Bupaya and the Nyakywenadaung. Type (2) A series of receding terraces, surmounted by a cylindrical or bell- shaped drone which continues into a final concentric rings . A development form has three receding square terraces which has an octagonal base that provide the transition to a bell-shaped dorne with a band of moulding in the middle, more study area - The Lawkananda and the Shwesandaw. Further studies area - the Shwezigon and the Mingalazedi . Type (3) A ribbed, bowl shaped disc _ the amalaka or myrobalan fruit which crowns in spire of Indian temple interposed between the dome and the final. More study area - Seinnyet Nyima pagoda. Type (4) Modelled on the medieval Sinhalese dagaba or pagoda, has a bell-shaped dome on a circular base. And, a box_ hike relic chamber_ the harmika of Indian stupas which is inyrtposed between the drome and the final. Outstanding. More study area – Sapada padoga

4.4 Analysis of defacing old Bagan

Table 3 Chronlogy of "Marking New''Activities including Vandalism, War and Natural Calamitie

Date		Monument	Person Responsible	Reference	
19 July	1331	All areas	Big Flood	Than Tun	1975,5
4 Apirl	1380	All areas	Earthquake	Than Tun	File 20
6 May	1380	All areas	Earthquake	Than Tun	1975,56
14 July	1485	All areas	Earthquake	Than Tun	1975,55

Ref : Dr.Than Tun "Defacing old Bagan" (appendix viii)

5. Discussion

There is a saying "Dhammayan for mass, Thabyinnyu for height, Ananda for grace and beauty, Shwezigon for power''. Most delicate works of art can be found in the Ananda temple. The original name of this temple was Nandamu Hlaing Gu. It is said that "Anan'' evolved over time to Ananda. "Anan'' means "What a beautiful'', Myanmar meaning in Sanskirt. Of the tenth of arts and crafts, eight of them are represented altogether in this Ananda pagoda of arts and crafts. They are Pan tamawt , study in the arched niches on both sides of inner corridors consisting of 80 scences of the Jakata and the Buddha images preaching sermons , Pantawt: decorative work in relief in stucco figures in relief seen above the arched enterance at Ananda temple as

a description of the murals on the wall, panchi: painting on the entire walls, pan pu: the art of wood carving wood or ivory. There are eight large door leaves and the frames are at original condition. The upper part of the frames are carved wooden figures with the mythical lion- like animals the tonaya and the samari birds and festoons of flowers, which has also the carving of Bayintnaung's time. In the four cardinal points the image chambers are the craved figures of the four Buddha images. This described the attainment of enlightenment up to now in this world. If someone approaches these Buddha images closely, the face taken on a serious expression. When someone backs away and looks up at the face of the Buddha, there is a significant change and the face appears to be smiling. One can enjoy looking up into the face of buddha and can feel a sense of joy and peace, and amazing to feel the infinite devotion of buddha and reverence.

Next magnificence art work at Ananda temple is pan-pai, blacksmithing, the two big iron rings are enclosed in brass on the eight big leaves. The rings are perfect circle in shape. One diameter of the iron rod curved as a door bolt inserted into a horizontal iron piece. The bolt was held between two iron rods with grooves, These are held between two flat pieces of stones without soldering, which depicts the techniques of the Bagan Era. Another art and craft can be studied at pan htein, making items in gold and silver. In history, there are 1000,000 of pure gold enshrined at the gold images and statues   shown that the art of goldsmith was a widen developing at that time. Pann Tinn, making items cast or wrought from bronze, copper or brass, can be studied at Ananda temple. The Buddha image with the height of 31 feet and five inches was made of an alloy of five different metals including gold, silver, bronze, iron and lead. Payan , craft of a masonary work is seen in the figures of the standing Lokanahta and the Mettayya images . The four prayer halls are guardian spirits are fashioned from cement at the arched enterances at the corner of the pyramidal spire. All skillful and unusual masonry craft - made is seen in the figures of the standing Lokanahta and the Mettayya images. The four prayer halls are guardian spirits are fashioned from cement at the arched enterances at the corner of the pyramidal spire. All skillful and unusual masonry craft are made by chiseling and craving bricks and stone. Latticed openings can illuminate the large four standing Buddha images and also for ventilation purposes as a marvelous architects could be taken lessons.

At Ananda temple, how much warm it is outside, it is cool and pleasant when entering into the temple inside. Glazed works of art remained altogether 28 pagodas and temples. The most complete and the most beauty can be seen at Ananda temple today. Over 500 terra cotta plaques of various animals such as tigers, elephants, lions, camels, buffaloes, cows, deer, rabbits. byala, makan that ridden by soilders of the Manat spirit. The eastern base was with terra cotta plaques of naga- serpent, guruda, orge, devas, sakka and Brahmas holding pennants, bamboo staffs, kalatha pots, food, vase, door posts, thunderbots, goads and daggers. (see- appendix viii)

6. Finding and conclusion

In analysis, it can be found that "Denison theory of culture" such as Myanmar values for artistic work of 8 kinds of art and craft at Ananda temple in this research. Moreover, varities of Myanmar cultural artistic work, Myanmar traditional norms and historic artistic work, Myanmar traditional beliefs and worships of Buddhism on inscriptions (see appendix vii), and different kinds of mudras and what expression it is revealed in this research . In addition, the name of the pagodas and temples which can be studied these artefacts just one- sit topic discussion druing a trip to Bagan. In appendix (i- vii), it is revealed the merit of the great kings donation and the name of the pagodas which is built by the same period in the same Era, and the historical beliefs of Myanmar culture can be seen from the prayers of Queen Pwa Saw. And, much more the history of Archeological Department at Bagan and their efforts of why and how to preserve defacing, how much ruined revealed in statistics with exact archeological site and definite year occurred in references (see appendix- i-viii). Organizational culture is not statistics. Organizational development interventions and cultural transformations are adjacent each other. Handy's theory was followed by Cameron and Quinn identified that Adhocracy culture, Dynamic entrepreneurial create culture, Clan Culture, Market culture, and Hierarchy culture. This hierachy culture is a prevalent corporative culture in Bagan Dynasty, governed by 55 kings. The last Bagan dynasty was ruled by King Saw Mon Nit(1325- 69) as a Bagan Emperor. This culture is defined by *structure established procedures*, and the levels of authority is *hierarchy*. This culture precisely fitted in the *change of cultural demand* : accountability, representative, regiment, and then *central power* , moreover, in this era(A.D. 107- 1369) the imperative culture was performed by the *task oriented* and also *people-oriented cluture* were established . King Kyansitthar (1084-1113) reigned his emperor with the egalitarian (Organizal culture theory) to his people seen on the incriptions of his swears (see also appendix. vii) . So, in Bagan Era, the highest peak of historical, cultural and architectural dimension reached the fourth level of cultural iceberg, now UNESCO recognition world amazing and a masterpiece of Great organization cultural site and restricted fly zone prohibition around cultural zone over 300 yards aviation and no allowed to go upstairs to the pagodas (2016) . It is to everyone of Myanmar citizens to conserve, preserve, restore to ancient masterpiece. Moreover, the issues involved in this research area which require further investigation for regional development can be developing further studies for organizational culture.

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Appendix   i-viii

Appendix - i

Bayan (Ficus) with its varieties like Pyi Nyaun (Ficus bengalensis) , Nyaung Bawdi (Ficus religosa) , Nyaung Gyat (Ficus obtasifolia) ,etc. are also dangerous agents of destructions. An eminent Sayadaw of the 17th century once put it as Ceti Mhan: tha : Mrat Bhura : tan tha : kon: lyak non pan phyak san a pagoda stands fine until a bayan destroy it. (Toriphila , " Phyak cu nhac chay Sampok . An Anthology of Myanma Literature, II , 1992,pp.63-64, no.1)

Appendix ii

The Nanda Temple (2171/1465) now called Ananda , would have been made new several times but as the walls were white washed fairly often, the ink in scriptions on the walla that would testify whodid what demerit or atrocity at what time were lost. The Buddha on the north is identified as Kakusandha. It is made of Saga (Michetia champaca) and 28 feet high. The face was made new in about 1906 and the trimmings on the robe were also made about that time. The Buddha on the east is identified as Konagamana. It is a replacement which is also 28 feet high as its originalmade by Sandag (Santalum album) . U Po, Bagan Wun, made the new one in 1867 and U Wa of east Nyaung U gilt in and added the robe trimmings in 1906. The Buddha on the south is identified as Kassapa, made of Tinyu (Pinus insularis) , 28 feet high. It is supposed to be in its original conditions though it present look testifies that it too suffered many changes. The Buddha on the west is identified as Gotama and originally it was a cast of Pancaloha (an alloy of gold , silver, copper, iron and lead) and local people would not say who, when and how it was destroyed. They only say that it is a replacement made of wood and 28 feet tall as its original. U San Nyein, Trader, Bagan Myoma, gave it a new look in 1891.

Appendix-iii

Bagan Ink Inscriptions

Bagan Ink Inscriptions were copied in hand by a team sent by the Archaeological Department and it started its work on 24 June 1958. The Myanma Historical Commission did the same thing and its team started work on 7 February 1962. The MHC team also photographed the records and for more results, the photographer applied a thin layer of glycerine over the written words on the wall. Soon afterwards ants came to get the glycerine and the words were gone when they had gathered the sweet liquid. The MHC team had inadvertently destroyed some of the important records on the temple walls of Bagan in endeavor to preserve them.

Through lack of proper care, some photo – negatives cannot be used after a few years. SOme enlarged prints were made out of the good films but they are not available for scholars. It is an assumption better than a hand copy, but at least in this particular attempt, it did not come up to the mark. One more attempt to collect these ink inscriptions of Bagan nice neigh impossible because most of the walls that contain them crumbled to pieces in that 8 July 1975 earthquake.

Appendix - iv

The following is a list of some pagodas and temples King Anawrahta built as deeds of merit in Bagan region :

1) Tantkyi Taung Pagoda	AD1846
2) Kha Yway Taung or Tuyin Taung Pagoda	AD1846
3) Shwe Hsandaw Pagoda	AD 1536
4) Lokananda Pagoda	AD 1023

5) Hsutaung Pyi Pagoda   AD 896

6) Ashaephetlate pagoda   AD 1030

7) Gupyauk Pagoda and Bodhi tree   AD 1323

8) Manuhar pagoda   AD 1067

9) Shwezigon pagoda   AD 1846

10) Anaukphetlate pagoda   AD 1031

11) Myin Kaba Chedi   AD 1328

12) Bagan Shwesandaw Pagoda   AD 1536

13) The Pitaka Taik   AD 1587

Appendix -v

The following is a list of work as merit by King Kyansitthar;

1) Thw Tharapa Gate ,   AD 1084

2) Shwezigon Pagoda (Former King Anawrahta)AD 1846

3) Nagayon temple,   AD 1090

4) Abeyadana temple,   AD 1090

5) Pitaka Taik   AD 1587

6) Maha Bodhi Pagoda,   AD 1098

7) Mya Thein Tan chedi,   AD 1098

8) Gyupyauk Nge temple   AD 1100

9) Ananda Temple,   AD 1113

10) Gupyaukkyi pagoda,   AD   1113

11) Alopyi Temple ,   AD 1194

12) Soe Mingyi chedi,   AD 1145

13) Min o Chantha Pagoda   AD 1924

Appendix vi

The following is a list of the work merit by king Alaungsithu which are temples and

stupas:

1) Thatbinnyu temple   AD 1597

2) Gawdawpalin temple   AD 1622

3) Htilominlo temple   AD 1812

4) Myinpyagu pagoda   AD 1493

5) Ywahaunggyi pagoda   AD 1790

6) Cetanagyi pagoda   AD 987

7) Shwesandaw pagoda   AD 1536

8) Damayangyi temple   AD 771

9) Ngamyethnar pagoda   AD 1831

10) Lawkahteitpan   AD 1580

11) Shwegudyi temple   AD 1589

12) Hsinphyushin temple   AD 697

13) Soemingyi temple   AD 1145

Rajakumar's Stone Inscription – vii

In homage to the Lord Buddha, One thousand six hundred and thirty-eight years of the Buddha 's religion having elapsed, Tribuvanadityadammaraja became king in this city of Arimaddanapur. A discarded wife of that king was named Trilokavatamsakadevi and that discarded wife's son was named Rajakumar. That king gave the discarded wife three villages of slaves. That discarded wife having died, the king gave her ornaments and the three villages of slaves to her son Rajakumar. When that king having reigned twenty-eight years, became sick even into death, the son of the discharded wife, name Rajakumar calling to mind the favours of the great king who had nurtured him, made an image of the Buddha all in gold and offered this golden image to his father, saying: I your slave made this golden Buddha for my Lord; the three villages of slaves which my lord gave me, I give to this golden Buddha. " That being done , the son of the discarded wife who was named Rajakumar enshrined that golden Buddha and made this cave-pagoda with a golden spire. Having finished at the time he dedicated this cave – pagoda and Buddha, he brought up (the folk of) Sakmunalon , one village, Rapay, one village, Henbuiw , one village, these three villages of slaves. The son of the discard wife, who was named Rajakumar poured water for this cave-pagoda and Buddha and thus said : " Let this deed of mine be the cause of my obtaining Omniscience, After me, whosoever whether he be my son or grandson or relative , or any other person, if he oppresses the slaves I have offered to this Buddha , may he not behold the Buddha Arimittiya"

Appendix –viii

Date	Monument	Person Responsible	Reference
25 Mar 1212	Na: myaknha	Pan, saku Thera	AD∏ File 9
25 Mar 2012	Tamani	Pan, saku Thera	File 21
15 Dec 1223	Baruci	San Tra Uil	File 20
13 Nov 1260	Painam, sa	Asankhaya miya	File 8
8 Dec 1299	Culamani	Rhwekyon: Mahathera	File 17
1 Jul 1317	Mahapinnai	Manmat Lakwai	File 23a
2 Aug 1317	Culamani	Caturangabala	File 17
19 Jul 1331		Big Flood	1975, 5
27 Aug 1356	LhinRhan	Dhammarajaka Mahathera	File 3
22 Sep 1361	Karui, khyui:	South Queen	File 9

Date	Monument	Person Responsible	Reference
23 Nov 1372		Severe Earthquake1	1975, 53
21 Nov1373	Tawagu	Anantapati miya	File 4
4 Apr 1380		Earthquake	File 20
6 May 1380		Earthquake	1975, 56
28 Mar 1386	Aggate,	Agapati Mahathera	File 20
27 Apr 1401	Nhacpacton	Treasure Hunters	File 19
27 Apr 1401	Nhacpacton	Nhacpacton Mahathera	File 19
19 Jul 1429	Sakcui:ton	-	File 8
2 Feb 1432	Tamani	-	File 21
2 Feb 1432	Mraceti Ut Kyon	-	File 21
28 Mar 1434	Sakrahac	Khemangavarasila Mahathera	File 23a
28 Mar 1434	Bhura:sum:chu	Preceptor, Man: Klacwa Pwa:	File 10
28 Mar 1434	Man:wuin	Man:Ray Klaw Cwa	File 10
31 Oct 1442	Na:myaknha	Sirijeyya Chara	File 23a
28 Mar 1448	Sakrahac	Khemangavarasila Mahathera	File 4
28 Mar 1448	Can: chum	Khemangavarasila Mahathera	File 4
28 Mar 1448	Nabhaito	Khemangavarasila Mahathera	File 3
28 Mar 1448	All Bagan	Khemangavarasila Mahathera	File 4
26 Jan 1449	Bhura: 2011/1307 Taungbi	Rhwe Can May Chara Dhammadhara	File 9
13 Mar 1449	Bhura: 2011/1307	Man Kyoau	File 9
22 Sep 1454	Dhammarajaka Tacakri:	Chars	File 23a
28 Mar 1456	Shan War	Started in 1442	1975, 53
29 Jan 1462	Tamkhawan Dayacd Bhura: Pan cannay	-	File 4
29 Jan 1462	Tamchwan Layaca Bhura: Cantasa	-	File 4
12 Jul 1469	Gu prokkri: 298/ 197a	Mokkalan	File 23
26 Feb 1470	Cuiamani	Sangaraja Mahasilavamsa	File 16
6 Apr 1480	Samuti, West PwaCo	Three Brothers	File 23a
6 Apr 1480	West Pwa Co	Man: chara	File 23a
15 Mar 1485	Man Rai Gu	Dhammagutta, PwaCo Monastery	1975, 54
14 Jul 1485	-	Earthquake	1975, 55
4 Feb 1495	Thi:Lui man: Lui Phan: Chuton:	Daughter of Na Lwan Ton	File 3
4 Feb 1495	Thi:Lui man: Lui	9 persons	File 3
24 Feb 1503	Man: Marai West Pwa Co	Dhammagutta	File 23a
4 Sep 1513	Loca U Shyon:	Dhammadhara	File 18
4 Sep 1513	Loaca U Shyon	-	File 18
9 Oct 1515	Culamani	Subhattra Chard	File 17
15 Feb 1517	Tanchon: Bhura: 2045/1390	Man Gangasu	File 4
28 Mar 1517	Uttama Kyoau 244/159b	8 persons	File 14
29 Mar 1527	Khemayara 367/224	Nanasami	File 3
28 Sep 1544	Maytoaurap 1205/543	Candaramsi Saragandha &Khemavara	File 20
28 Sep 1544	Bhara 559South of Nan Paya	Candaramsi & Khemavara	File 20
14 Apr 1569	Gu 2100/1395 n.e. & Upali	Iddhirajagura & Aggarajapandi	File 4
14 Apr 1569	Gu 2100/1395 Upali	Buddhaghosa	File 4
14 Apr 1569	Gu 102	Man: tapan	File 4
14 Apr 1569	Gu 102	Tikkhapanna	File 4
2 Sep 1571	Gutoausac 1486/799	Man:Chwe Khaman	File 8
29 Apr 1572	-	Dayaka Mrat	File 8
14 Jan 1575	Apayratana 1202/ 540	Man: Ran On	File 18
14 Jan 1575	Saktoaura	Pan: tin Mhu: Man: Mra Kruin	File 18

Date	Monument	Person Responsible	Reference
8 Sep 1584	Ranmana: 2070/ 1365	-	File 4
17 Jun 1588	NaPhum: 1536/849	Universal Monarch San Yon Gu on tour	File 18
17 Jun 1588	NaPhum: San Yon Gu 1536/849	Tantric Drawings	File 18
21 Feb 1593	Maran: kappa Gu prok hay 1340/710	Man:Chars & Pwai Man: Mon Phui:	File 17
19 Dec 1593	Rhan Pankhyasmsara 1208/546	Pannadippa	File 20
(30 Mar) 1595	Mrankapa Guprocuay 1340/710		File 18
29 Mar (1603)	Rhwcbhutnsa 1404/722	Tisasanatejo	File 20
9 Sep 1606	Thi:Lui Man:Lui		File 3
(2 Jul 1611)	Sakrahac 249/174a	Rewan man:	File 4
(3 Sep 1611)	Thi:Lui Man: Lui	Vinayadhara	File 3
(11 Jun 1613)	Mran: kappa Guproknay 1340/710	Phwacaukri Cakhima	File 18
11 Jun 1619	Dhammarajaka	Mrat Chard Shyan	File 23a
(11 Jun 1619)	Dhammarajaka	Pwat Tuin Kyon:Chara	File 23a
(2) Aug 1623	Namyaknha: Wakkri:An: 1831/1124	Gangasu Chara	File 3
(5 Nov 1624)	Ranmana: 2070/1365	Vara	File 4
(5 Nov 1624)	Ranmana: 2070/1365	Agganana	File 4
(19 Feb 1625)	Thi:Lui Man:Lui	Mahasila Thera	File 3
18 Feb (1626)	Nwa:Pra: 1498/811	Sirinana, Librarian	File 8
(18 Feb 1626)	Tawa Gu 1496/809	Sirinana, Librarian	File 8
(18 Feb 1626)	Maha Gu 1336/659	Sirinana, Librarian	File 20
(18 Feb 1626)	Sadhamma, Sayavate 988/414a	Sirinana, Librarian	File 21
(28 Feb 1639)	TawaGu 2100/1395	Gam, goau Chara	File 3
(28 Feb 1639)	Gu, west of the Ananda	Cow Pyuiw	File 17
(28 Feb 1639)	Thi:Lui Man:Lui	Sangharaja Mahamahinda	File 3
(28 Feb 1639)	Gu 1450/325	Sangharaja Mahamahinda	File 4
(28 Feb 1639)	Loka U Shyon 1467/790	Sangharaja Mahamahinda	File 9
(28 Feb 1639)	Ceti in Gu, south of Ananda	Sangharaja Mahamahinda	File 17
(28 Feb 1639)	Maha Gu 1336/659	Sangharaja Mahamahinda	File 20
(28 Feb 1639)	Cim: nak Amab 1085/457	Sangharaja Mahamahinda	File 21

A Study of Motivation and Attitudes towards English Language Learning by Hmong EFL learners

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Abstract

This study aimed to investigate the attitudes and level of motivation towards learning English of 70 Hmong students from the first year to the fourth year at Naresuan University in 2021. The research instrument consisted of a questionnaire, using a four-point Likert scale, which was adopted from Imsa-ard [1]. The findings revealed that the attitudes in learning English of Hmong students at Naresuan University were positive, and they were highly motivated in learning English. They also insisted that English was crucial and was a key to communicate with foreigners. Based on the research's findings, some relevant and beneficial motivational learning implications are recommended for improving and enhancing students' attitudes and motivation such as emphasizing the importance of speaking English than focusing on grammar, which was in accordance with their responses to the open-ended question. However, English grammar should not be ignored because it was a significant part in many exams such as TOEIC, TOEFL, CEPT, or even exam in class, etc. Furthermore, lecturers should prepare suitable teaching and did not exert too much pressure on the students. This would make them feel at ease to learn English.

Keywords : Attitudes, Motivation, English Language Learning, EFL Students

A Study of the Buddha Image made of Bamboo-Strips at the Shwe San Daw Pagoda in Pyay

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Abstract

After the lord Buddha Parinibbāna (pass away), the Buddhists have worshipped with devotion (1) Sarīka Cetiya (Relics), (2) Dhamma Cetiya (Teachings), (3) Uddissa Cetiya (Images), (4) Paribhoga Cetiya (Bodhitree), (5) Pāda Cetiya (foot-prints) of the Buddha) in memory of the lord Buddha. Among these five different kinds of Cetiyas where there are images of the lord Buddha on it, are called as Uddissa Cetiya. In traditions, the lord Buddha Images are made of gold, silver, copper, iron, stone, wood and bamboo-strips. Just as there are many differences with the materials used in carving sacred images there are also difference in shape, size and style. One image different from another in gesture (mudrā), sitting posture (āsana) and sacred throne (pallaṅka). A wonderful Hneephayar Gyi made of bamboo-strips exists at the Shwe-San-Daw Pagoda in Pyay. A group of five young craftsmen who made the image was led by Ven. Vimala Buddhi. Therefore, this monograph on the brief history of statues and images and the creating of Hneephayargyi are compiled and presented so that Buddhists may not only revere and strengthen their faith, but it may also, be of partial help to those who want to find out and study Buddhists arts.

Keywords : Cetiyas, Mudrā, Āsana, Pallaṅka, Buddhists Arts

1. Introduction

As Myanmar is a country where Theravāda Buddhism flourishes, religious edifices and handiworks such as statues and images of the Buddha, Pagodas and monasteries, etc., can be found everywhere in various regions. Famous Pagodas are usually named and acknowledged jointly with the names of regions. For example, the names, Innlay Phaungdaw Oo pagoda, Mandalay Mahāmyatmuni Pagoda, Zalun Pyi Dawpyan Pagoda, Pyay Shwe San Daw, etc.... are known after the special names of the Pagodas and as well as those of the regions.Pyay Shwe San Daw Hneephayar located in Pegu Division. This Paper is presented the location of the Image which is made of numerous woven bamboo strips as (Hnee), Pegging ceremony and constructing residential building, the history of the Buddha's image, the history of the first Hneephayangyi the

artistic crafts of the craftsmen, bamboo collection and steps of preparation, offering of bamboo strips ceremony steps of weaving the Images and duration, closing of enshrinement, people's donation and after of labour, consecration (Anekajā) ceremony and presentation to one who looks after Pagoda trustee(Gopaka) for maintenance and other different artistic works of the image, unlike other images, there are interesting and wonderful features in the creating of the particular Hneephayangyi.

2. Material and Method

I would like to include in this monograph, in the oral history of Aba U Ngwe Maung (Gopaka). After I went to Pyay Shwe San Daw Pagoda, interviewed to A Ba U Ngwe Maung and U Kyaw Htet Aung, especially to collect the data for this monograph, to know the technique of the craft of making the Hneephayargyi. All the necessary photographs are attached here with U Kyaw Htet Aung and Mg Chan Nyein(native).

2.1 Location, Foundation and Construction of Residential Building

The Buddha image made of bamboo strips located in Pyay Township, Shwe Sandaw Pagoda. The building For the Hneephayangyi has a length of 9 feet, width 5 feet, and height 11 feet and 1 inch. Besides, a temporary building was also built to weave throne in front of the current building of the Hneephayargyi.

2.2 A Brief History of Buddha Image

A brief history of Buddha image will be presented as a Background. The culture of India was initiated by the two groups of people called Dravidian and Arian. The Dravidians resided in the southern part of India and devoted to different kinds of gods such as the earth god, Dragon and an ogre (Yakkha) which the Arians resided in the northern part of the country devoted to Aggi (the god of fire), Indra (the god of rain/sky) and Sūriya (the god sun). Through combination of the two people emerged Hindus who have devoted to Images made of iron, copper, silver and gold etc...

After the Buddha was enlightened in 6th century BC, the Hinduism and the Buddhism have progressed concurrently. People remarked there had been no cult of having images due to the presence of the Buddha in his time and no literature about the devotion of images was found too. After the pass away of the Buddha, its images and pagodas were built in memory of the lord. The word "Ceti" comes from a Pāli word "Cetiya" and the Cetiya was originated from the pile of soil (cemetery) under which the dead body of a noble man was buried. The Buddha had told the private Buddha (Pacceka Buddha) and University Monarch (Sekkyawataymin) that if was worthy to build Cetiya.

In Buddhism, there are five types of Cetiya.

1. arīnika Cetiya	-	Relics
2. Uddissa Cetiya	-	Images and statues
3. Dhamma Cetiya	-	The teachings of Buddha
4. Paribhoga Cetiya	-	Bodhi Tree
5. Pāda Cetiya	-	Foot-prints of the Buddha

Among these five kinds of Cetiya, Uddissa Cetiya is building and devotion of the Images. Before people practiced devotion of shrines, they created some items that symbolized the lord Buddha and devoted them. Symbols such as Bodhi tree (tree under which a Buddha attains enlightenment), statues (thūpa), Lotus flower can be found at the four entrances of Sanchī Pagoda which was built in King Asoka's Regine in 3rd century B, C. Besides, at the top of the one stone pillar of King Asoka, icons of lion, elephant, horse and ox exist. The elephant symbolizes Bodhisatta's (the future Buddha) conception, of the lotus flower as the symbol of his birth, of the horse as indicating his renunciation, of the lion as a representation of his attainment of the lord Buddha and of leading ox as a symbol of the passing into Parinibbāna (the ultimate passing away of Buddha) were carved and worshipped. These five scenes symbolize the Images of the Lord Buddha and thus, it can be regarded that during the Regine of King Asoka in 3rd century B.C, there was no culture of having the Buddha's Images and just the symbols instead. The place where the Lord Buddha's images were found at earliest time is believed to be Gandhāra State in Northern India. The inhabitants of that state who are Greek built the first Images to be devoted to. The art of making Buddha's Image emerged in 1st century B.C before the Regine of Kaṇisyhaka King and was believed to be widely spread in his regine. The images made in Mathuyā region in Southern India were built above lotus thrones. The sitting image has jnāna (Meditation attitude) on bhūmiphassa mudrā (gesture of Buddha Enlightenment) manner on it. The Buddha images and the Hindu god images are believed to derive from Indian ethnic culture arts. There usually are many kinds of materials used in carving images by Buddhists. These are stone, brick, bronze, wood and bamboo strips, etc. With regard to carving and worshipping of images it could be found that there were differences in workman-ship over the centuries. The Buddha images were traditionally made of stone, brick and, bronze, and wood, etc.... for this reason; the ability to weave the whole image of the Buddha using just bamboo strips is indeed, very special and wonderful. From now onwards about the Heephayargyi image which is completely made of bamboo strips and the marvelous Myanmar's weaving handicraft will be presented.

2.3 Cutting and gathering of Bamboo and other Steps

Bamboos were bought from Shwe Lī region of Shan state. Firstly, the member weaving team started from Mandalay to Pyay with the receptionist team in 2.2.2010. Them member of

weaving team and the devotees did measure bamboos cutting into required sizes, striping and smoothening works. To protect smooth strips from damage by insects and for long lasting, they have to be dried under sunlight often infusing them in borax solution for 3 days.

2.4 Weaving the Hneephayargyi Image Step by Step

In the very front of the Hneephayangyi, a temporary residence was constructed and inside which weaving of a throne with a height of 2 feet was initiated on 5.2.2010. After completion of the throne, it was moved to the place where the Hneephayangyi would be located with the help of the responsible authorities concerned. The throne was placed above long steel sheet, for long lasting of the Image, stainless steels were inserted from inside the throne and the sketch was formed. Then the weaving with bamboo strips commenced. As the Image is in the sitting position, thighs, knees and throne are woven together fallowed by weaving buttock, waist, chest, neck and head step by step. The legs and the hands are woven often forming shapes with steels inside first. When the two hands are woven, fingers are made separately and then fixed to the feet. Ears and hair knots are also woven separately and fixed. The body is woven as a robe is worn on the body. Lotus flowers are woven separately and fixed to the throne. After the Hneephayargyi was woven gracefully, as well as the difference of skin and robe to be see vividly, the face, the neck, the hands and the feet were painted with lacquers inside and out. Then the Image was gildedin gold colour in 20.3.2010. Besides, Pyay Myot Nal Lon Sai Yā Dhammahitakāra Wout Athin and Sasanavepullakārī (Wout Athin groups) offered daily recitation of Buddha Desanas.The weaving works had commenced on 25th Feb, 2010 and completion of all works including the building lasted for 20th days. In the Image lips fixed on gold filaments and silver filaments. At the head of the Hneephayargyi Image have enshrinement box. In it the lord Buddha's relics and other jewels such as diamond, gold and other precious pebbles donated by monks and laities were enshrined.

2.5 Closing Ceremony of the Relics, Consecration and Maintenance of the Image

On the day Consecration ceremony, the monks offered rice, water, candle light, flower and fragrance together with showering scented water by reciting a glorifying rite of Buddhābhiseka (inaugurating of the Buddha by the pouring water on his fore head) Udāna (joyous utterances), Gāthā (verse) beginning with 'Anekajāti-saṁsāraṁ … etc. (the first phrase from the in augural utterances of the Buddha spoken after attain ingenlightenment) continued in the consecration ceremony.The Closing ceremony of the relics and Consecration ceremony was held on 27.4. 2010 at 5:00AM. This Images was devoted by labour and donations of the monks and laities which amounted to more than Myanmar Kyats 7968120.

2.6 The Head of the Images

The girth of the head of the Images is 5 feet the sacred head is mode led and woven in the form of small groups of hairs. The diameter of a hair group was 3 inches. The number of

those groups of hairs was 150. It could that many kinds of head forms were carved for images of the Buddha. It was necessary to give special emphasis to the head section in the study and research of Buddhist sāsanika (related to the teachings of the Buddha) statues and images accepted and worshipped during successive ages in the history of Myanmar. The head section of Images was presented in general so that it would be of partial help to such study. The eyes were woven in close style. A pointed nose was woven in bamboo strips so that it becomes handsome. On the face of the Images would be found that the sublime face with the smiling style and the head section with the major marks of a Mahāpurisa were woven with great artistry.

2.7 The Body Section of the Images

The neck of the Image is woven roundly as a Shwemuyosi (small drum) with a girth of about 2 feet. The shoulders are well-proportioned and the front past of the body was like that of a lion. The chest was spread out and displayed glory and great strength. Thus, it is woven by bringing out the lines of bamboo strip so that the robe also manifested itself. The body is neatly covered with robe so that the major parts manifested themselves, it was so artistic.

2.8 The Mudrā (Gesture)

The mudrā of the Image was Būmiphassa mudrā. The fingers of the right hand touch the earth. The left hand is stand on the cross legged. It was very artistic as each of the hands.

2.9 The Āsana (The Style of Sitting Posture)

The term āsana is not only referred to something such asthe sitting throne, bed slab, bedstead, etc. In Vinaya Aṭṭhakathā, āsana is described as seat, place or the floor. The sitting posture (āsana) of the present Image was pallaṅkāsana. The sitting posture with one cross-legged posture, pallaṅkāsana. The distance between the two knees 9 feet. (Pallaṅka). The throne of the Image is a round shape with Padumāsana (seat of lotus). The length of the throne was 10 feet. Beside the throne is decorated with 45 lotus flowers where each has 9 inches width. Thus, the Image was indeed woven not only in agreement with the monks of a Mahāpurisa but the procedures and the rituals indeed were also systematic.

3. Conclusion

In the monograph, the learner will have knowledge of the location of the Image, pegging ceremony and the measurement of the residence building, the origin of Buddha images and time, steps of making bamboo strips, bamboo strips offertory ceremony, different parts of The Image and duration of making them. Closing of relics, donation of people, consecration ceremony and handing over to the services render for the Buddha (Gopaka team) for further maintenance are also presented in order. The analysis of the study of the art works embedded into the Images shows definition and symbol of head, body, gesture (mudrā) sitting position and the seat, the relations of the life cycle of the lord and advantages of worshiping Būmiphassa. The Images is

thus woven and worshipped systematically through such procedures. In making weaving the images of the Buddha it has been found that such making on weaving is done very carefully so that the images of the Buddha look as close as possible to the real physical appearance (Rūpakāya) of the living Buddha. Therefore, if the devotees also worship the images of the Buddha like the living Buddha, it is indeed certain that they can enjoy the same benefits just like they are offering homage to the living Buddha himself. The impressive capability of the Myanmar's handicrafts can be seen by studying the weaving work of the Image. Thus, the monograph will be of great help and a valuable are for all Buddhists as well as far there who would like to study the cultural arts of Buddhism. The wonderful Image rich of the Myanmar's handicrafts also clearly demonstrates fullness of well-wishes, generosity, respect and faith in Buddhism and unity of all ethnic groups in Pyay Township.

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The Moral Study of Some Myanmar Poems in Myanmar Literature

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Abstract

The ethnic peoples of Myanmar have a great love of poems and carefully observe poems regarding moral values. In Myanmar classical literature, poems play an important role in cultural development. Myanmar literature can generally be seen that poems include moral goodness, spiritual goodness and intellectual goodness. The selected some Myanmar poems awaken the ancient cultural and religious wisdom that evoked respect for morality. These poems based on Theravāda Buddhist Traditions and provided both moral guidelines and moral values for daily mundane life as well. In this paper, the problem is "What way of life ought human beings to pursue?" This paper uses descriptive method and analysis method by means of statistical method, inductive approach and deductive approaches. As a result it contributes that the selected some Myanmar poems can provide moral values which give moral strength to grow in virtue by nurturing restraint, humility and liberation from self-centeredness.

Keywords : Myanmar Poem,   Ethics,   Image,   Moral Value,   Moral Foundation

1. Introduction

No culture or civilization founded by humankind is without art. This research shows literary art which is an effective vehicle for shaping the world views of a nation. The qualities of literature express the cultural identify of a people. Literary art can be divided into many categories such as poem, prose, fiction, drama and play. Here the researcher will highlight that poem may be considered as the most powerful and dominant art among them in a society. Some Myanmar poems are concerned with the man's way of life. They refer to the meaning of life and the value of life on Myanmar perspective. They also explain that ethics makes moral beauty.

Moreover, some Myanmar poems also reflect the social morality and obligation for future generation and state the key component in the social context which can be termed as altruism.

These poems show that the poets wanted all human beings to lead ideal lives to be kind, compassionate and considerate to one another and to practice patience, and the understanding in all activities and relationships. Thus, some Myanmar poems are the images of human life.

1.1 Literature Review

1.1.1 Ethics, Moral Value and Man's Way of Life

The term "ethics" is used in three different but related ways, signifying (1) a general pattern or way of life, (2) a set of rules of conduct or moral code, and (3) inquiry about ways of life and rules of conduct. Ethics is a formal study of moral standards and conduct. The questions of ethics are: What do them or should people mean by good and bad? What are the right standards for judging things to be good or bad? Does value judgment differ from judgments of value which based natural fact?

Moral value denotes something's degree of importance, with the aim of determining what action or life is best to do or live, or at least attempt to describe the value of different actions. It deals with right conduct and good life. What makes an action valuable may in turn depend on the moral values of the objects it increases, decreases or alters.

A good life is bounded by moral rules, moral codes and moral principles. These moral rules and moral principles control the behavior. With one's own life as the standard of value, morality is not only a burden to bear but a prudent and effective guide which furthers life and success. Morality gives value to life.

1.1.2 Moral Foundation in Theravāda Buddhist Tradition

In Theravāda Buddhist Tradition, it is believed that moral conduct benefits all beings with which one comes into contact. Every society has its own moral norms which is the moral foundation of that society. Myanmar moral culture finds expression through Myanmar philosophic poems. These poems are concerned with Buddhist moral manners and Myanmar moral values. They also represent the courtesy or polite manners, gentleness in speech or verbal politeness and good thought or mental politeness. It may be said that these moral manners represent the Myanmar cultural tradition and Theravāda Buddhist Tradition.

The moral code, moral principles are components of a moral foundation. Moral codes are required for certain special times and may provide benefits in special situations. Usually moral codes are confined to acts that people do. However, some systems of morality go further and extend their coverage to thoughts and feelings.

There is not a plurality of moral codes. Rather, there is one code. It is universal. It applies to all of people. The universal moral code is as follows: (1) Do not harm, (2) Do good, (3) Do not murder and (4) Do not destroy the natural environment upon which all life depends. The universal Moral Code consists of fundamental principles. That can be found throughout the world. This code is basic and universal ideas for all societies.

In Myanmar Buddhist tradition, the Buddhist moral code is important for Myanmar life. The system of Buddhist moral is based on freedom and understanding, that is to say that morality adapts to changing situations. The foundation of moral action is Compassionate Love, which is also known as Mettā. The Mettā is one of the moral concepts that make up the foundation of Myanmar ethics.

Furthermore, equality and peace are the fundamental moral code in Myanmar Society. Social justice, social welfare, and social service are the building blocks of a moral society. The moral code of Buddhism is categorized as precepts, of which there are five.

The first precept is not to take the life of any living thing. Non-Buddhists may have trouble with this precept as it would mean that you should not kill disease carrying bugs or kill animals for food. This is like the commandment "thou shalt not kill".

The second precept is not to take anything that has not been freely given. This is like the commandment "thou shalt not steal".

The third precept is to abstain from sexual misconduct or sensual overindulgence. People who are in love with each other and participate in premarital sex are not considered to be engaging in sexual misconduct in the eyes of Buddhists. Christians might compare this precept to "thou shalt not commit adultery".

The fourth precept is to refrain from the use of untrue speech, falsehoods. Added to this concept is avoidance of using words that harm or harsh. Non-Buddhists may liken this to the concept "If you can't say something nice, don't say anything at all".

The fifth precept is to avoid intoxication, which means to avoid participating in any action that would result in loosing mindfulness. Examples of this are mind altering drugs and alcohol.

The moral code of Buddhism is complex, but is based upon obtaining a society that treats all people equally. It is mindful of the needs of every human, and is accomplished through social service to others in the society.

1.1.3 The Historical Background of Myanmar Poem

History of Myanmar passed through the successive dynasties namely Bagan, Pinya, Frist Innwa known as Ava dynasty, Taungoo, Second Innwa also known as Nyaungyan Period and finally konbaung. In Myanmar society the ancestors and sages used to give knowledge to their young by means of rhymes and poems. In some cases man's verbal, mental and physical actions can sometimes be said by literature. A famous motto in Myanmar society says that "Good conduct is guided by literature".

The study of the history of Myanmar poems will be presented beginning with the Bagan Period (1044-1298), in order to show that not only words and phrases but verse and rhyme have always struck a responsive chord in the people of Myanmar. It was in the Bagan era

that the Myanmar language emerged in written form. Before that, Pyu and Pali were the written languages in use.

The Pinya Period (1299-1364) did not produce many poets and writers but it did prepare the soil for the development of Myanmar literature in the First Innwa Period (1364-1555) which may be termed the Golden Age of Myanmar Literature. Myanmar literature matured and flourished during this period.

The Taungoo Period (1510-1599) may be called the period of the lyrical ode which romanticizes the beauty of nature and love. And accordingly interest centred not so much on religious matters but on nature and man.

The Nyaungyan Period known as second Innwa Period (1600-1752) was outstanding for the fact that prose writing began and became popular. Previously writers wrote in verse only. During the Konbaung Period (1752-1885) and the Colonial Period (1885-1948), Myanmar poets and writers began to produce patriotic verses, poems and articles. Contemporary Period (1948-2022) produces modern poems.

The selected some Myanmar poems reflect the Myanmar philosophic thought. Poem has a large share of Myanmar literature. The Myanmar people are closed to nature and have a great love for the country and their land. Myanmar poems also reflect the national spirit and Myanmar ways of life. Various aspect of Myanmar life, thought and culture may be gleaned from pieces on Myanmar poems.

2. Research Objectives

Main aim is to analyse the moral study of Myanmar people from some Myanmar poems. Major objectives are as follows.

(1) to trace and study the previous Myanmar poems

(2) to classify and choose the poems on moral of Myanmar peoples

(3) to assess the selected poems from the philosophical perspective, particularly from the moral point of view

3. Research Methodology

In this research paper, secondary data such as journals, magazines, books and other recorded ones are used. All of the poems studied here, totaling 800, are collected from those resources, statistically by using sampling method of Calderon and Gonzales (1993) as shown below.

The sampling formula is $\quad$ n = N / (1 + Ne^2)

$\qquad$ in which $\qquad$ n = the size or the sample,

$\qquad\qquad\qquad\qquad$ N= the size of population (800 poems) and

$\qquad\qquad\qquad\qquad$ e = the margin of error (3% level in this study).

$\qquad$ According to the calculation by the sampling method, sample size is 465. In this research 465 selected poems on morality by periods are thoroughly studied and assessed by means of graphical method, inductive approach and deductive approach. Graphical method (explaining by using graph), inductive approach (obtaining facts acquired through observations) and deductive approach (explanation and prediction).

$\qquad$ The selected poems are of different periods and concerned with moral sociality (Table-1 and Figure-1). The studied poems include poem, verse, lyrical odes, prose, *amepoksar* (questions or problems), probes and Buddha Teachings. Of these, only those related to moral, ethics and that should be practiced by various kinds of peoples in way of life.

Table 1 Population and Poets of Selected Myanmar Poems by Periods

Sr.	Period	Item	Poets
1	Bagan	2	Minister Ananda Thuriya, Unknown Poet
2	Pinya	3	Ngarsishin Kyaw Swa, Minister Saturingabala, Unknown poet
3	Innwa	22	Shin Maharahtathara, Shin Mahathilawuntha, Mi Nyo
4	Taungoo	20	Nat Shin Naung, Na Wa Dae Gyi,
5	Nyaungyan	10	Shin Nyein Mae
6	Konbaung	14	U Kyin U, Letwe Thondara,
7	Colonial	160	Maungdaung U Kyaw Hla, U Aye Maung, Min Thu Wun, Zaw Gyi,
8	Contemporary	234	Nyein Chan Oo, Win Kywe, Pyinmana Maung Ni Thin, Tin Moe
	Total	**465**	

Source: Books, journals and magazines

Figure 1 Poem Population Studied by Periods.

4. Some Myanmar Poems Regarding Moral Values

Some Myanmar poems are concerned with a way of living and thinking. In this sense, everyman should study poem. Happiness, peace of mind and style of living depend upon the way of thinking. Man's way of thinking creates the rules by which people make decisions about right and wrong, should and shouldn't, good and bad. It also tells them which are more or less important.

Some Myanmar poems describe the need of moral values for life. The values make to develop a good human being. Moral values are the standards of good and evil, which govern an individual's behavior and choice. Moral values derive from within one's own self. Life is the process of self-sustaining and self-generating action. Life requires action, and action requires moral values. Some Myanmar poems are the images of moral values.

4.1 Win Kywe "The Moral" (သင်ခန်းစာ)

The poem, 'The Moral' by Win Kywe is famous in modern Myanmar literature. This poem states about the social relationship in life. It shows that the images are mirror of man's action. It can be seen in this poem,

When I smile, it smiles at me, When I frown, like me it frowns, This mirror in a wooden frame, Lacking life, mind, consciousness, Provides a moral with its response. (မြဇင်၊ ၁၉၉၈၊ စာ ၂၃)

This poem is concerned with the human way of life. It can explain the reality of ethical life.

4.2   Pyinmana Maung Ni Thin's "Master and Pupils" (ဆရာနှင့်သူ၏ကျောင်းသား များ)

The poem, "Master and Pupils" is a famous poem of Pyinmana Maung Ni Thin. The following selection is the poem, "Master and Pupils" by famous poet Pyinmana Maung Ni Thin, My pupils I nurtured, may you bloom like the lotus and if I am the water, in which you bloom I am at peace, my pupils I nurtured May you bloom like the lotus. (မြဇင်၊ ၁၉၉၈၊ စာ ၂၃)

This poem is the image of a Myanmar teacher's life and their noble mindedness. This poem refers to the duty of a teacher. In this poem the poet presents the attitude of a good teacher.

4.3 Zaw Gyi's "If You Die?"(သင်သေသွားသော်)

This poem is the image of human life. It reflects the social life. The poem is as follows:

> Alas! Human world, human life
> Must become old, painful-then die
> This is truth.
> But if you die
> Your place of birth, your land
> Should develop and remain
> Your nationality and language should also
> Progress, be heightened and remain.
> The pleasant pagoda you worshipped
> And shared your merits
> May the radiant truth and remarkable knowledge
> Remain bright and brilliant (စာတည်းအဖွဲ့၊ ၂၀၀၉၊ စာ ၁၈)

This poem "If you die" has many valuable lessons for Myanmar people. This poem is the image of human life. It reflects the social morality and obligation for future generation. This poem should be put on record as the literary criterion for poems to enhance the national cause. It provides valuable literary guidelines in addition to which his usage of language and the lilt of its rhymes uplift the national spirit.

4.4 Min Thu Wun's "Mettā Sutta"(မေတ္တာသုတ်)

The Mettā Sutta is the most useful principle for all society. It is an essential guideline in Myanmar life. It is very implicative for Myanmar society. It can be supported for Myanmar traditional moral thought. The famous Myanmar poet Min Thu Wun's "Mettā Sutta" represents Theravāda Buddhist culture and Myanmar ethical values. This poem is as follows:

But this time, I was wild with anger and impetuous with wrath. But I happened to hear the Mettā Sutta, and like a mighty conflagration that rises to the top of a mountain, is put out by torrential rain, my mind now found prefect peace? (မြဇင်၊ ၁၉၉၈၊ စာ ၂၃)

The poet wanted all human beings to lead ideal lives to be kind, compassionate and considerate to one another and to practice and the understanding in all activities and relationships.

4.5   Minister Ananda Thuriya's Myet Phye Lin Ka (မျက်ဖြေလင်္ကာ)

This verse gives various ethical values for the Buddhist life. The verse written 800 years ago is still in the hearts of the people. It gives the Buddhist attitude of life, namely, the law of Kamma. This verse provides the key to getting to know the concepts of "Mettā" and "Khanti". The selected poem is as follows.

With deep respect, I raise my hands in genuflection, into keen of homage to my king, and I crave for his permission. To allow me to say this; that if in the cycle of rebirths, I were to meet your Majesty again, in one or more of our future lives, I have no wish to take vengeance on

you: I only pledge love and loyalty to you, my royal master, I do not take the least offence for what happens now; I absolve you entirely: because it is only the nature of impermanence and decay, that is right within me, that brings me to this end. (Ananda. 1986, p.20)

This verse provides the key to getting to know the Buddhist law of Kamma.

5. Research Results

It is found that the poems studied provide the images of moral values such as attitude of a good teacher (shown by Pyinmana Maung Ni Thin) , the human way of life (by Win Kywe and Zaw Gyi), love and benevolence (by Min Thu Wun), and kindness and patience (by Myet phye verse).

6. Discussion

The poet art is a vital part in Myanmar moral foundation. Poetry represents the values of Myanmar Buddhist life. In Myanmar tradition, wisdom is the most valuable in life. Poem contributes to the development of humanity in general and to Myanmar society in particular. In Myanmar classical literature poem is important for cultural development.

In Myanmar, most of the Myanmar people are the Theravāda Buddhists. Thus Buddhist tradition, religious principles and religious norms are essential for Myanmar life. They provide moral guidelines for daily mundane life as well. In other words, the Buddhist religious norms are guidance for religious affairs as well as for social, cultural, ethical in Myanmar life.

As for example, Minister Ananda Thuriya's "Myet Phye Lin Ka" shows the aim of Buddhist life and the philosophical view on social morality. This poem refers to ethical criterion for Myanmar life, which is "provision of genuine love (Mettā) and extremely useful".

In Myanmar culture "Mettā Sutta" is a guide for social life. The Mettā spirit is essential for a good life. This idea had great influence on Myanmar literature. The famous Myanmar poet Min Thu Wun's "Mettā Sutta" represents the Theravada Buddhist culture and Myanmar ethical values. For example, "But this time, I was wile with anger and impetuous with wrath. But I happened to hear the Mettā Sutta, and like a mighty conflagration that rises to the top of a mountain, is put out by torrential rain, my mind now found perfect peace?" This poem also shows the ethical principles for Myanmar moral thought.

In Myanmar literature, Saya Zaw Gyi was a distinguished and leading Myanmar poet, author, literary historian, critic, scholar and academic writer. He was one of the leaders of the Hkitsan Sar Pay movement in Myanmar literature. His most memorable work was a poem title "If You Die". This poem is the image of human life. It reflects the social life. This poem "If you die" has many valuable lessons for Myanmar people. It is concerned with the national spirit of Myanmar. According to Zaw Gyi, life is only a short time and everything is changing. This is the most important perspective of Myanmar Buddhist life. It reflects the social criteria, religious norms and Myanmar personality.

Myanmar poet Win Kywe's "The Moral" states Myanmar Social life. This poem gives the various moral implications such as "Mettā", "Sympathy" and "Gentleness" are also essential for Myanmar daily life. They make the peaceful and harmonious life. It express "Good will" is ideal concept for life. It also explains that ethics makes moral beauty and shows the noble truths for useful contemplation.

Famous poet Pyinmana Maung Ni Thin's "Master and Pupils" is the image of a Myanmar teacher's life and their noble mindedness. In Myanmar society there are codes of conduct for parents, children, teachers, pupils, husbands, wives, friends, master, slaves, the *Sangha* and layman. So also there are codes of conduct for Myanmar teacher. This poem has shown the moral principles that guide Myanmar moral behavior, much be learnt about Myanmar cultural values, customs and religious norms.

7. Conclusion

Myanmar has sense of duty, and they love with duty and obligation. So, this is demonstrating of the Myanmar moral values in Myanmar poems. Myanmar poems give the development of cultural spirit. They refer to good attitudes and right attitudes for every person in Buddhist cultural life. The above selected poems reflect Buddhist way of life and Buddhist value. Thus, some Myanmar poems are the constitution of the religious values for Myanmar way of thinking.

Myanmar poems depend on Myanmar culture. Some Myanmar poems also express the moral values of Myanmar. This can be seen in Myanmar poems, Win Kywe" The Moral", Pyinmana

Maung Ni Thin's "Master and Pupils", Zaw Gyi's "If you Die?", Min Thu Wun's" Mettā Sutta", and Minister Ananda Thuriya's "Myet Phye Lin Ka". The examples of the Myanmar poems show the good morals and provide guidelines in Myanmar culture and society.

8. Recommendation

The results of this research paper clearly point out some of Myanmar moral values, particularly social criteria, religious norms, personality, moral behavior and noble truths for useful contemplation. Therefore, it is certainly expected that the moral principles described here will definitely provide benefits to people who practice them.

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မြန်မာဘာသာကျမ်းကိုးစာရင်း

ကျော်ဝင်း (မနုဿ)။ (၂၀၀၅)။ *မြန်မာတို့၏ယဉ်ကျေးမှုတန်ဖိုးထားပုံစံများစာတမ်း* ။ ရန်ကုန်မြို့၊ အောင်တံခွန်ပုံနှိပ်တိုက်။

ခင်မင်၊ မောင် (ဓနုဖြူ)။ (၂၀၁၄)။ *မြန်မာစာပေခရီး* ။ ရန်ကုန်မြို့၊ ရာပြည့်စာပေ။

စာတည်းအဖွဲ့။ (၂၀၀၉)။ *ဇော်ဂျီရာပြည့်စာစောင်* ။ ရန်ကုန်မြို့ အထိမ်းအမှတ်ကော်မတီ။

ဇော်ဂျီ။ (၁၉၇၄)။ *ဇော်ဂျီကဗျာပေါင်းချုပ်သစ်* ။ ရန်ကုန်မြို့၊ စပယ်ဦးစာပေ။

ဇော်ဂျီ။ (၁၉၉၈)။ *ကဗျာပေါင်းချုပ်* ။ ရန်ကုန်မြို့၊ စာပေလောကပုံနှိပ်တိုက်။

ဇော်ဂျီနှင့် မင်းသုဝဏ်။ (၁၉၈၆)။ *စာပေလောက* ။ ရန်ကုန်မြို့။

ဉာဏဝရ၊ အရှင်။(၂၀၁၈)။ *အကျင့်စရိုက်* ။ ရန်ကုန်မြို့၊ လောကပါလစာပေ။

တင်မိုး။(၂၀၁၆)။ *နှစ်နှစ်ကာကာ ၁၅၀ ကဗျာ* ။ ရန်ကုန်မြို့၊ စာနဒီစာအုပ်တိုက်။

နန္ဒာသိန်းဇံ။(၁၉၈၁)။ *ဘဝအဓိပ္ပာယ်နှင့် ဘဝသစ္စာ* ။ ရန်ကုန်မြို့၊ လှိုင်သစ်စာပေ။

ဖေမောင်တင်၊ ဦး။(၁၉၈၇)။ *မြန်မာစာပေသမိုင်း* ။ ရန်ကုန်မြို့၊ စပယ်ဦးစာပေ။

မြကေတု။(၂၀၁၄)။ *နတ်ရှင်နောင်၏ဘဝနှင့်ပတ်ဝန်းကျင်* ။ မန္တလေးမြို့၊ စိတ်ကူးချို့ချို့စာပေ။

မြဇင်။(၁၉၈၄)။ *မြကန်သာ* ။ ရန်ကုန်မြို့၊ တောက်တောက်ဝင်းပုံနှိပ်တိုက်။

မြဇင်။(၁၉၉၈)။ *ခေတ်ပေါ်ကဗျာ* ။ ရန်ကုန်မြို့၊ မြဝတီစာပေ။

Research on Jingdezhen Ceramic Industry Tourism under the Background of National Strategy

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Abstract

Song Zhenzong, the emperor of the Northern Song Dynasty, bestowed the title of reign on Jingdezhen a thousand years ago because to his fondness for Jingdezhen porcelain, which made this modest town awash in ceramics world-famous. Jingdezhen, after a thousand years, actively engages in the national construction of "the Belt and Road Initiative" and takes on the wonderful goal of establishing a national ceramic cultural heritage innovation pilot zone. The state has entrusted Jingdezhen with the task of becoming a world-famous destination for ceramic cultural tourism. Ceramics, as a symbol of Chinese splendor, aids in the re-perception of China by the rest of the world. Jingdezhen is fully activating the millennial ceramic industry's history, innovating and growing the ceramic industry in the new millennium, all in the context of national policy.

Keywords : National Strategy, Jingdezhen, Ceramic Industry, Cultural Heritage, Tourism

1. Introduction

A thousand years ago, Song Zhenzong, the emperor of Northern Song Dynasty, conferred on Jingdezhen his reign title due to his passion on Jingdezhen porcelain, which made this small town abound in ceramics world-famous. After a thousand years, Jingdezhen actively participates in the national construction of "the Belt and Road Initiative" and undertakes the glorious mission of building a national ceramic cultural heritage innovation pilot zone. Building a world-famous destination of ceramic culture tourism is a new goal entrusted to Jingdezhen by the state. Ceramics, as the representative of Chinese splendid culture, helps the world to perceive China once again. Under the background of national strategy, Jingdezhen is fully activating heritage of the millennial ceramic industry, innovating and developing the ceramic industry in the new era, integrating industry with tourism, and exploring a road of ceramic industry tourism with Jingdezhen characteristics, Chinese significance and world pattern.

2. National Strategy

2.1 Jingdezhen and "the Belt and Road Initiative"

"The Belt and Road Initiative" is the abbreviation of the "Silk Road Economic Belt" and the "21st Century Maritime Silk Road". In September and October 2013, General Secretary Xi Jinping put forward the strategic ideas of building the "New Silk Road Economic Belt" and the "21st-Century Maritime Silk Road" respectively. After more than one year of preparation, "the Belt and Road Initiative" was implemented. In April 2015, the National Development and Reform Commission, the Ministry of Foreign Affairs and the Ministry of Commerce jointly issued the *Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road*, announcing that "the Belt and Road Initiative" entered into a stage of comprehensive promotion.

The construction of "the Belt and Road Initiative" fully relies on existing bilateral and multilateral mechanisms between China and relevant countries, and makes use of existing and effective regional cooperation platform to jointly build a shared community of interests, future and responsibility with mutual political trust, economic integration and cultural tolerance. As early as in the Tang Dynasty and Five Dynasties, Jingdezhen porcelain was sold to the world. In the Song Dynasty, Jingdezhen porcelain was shipped to more than 50 countries around the world through two major commercial ports, Quanzhou and Guangzhou. The "16th Century Maritime Silk Road", transporting Jingdezhen blue and white porcelain, promoted the "first globalization", made Chinese porcelain the common heritage of "world commodities" and multiculturalism, and enhanced cultural exchange and civilization integration between the East and the West.

2.2 Jingdezhen National Ceramic Cultural Heritage Innovation Pilot Zone

2019 was an extraordinary year for Jingdezhen. In this year, Jingdezhen was successfully approved as "National Ceramic Cultural Heritage Innovation Pilot Zone". In May of the same year, General Secretary Xi carried out an inspection of Jiangxi province and made an important instruction to "build Jingdezhen National Ceramic Cultural Heritage Innovation Pilot Zone and create a new platform for foreign cultural exchange", which sounded the clarion call for the construction of Jingdezhen National Ceramic Cultural Heritage Innovation Pilot Zone. Jingdezhen is strategically positioned as "two bases and one center", that is, Jingdezhen will be built into a national ceramic culture protection and heritage innovation base, a world-famous destination of ceramic culture tourism, and an international ceramic culture exchange, cooperation and trading center. This is an important task entrusted to Jingdezhen by the CPC Central Committee and the State Council, and it is also a national icon in Jingdezhen. It is of great and profound significance to protect, inherit and make good use of Jingdezhen ceramic culture, fulfill the positive role of culture in industrial transformation and upgrading, and accelerate the high-quality and leap-forward development of Jingdezhen.

3. Overview of Jingdezhen Ceramic Industry

Jingdezhen is one of the earliest industrialized cities in the world. According to its development history, Jingdezhen ceramic industry can be divided into handmade Jingdezhen ceramic industry and modern Jingdezhen ceramic industry.

3.1 Handmade Jingdezhen Ceramic Industry

Handmade Jingdezhen Ceramic Industry has experienced a long historical evolution process of initiation, formation, change and development. During the whole process, of Jingdezhen ceramic craftsmen created world-famous ceramic techniques. From Shang and Zhou Dynasties to the end of Tang Dynasty and Five Dynasties, it is the early stage of Jingdezhen ceramic handicraft development. Ceramics are simple living utensils, and handmade ceramic industry is completely attached to agriculture. Song Dynasty is the formation period of "craftsman's spirit" of handmade Jingdezhen ceramic industry. During this period, Jingdezhen ceramic craftsmen were not completely independent from agricultural production, which can be found from the fact that porcelain kilns are densely distributed in villages along rivers. From its function, quality, shape, decoration, etc., it is closely related to the folk customs, culture and art at that time, which shows that Jingdezhen ceramic handicraft has formed a basic moral and ethical philosophy at that time. The enrichment of inner spirit has greatly promoted the maturity of "craftsman's spirit" of handmade Jingdezhen ceramic industry.

Yuan Dynasty is an era that attaches great importance to handicraft, and Jingdezhen ceramic handicraft comes to the most spendid stage in Ming and Qing Dynasties after the transition period of Yuan Dynasty. During the Ming and Qing Dynasties, Jingdezhen ceramic handicraft gradually concentrates in Jingdezhen Township. The local people take ceramic as their career, which is almost completely independent from agricultural production, and form a huge city for handmade ceramic industry.

3.2 Modern Jingdezhen Ceramic Industry

After the founding of the People's Republic of China, Jingdezhen ceramics achieve unprecedented development and completed the transformation from traditional handicraft industry to modern ceramic industry.

In the planned economy era, Jindezhen porcelain has a comprehensive development in the fields of daily porcelain, art porcelain, industrial porcelain, architectural porcelain and electronic ceramics, forming scale advantages and brand benefits. Whether in the domestic market or in the international market, Jingdezhen has a "large and comprehensive" production pattern of "Big Ceramic". In the late 1980s and early 1990s, Jingdezhen became an important industrial base in Jiangxi Province with 3% of the population and 20% of the tax paid.

In the meantime, "Top 10 Porcelain Factories" became an icon of the times. At that time, there were more than ten famous state-owned porcelain factories, such as Jianguo, Renmin,

Xinhua, Yuzhou, Dongfeng, Yishu, Guangming, Hongxing, Hongqi, Weimin, etc. With the development of the "Top 10 Porcelain Factories", Jingdezhen porcelain production advanced by leaps and bounds, which continued to carry out the glory of Jingdezhen's porcelain industry. In the early 1990s, the planned economy gradually transitioned to the market economy, and the top ten porcelain factories embarked on the road of restructuring. The development of large-scale industry leaves Jingdezhen with modern ceramic industrial heritage and old factory areas with high value, large area and urban distribution, which has become an important resource for economic transformation and social innovation in Jingdezhen.

In the new era, Jingdezhen actively promotes the transformation and development of ceramic industry, improve and upgrade the industrial chain and ceramic product system. On the basis of developing traditional daily-use ceramics and art ceramics, they vigorously develop high-tech ceramics, develop ceramic culture and innovation industries, introduce industrial ceramics and architectural sanitary ceramics, expand ceramic industry clusters, optimize the ceramic industry, and form a blueprint of "Big Ceramics" to transform Jingdezhen, a traditional ceramic industry center to an international ceramic capital, a modern ceramic development road.

4. Advantages of Jingdezhen in Developing Ceramic Industry Tourism

As the world's most famous ceramic capital, a thousand-year-old town and the first batch of famous historical and cultural cities approved by the State Council, Jingdezhen has unique advantages in developing ceramic industry tourism.

4.1 Cultural Advantage

Jingdezhen has a history of more than 2,000 years of ceramic production, more than 1,000 years of official kilns, more than 600 years of imperial kilns and 70 years of Chinese contemporary ceramic industry development. Jingdezhen is one of the first batch of national historical and cultural cities, and its complete ceramic historical and cultural ecology is unique all over the world. The long history of ceramic production, rich ceramic remains, exquisite ceramic techniques and unique ceramic customs have formed the innate advantages of Jingdezhen in developing ceramic cultural tourism.

There are more than 150 old kiln sites, 108 old blocks and 770 immovable cultural relics. The old factories of "Top 10 Porcelain Factory" are all over the city. There are 4 major historical and cultural sites protected at the national level, 8 historical and cultural sites protected at the provincial level of Jiangxi, 34 historical and cultural sites protected at the municipal level of Jingdezhen and 46 historical and cultural sites protected at the county (municipal) level, including the famous Jingdezhen Imperial Kiln Site, Hutian Kiln Site and Gaoling Porcelain Clay Mining Site. There are two national intangible cultural heritages related to ceramics, namely, Jingdezhen

traditional porcelain kiln workshop construction techniques and handmade Jingdezhen ceramic techniques.

The Jingdezhen traditional porcelain kiln workshop construction techniques is a kind of skill to construct the traditional porcelain kiln by walling, building, reforming, claying, etc. It is the local traditional ceramic architecture construction techniques in Jingdezhen. On May 20, 2006, it was listed in the first batch of traditional techniques in the National Intangible Cultural Heritage List. There are 72 processes of handmade Jingdezhen ceramic techniques, and the core processes include pulling, improving, drawing, coloring and burning. On May 20, 2006, it was listed in the first batch of traditional techniques in the National Intangible Cultural Heritage List.

4.2 Ecological Advantage

Jingdezhen is located in the northeast of Jiangxi Province, 116 57 '-117 42' east longitude and 28 44 '-29 56' north latitude, belonging to the transitional region between Huangshan Mountain, Huaiyushan Mountain and Poyang Lake Plain. It is located at the junction of Anhui, Zhejiang and Jiangxi provinces and it is one of the important transportation hubs for the three provinces. The climate of Jingdezhen belongs to subtropical monsoon climate, with abundant sunshine, abundant rainfall. It is warm and humid with four distinctive seasons.

The pleasant ecological environment has laid a good foundation for Jingdezhen ceramic industry tourism. In recent years, Jingdezhen has maintained its original curved, high and low, undulating, and hidden natural beauty and ecological beauty by protecting natural landscapes; combined the landscape and humanity, rural and urban areas to build a number of important urban tourism attractions for public leisure by improving the ecology of mountains and rivers, focusing on building a hundred-mile scenery belt in Changjiang River, comprehensively managing Xihe River system, restoring the ecology of Nanhe River, renovate Sanbao River system, and renovating and upgrading Fengshushan Forest Park; realized the combation of mountains and rivers, the integration of cities and lakes, and the harmonious relationship between human and nature.

4.3 Industrial Advantage

Jingdezhen has a complete ceramic industry chain. In recent years, Jingdezhen has strengthened the research and development innovation of ceramic technology, and carried out in-depth cooperation with ceramic research institutions at home and abroad. Jingdezhen ceramic industry is very active in innovation and creation, forming a diversified development pattern with high-tech ceramics as the guide, art display ceramics and daily-use ceramics as the characteristics, creative ceramics as the late-developing advantage and architectural ceramics as the supplement. In the development of ceramic industry, Jingdezhen uses old kiln sites, old factories and old workshops to build a gathering area of ceramic artists' creative studios represented by Taoxichuan, Sculpture Porcelain Factory and Jianguo Porcelain Factory, to build a gathering area of ceramic

culture and innovation industry represented by Ceramic Industrial Park and Xindu Private Ceramic Park, to build art clusters including International Ceramic Village and Sambo Porcelain Valley, and to build ceramic culture and innovation blocks including Hongdian Factory. The ceramic culture and innovation industry has become the most dynamic new format in the ceramic industry based on the agglomeration effect.

At present, there are 6,773 culture and innovation industry entities such as ceramic enterprises, workshops and studios, including nearly 100 enterprises above designated size, 1 national cultural industry demonstration park, 3 national cultural industry demonstration bases and 13 provincial cultural industry demonstration bases.

5. Development Status of Jingdezhen Ceramic Industry Tourism

Industrial tourism is a new tourism concept and product form with the expansion of people's understanding of tourism resources. Although Jingdezhen ceramic industry tourism starts late, with the deepening of the construction of the Belt and Road Initiative, its development trend is distinctive, fully integrating ceramic cultural resources, taking unique advantages of "ceramics and tourism", and building a tourist city featuring ceramic culture. According to the tourism statistics of Jingdezhen in 2017, the total number of tourists was 54.5487 million, and the total tourism revenue reached 52.889 billion Yuan, especially the number of overseas tourists reached 636,500, accounting for 33.7% of Jiangxi Province; foreign exchange earnings on tourism reached 285 million US dollars, accounting for 45.24% of Jiangxi Province.

Comprehensive analysis shows that Jingdezhen ceramic industry tourism presents the following characteristics.

5.1 "Activating" the Remains of Ceramic Industry

In the practice of exploring the protection and utilization of industrial heritage in Jingdezhen, the modes of excavation and protection, activation and utilization are adopted respectively according to the different nature of industrial heritage. Industrial heritage protection and utilization projects such as Ceramic Industry Heritage Museum, Ming and Qing Imperial Kiln Factory National Heritage Park and Taoxichuan Innovation Block have been carried out to promote the transformation from old to new kinetic energy. The relationship between cultural relics protection and industrial heritage development and utilization are correctly handled according to the principle of "giving priority to protection and rational utilization". "Old factories, old sites and old industrial facilities" are proposed to be protected and made full use.

Protecting and utilizing the traditional ceramic handicraft sites represented by Imperial Kiln Factory makes ceramic industry shine again after the long history. The site of Imperial Kiln Factory is a full-time manufacturing place for royal ceramics in Ming and Qing Dynasties, which

represents the highest level of Chinese ceramic technology and art in Ming and Qing Dynasties, and is an important handicraft production site in ancient China.

Creative use and development of modern ceramic industry sites represented by Taoxichuan revive the former ceramic industry in a new form. Taoxichuan is located in Dongcheng District, Jingdezhen. Taoxichuan CHINA Workshop International Ceramic Culture Industrial Park is a large-scale urban complex integrating cultural creativity, shopping, leisure, catering, entertainment and other comprehensive functions. It is the first one-stop innovation park for cultural leisure, entertainment and tourism experience with ceramic culture as the main body in China. Through structural transformation, environmental creation, cultural shaping and vitality reconstruction, it has successfully transformed from industrial manufacturing industry to cultural innovation industry, realizing the deep integration of tradition and modernity, culture and science, and production and life. It becomes a popular landmark.

5.2 Scenic Spots in Ceramic Parks

Jingdezhen is a ceramic industry museum. You can see the cultural relics of over one hundred years in the Imperial Kiln Site Park and Hutian Kiln Site, the cultural relics of nearly one hundred years in Taoxichuan and Jianguo Porcelain Factory Innovation Block, and contemporary cultural relics in the Ceramic Industrial Park and Mingfang Garden.

Taking Mingfang Garden as an example, it gathers famous workshops scattered in the ancient streets and alleys of Jingdezhen by means of "audition", attracting famous workshops from all porcelain-producing regions of the world and major kiln inheritors to participate in the construction, and devoting itself to inheriting and protecting Chinese traditional ceramic techniques and building a "condensed version of Jingdezhen". The construction of Mingfang Garden adheres to the philosophy of "ecological garden", "garden factory", "museum group" and "high-end market", forming a new carrier, new platform and vane of the industry. Mingfang Garden gradually becomes a new and charming "regional business card" for inheriting ceramic culture, prospering ceramic industry and prospering ceramic industry tourism, which is a good model of Jingdezhen ceramic industry tourism.

5.3 Integration of Ceramic Industry and Ecology

"The water and soil in Jingdezhen are suitable for ceramics". The "water and soil" here refers to the ecological environment of Jingdezhen more than kaolin, the raw material for producing ceramics in Jingdezhen. The core of Gaoling National Mine Park is Gaoling Ancient Mining Site, which is located in Gaoling Village, Yaoli Town, Fuliang County, northeast of Jingdezhen City. Minerals are mainly clay and ores used in ceramic production, and Gaoling Ancient Mine Site is the only "National Mine Park" in Jiangxi.

The construction of Sambo International Porcelain Valley highlights characteristics, depends on the ecological, ceramic and historical resources of Sanbao Village and Hutian Village,

gathers a large number of artists, designers, international creators and other foreign and local craftsmen, and gathers more than 100 ceramic workshops, enterprises, cultural and artistic institutions and ceramic cultural innovation industry to focus on building a comprehensive complex for ceramic cultural tourism industry, which is a new highland of ceramic industry with the integration and development of traditional handmade ceramic industry and modern design innovation.

6. Some Thoughts on the Development of Jingdezhen Ceramic Industry Tourism

Jingdezhen is a unique tourist city with ceramic culture in China, which is listed as one of the 35 scenic spots launched overseas by the national tourism department. Jingdezhen gives full play to the unique advantages of "ceramics and tourism", builds ceramic theme scenic spots and accelerates the construction of a famous tourist city. How to rely on the ceramic industry, give full play to its own advantages, and have a promising road of ceramic industry tourism? I have some own thoughts.

The first one is to have an international perspective. Ceramics is the earliest global commodity in the world. As early as Tang and Song Dynasties, Jingdezhen ceramics are sold to the world through the Silk Road on land and the Silk Road on sea. It is rated as "the capital of handicrafts and folk arts in the world" by the United Nations. To develop ceramic industry tourism, we must have an international perspective, break out the limit of Jingdezhen's "mountains and rivers", focus on the world, and expand cultural exchanges with the world, so as to make Jingdezhen not only a museum for the development of China's ceramic industry, but also a "museum" for the development of the world's ceramic industry.

Second, we should focus on integrated development. Since ancient times, Jingdezhen's craftsmen come from all over the world, and the ceramics are sold to the world". It can be said that Jingdezhen is an inclusive city and a city of continuous integration. In order to build the ceramic industry tourism in Jingdezhen, it is necessary to integrate with modern Internet thinking, high technology, ecological environment development and protection, etc., which provide ceramic industry tourism with both good carrier and wonderful content. Only when the form and content are integrated can it realize sustainable development with full of vitality and strength.

Third, we should gather talents. The development of the times cannot be separated from talents. The construction of Jingdezhen National Ceramic Cultural Heritage Innovation Pilot Zone calls for talents. In addition to formulating special policies to attract talents, the key point of gathering talents is to build a platform for them to give full play to their wisdom, share the same future and develop together, and provide a sense of fulfillment and belonging in the career. Only when such talents and teams are gathered can Jingdezhen ceramic industry tourism go further and further and have a brighter future.

Conclusion: Ceramics is a beautiful cloud that China contributes to the world, and it is also a business card for the world to perceive China. With the construction of the national "the Belt and Road Initiative" and the in-depth development of Jingdezhen National Ceramic Cultural Heritage Innovation Pilot Zone, Jingdezhen ceramic industry tourism stands at a new historical point of transition. Seize the opportunities, face the challenges, and move forward with the spirit of pioneers. The ceramic industry tourism in the ceramic capital Jingdezhen will surely have a bright future.

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Expectations of Young Professionals on Community Engagements Towards Sustainable Development Goals : an Exploration

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Abstract

The purpose of this study was to investigate young people's expectations regarding community engagement in achieving the Sustainable Development Goals (SDGs). It was made through the cooperation of young professionals who were former student leaders in Ilocos Sur, Philippines. Through surveys and interviews, it also determined the goals that should be given more emphasis in the communities, the very core of their implementation and success. Divergence of goals were presented in terms of focus. Hopes are centered on priority and contextualized policies, unified social actions, and impact education. The engagement was determined in terms of the inclusive plan, alternative deliveries, and feedback mechanism, while challenges concentrated on financial difficulty, social and physical structure, and apathy and non-conformity of beliefs and understanding. The participants echoed immediate actions and established linkages. While popular goals are attended to, equal emphasis should also be made, particularly on SDG 11: sustainable cities and communities, SDG 12: responsible consumption and reproduction, and SDG 14: life below water. Intensified campaigns and activities towards the intertwining goals must be escalated.

Keywords : Humanities, Global Goals, Expectations, Community Engagement, Philippines/Asia

1. Introduction

Investing in our youth is one of the greatest moves that any country could ever make. It is always believed that young people are the hope of every nation and race. There is no doubt why they become the center of many engagements.

Efforts to engage youth involve elevating their voices and ensuring meaningful opportunities to contribute to resolving issues and promoting positive change in their communities and nations. It is clear how much they can contribute to nation-building. The future is theirs and therefore must be ushered in with so much care and attention. (USAID, 2012).

There is a need to improve the quality of partnerships with youth, to provide more concrete platforms for youth participation, and to support existing local youth networks and initiatives. (USAID, 2012).

Now that the sustainable development goals are on their rise to full implementation and evaluation, the communities at their very core must engage in meaningful activities that include everyone, especially the young. As we know, the SDGs give a vision of the world the international community, the Philippines included, wants to achieve by 2030. Different sectors of the government, including communities, whose role is to reach every person in the grassroots to partner with key agencies and organizations in the delivery of solutions to solve primary problems. Sustainability engagement must be designed well to attain a positive impact on people, the country, and the whole world. Integration of existing programs must be on the agenda for the attainment of the goals if there is a need to alleviate the lives of people as we heal the world to make it the best place to live in.

Civic involvement relates to the capacity to organize ourselves to pursue community goals, which in this study are the SDGs. Finding the relevant initiatives to answer the call is not clear in many studies. Instead, independent sectors like business, the church and religious groups, the central offices of the government, including those of science, technology, and education, are instrumental in realizing the thrusts of the United Nations. But the engagements of the smallest units, apart from families, are yet to be advertised for full embrace and participation. It is on this premise that this study was conceptualized, but with the inclusion of all citizens, including young professionals. Further, this study that limits the understanding of the actualization of the global goals, as they are also called, might be guided and inspired when community engagements are reflected upon. Deep analysis of the visions should be engaging if it is a priority while taking them forward if the goals have been in the backseat still. The clamor of the young, who will constitute the future, is germane, for they will become the initial baseline to sustain the world.

2. Research Objectives:

This research consisted of two objectives:

2.1 Investigate young people's perspectives on community engagement in pursuit of sustainable development goals.

2.2 determine goals that should be given more emphasis in the communities

3. Methodology

3.1 Sample

The expectations of 23 participants were considered. All of them are former student leaders in different colleges and universities in ILocos Sur, Philippines. The samples were

purposefully chosen for the following reasons: 1) they are currently employed, and 2) the informants are active members of their respective communities.

3.2 Instrument of Research

3.2.1. The research tool

The survey form comprised of five questions on SDGs started with their awareness of the goals, followed by the identification of the three goals that must be given focus. However, considering all goals may be an answer, their expectation of communities to engage was also well thought out, followed by the activities that community leaders must initiate, as well as the challenges that may be met in the realization of the goals.

3.2.2. A semi-structured interview method was conducted with the participants. A guide question as an instrument was designed following the process of de Guzman (2013).

3.3 Data Gathering

This study is a basic qualitative study using content analysis and a thematic approach. To gather all the data, an initial interview followed by a formal survey requesting their participation was conducted. A follow-up phone call was made during the evenings after confirming their availability and enlightening them about the purpose of the study. A formal consent form was sent afterward. Only participants who were aware of the sustainable development goals were included. The Interview Guide Development method was used. A letter was distributed to all target participants, of which 23 survived. Affirming their interest in the study, the survey form was distributed in an online manner. The survey questionnaire comprises the following: Starting with their awareness of the goals, followed by the identification of the three goals that must be given focus. However, considering all goals may be an answer, their expectation of communities to engage was also well thought out. There are then activities that community leaders must initiate as well as challenges that may be met in the realization of the goals. After five (5) days of waiting for their cooperation to participate, the number was set. An in-depth interview followed using the Interview Guide Development to collect all of the data. Their responses were analyzed, coded, categorized, and thematized. This interview was conducted as a validation of the responses that emerged.

3.4 Data Interpretation

Data revealed the responses and views of the 23 participants that started from an initial interview to the survey questionnaire down to the in-depth interview, were analyzed, coded, categorized, and thematized through content analysis and the thematic approach. Theories on development, sustainability, and sustainability goals were used to help the researcher in the analysis. Many studies related and relevant to the research were also reflected upon and thought of for corroboration and validation.

4. Findings from the Study

Emergent themes on various issues emerged as a result of this.

4.1. On goals to focus on, responses were divergent.

4.2. Hopes are centered on priority and contextualized policies, coordinated social actions, and impact education.

4.3. Anticipated engagements were determined in terms of inclusive plans, alternative deliveries, and feedback mechanisms.

4.4. Predicted challenges concentrated on financial difficulty, changes in the social and physical structure, and apathy and non-conformity of beliefs and understanding.

5. Discussion

5.1. Goal-Focused

The Sustainable development goals (SDGs) are also called global goals. They are a set of goals linked with each other that are designed to be accomplished to eradicate all impediments that will make the future better and more sustained. The United Nations, through a general assembly, agreed to achieve these goals by 2030. They were framed to help all countries be sustainable as they are bound to be one unified world.

The 17 SDGs are: (1) No Poverty, (2) Zero Hunger, (3) Good Health and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (9) Industry, Innovation, and Infrastructure, (10) Reduced Inequality, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life on Land, (16) Peace, Justice, and Strong Institutions, (17) Partnerships for the Goals. Among these goals, the participants are very much aware of Goal 4, Goal 3, and Goal 1. They also give priority to goals 8 (Decent Work and Economic Growth), 13 (Climate Action), and 2 (Zero Hunger).

The least of these goals known to them are goals 5, 7, 9, 11, 12, and 14. The other goals may be important, like goals 6, 10, 15, 16, and 17. Immediate move to realize the sustainable goals, which are an urgent call for action by all countries, developed and developing, in a global partnership. According to the United Nations (2020), "a variety of tools exist to track and visualize progress toward the goals to facilitate monitoring." *intention is to make data more available and easily understood.*

Furthermore, this agenda is a plan of action for people, the planet, and prosperity. It also seeks to strengthen universal peace in larger freedom. All countries and all stakeholders, acting in collaborative partnership, will implement this plan. Transformative steps are urgently needed to shift the world onto a sustainable and resilient path. For this collective journey, a pledge has been formed that no one will be left behind. The 17 Sustainable Development Goals and

169 targets demonstrate the scale and ambition of this new universal agenda. They seek to build on the Millennium Development Goals and achieve what they did not achieve. They seek to realize the human rights of all. They are integrated and indivisible and balance the three dimensions of sustainable development: economic, social, and environmental. (2015 United Nations Transformative Agenda).

5.2 On Community Expectations to Participate in Response to Goal Achievement

Hopes are centered on the following: priority and contextualized policies, unified social actions, and impact education.

5.2.1 Priority and Contextualized Policies

The sustainable development goals have been around for more than five years since their commencement in December of 2015 as an extension, if it can be called that way, of the Millenium Development Goals. For people who are not directly working hard on all the goals of making the world a fully and truly developed place to live, the MDGs vanished so quickly that nothing was really heard much, and soon after came the SDGs with a big bang, but again, it was not the expectation that the global goals would make the world a sustainable place to live in, for the future generation that is.

The participants noted that policies are handed down from higher authorities and agencies that take care of their implementation, but in the communities, they observed that none is felt. They have enumerated education (Goal 4) as the most popular among them all, but the education sector is solely the one making its realization. True, the Philippine Commission on Women worked on Republic Act 6972: Barangay Level Total Development and Protection of Children Act, an act that establishes the daycare systems. The right of children to assistance, proper care, and nutrition, as well as special protection from all forms of neglect, abuse, cruelty, exploitation, and other conditions that are detrimental to their development. And the barangays are called upon as the implementing agencies. The RA was approved in 1990, thus making the law enacted before the introduction of the SDGs in 2015. (PCW, 1990).

At least, this is happening in Portugal. Neves (2018) pointed out in his critique that research must be considered as an approach to creating the basis for understanding their background as well as the critics that have made SDGs. Since the problem focuses on the process of integrating the SDGs, he claims there is still a long way to go. In a congress that took place in 2018, not one addressed the topic of sustainable development or sustainable development goals.

The Philippines, through the National Economic and Development Authority (NEDA), is assigned to look into the implementation of the SDGs.

The inter-agency Development Coordination (DBCC) approved the creation of the sub-committee on Sustainable Development (SDGs) as part of the commitment of the country to

the world. It will monitor progress on the SDGs in the Philippines, review SDG-related programs and policies, and submit recommendations to the cabinet-level of the agency.

According to Edillon (2020), in the Philippines undersecretary, the creation of the sub-committee is a strong move, strengthening the linkage of development priorities to resource allocation.

It is therefore understood that the Philippines is not taking things for granted in terms of the magic to turn the SDGs into reality. It has launched the Ambisyon Natin 2020. This represents the collective long-term vision and aspirations of the Filipino people for themselves and the country, not just up to the year 2030 but beyond. It describes the kind of life that people want to live and how the country will achieve it. In its campaign, its tag is, "by 2040, the Philippines will be a prosperous, predominantly middle-class society where no one is poor. Our people will live long and healthy lives, be smart and innovative, and will live in a high-trust society (NEDA on Ambisyon, 2020). The program is an anchor for the development planning of national administrations. The attainment of the SDGs set for 2030 paved the way for the accomplishment of Ambisyon Natin 2040. It requires intergenerational equity, adheres to the core principles of the SDGs for sustainable development, and leaves no one behind. (Neda, 2020). It must be noted, however, that present development should never be at the expense of future generations. It is a prerequisite to the Filipino Ambisyon of matatag (strongly rooted), maginhawa (comfortable), and panatag (secure).

The attainment of the SDGs requires concerted, multi-sectoral, and multi-stakeholder efforts both at the national and local levels. Sectoral plans are maintained and localized at the regional and local levels.

While policies are visible and contextualized as presented, strengthening them for people to feel and contribute more is another version of the implementation. When localization is the subject, then, people, especially in the barangay, must take whole part. Projects and activities will be acted upon.

The call for a powerful and stronger awareness without coercion and threat will make every Filipino a significant role player, starting in the smallest government unit that echoes actions of sustainability through modernization and technology. The future needs are understandable in the very core of why policies are custom-built: because the needs of the people are examined with the utmost care. Support will be tremendously received when people know and understand the stand they will make.

5.2.2 Coordinated Social Actions

The United Nations can not work alone. The call for a unified effort is a must. There are standing plans and implementations from national and regional as well as local government units, including those of the academe, non-government organizations, and the private sector.

The Philippine Senate passed a resolution (PSR 122) for the creation of a Committee on SDGs, Innovations, and Futures Thinking to oversee the country's progress in achieving its commitments to the SDGs by the year 2030. (https://sdg.neda.gov.ph/senate-creates-committee)

With the passing of a policy that might be popular among legislators and the LGUs, including the lowest form of government, the barangays, are truly aware of numerous legislative initiatives.

The participants shared that the government is not completely adamant in creating legal mandates, from resolutions to bills to laws, including advisories and memoranda, but somewhere, there is still a "missing" area. Something that will spark the enactment of this to move people to the center aisle.

The Committee that was formed would oblige the Senate to allow the needed time and resources and assess current policies that will impact future generations.

Cayetano, a Philippine Senator, voiced out, "There is something that we tend to neglect precisely because, by human nature and survival, we tend to focus on the problems at hand." She suggested that there is a need to think "out of the box" and to achieve the SDGs by 2030, legislating policies that are cognizant of the interplay of social, economic, and environmental factors in the upcoming decades.

This alone singlehandedly blurts out the oneness of those whose plans are based on strong and interconnected policies and the implementation of various relevant projects that will ensure the attainment of the goals.

In the Philippines alone, achieving Ambisyon Natin 2040 is an ambitious program, as the name implies, and as the program describes, it is handed down from the crafting by carefully chosen experts in the social, economic, and political spheres. As a developing country, which we have been in for many years, we must do our part to establish a significant status and distinctive trademark in the various aspects of excellence and best practices. Aligning the policies with the different line agencies and departments with the cooperation

The call to make a single stand and varied interconnected actions is a battlecry to promote sincere cooperation and collaboration. Humans are, after all, vox populi, vox gentem (the voice of the people is the voice of a nation). social beings and need to socialize with others. (Kutlu, 2019). In the process of socializing with significant others, we see their status and life. While differences in facing what lies ahead will always be the role of leaders, they will always look into what is best for the people. Opportunities may not be true and appropriate for everybody, but unless they are, no one will be left behind.

5.2.3 Educational Impact

The world has seen tremendous change. With the onset of COVID-19 in 2020, priorities shifted a bit to address a pandemic that no nation anticipated, setting aside the many noises that accompanied it. People were redirected to what was essential and immediate.

To ensure people have direct access to information about what is new and important, including the SDGs, various social media platforms may be considered. Although the traditional modalities are not *supported* up to this point, they give assurance of the transfer of information to the target audience.

The campaign must be an all-out action since monitoring, assessment, and evaluation are now at an end. Therefore, there is a need to fasten the travel of knowledge and understanding of global goals because they affect every single citizen. When education is at its best and functional as to the integration of matters concerning all people and the country, then the multiplier effect of what is learned can be transmitted to the family and the community. Participation between schools and governments must be increased so that, while learning competencies, the integration of various concepts and practices of immediate concern is balanced. Proper orientation and responsibility will be instilled, and thus learning is functional and relevant. The school and education will radiate in the community, once again as partners of local leaders in transmitting the core of SDGs and finally addressing the targets that improve people's lives.

The UN 2030 Agenda of Sustainable Development Goals envisions a future of inclusive equity, justice, and prosperity within environmental limits and places an important emphasis on education. Furthermore, it is acknowledged as a means for achieving the remaining goals with sustainability. (Kioupi, V., and Voulvoulis, N., 2019).

Education has great social importance, especially in modern, complex, industrialized societies. Philosophers of all periods, beginning with the ancient stages, devoted a great deal of attention to it.

Understanding concepts, including the global goals, since arising from the different worldviews of the participants implementing a new civilization model, and countries and people representing various cultural, social, and political diversity (Neves, 2018), thereby reaches people differently. This fact may also be an anticipated happening to the goals of sustainable development if there is no unified thought before they reach the people through education, as the most instant medium.

The participants urged education that is not only relevant but also functional. The impact may have on people, young and old, men and women, wealthy and impoverished, must always be paramount. It must not last just for a decade but be sustainable as expected to make people responsible even beyond the time of their conception. The viability of the dreams turned to reality will become a legacy to bring back the old glory of the world we call Earth.

5.3 On Anticipated Engagements to be Initiated by Community Leaders

The engagement was determined in terms of an inclusive plan, alternative deliveries, and feedback mechanism.

5.3.1 On Inclusive Strategy

While there is a strong and well-thought-out plan through policies crafted, it should be inclusive. While it was found to cover too much ground (Neves, 2018), overlapping goals (Cayetano, 2019), there is still time to respond, review, and reflect on more mechanisms to ensure the success of majority goals to ease the economic, social, cultural, and political aspects of the country.

The presence of a long-term plan, like the Ambisyon Natin 2040, sets the tone for a serious approach to the goals. The year that will even overcome the accomplishment of targets of the UN, the Philippines is thinking about the future.

Plans through suitable barangays, relative to the limitations they have, may lay down programs, projects, and activities that challenge everyone. Empowering the youth as partners, counting on the former young student leaders and other residents of the communities capable of contributing knowledge, skills, and competencies, not to mention the resources and financial capabilities. They are prepared to serve the community in the afternoon.

Strategic plans that are well discussed with all sectors represented will eventually lead to inclusion. Voices are heard and given the chance to be part of the success of implementation. Practical plans, on the other hand, may include all immediate actions to ease the weight of the problem while still working on total support for each one.

The participants' desire for actions like capacity-building, budgetary requirements, sources of funds, people involved, platforms, traditional or modern technologies, alternative solutions, partnerships, and available resources, to name a few, are vital components of the plans. The barangay, though powerful, maybe tapping into partners to reenact must be included, and only the best among the best items on plans must be reflected upon to merit people.

5.3.2 Alternative Deliveries

The participants expect that actions to accomplish a percentage of the targets of the sustainable goals must be friendly. No force must be heard instead of a willingness to join despite the busy schedules that people have now especially during the time of Covid-19. Because the world dramatically changes in facing life, there also need to adjust to attack the marks for winning a sustained life by 2030. Many businesses closed down, lifestyle shifted, education continues but alterations to fit in the online setting were adapted, relationships between families and people became closer however mental, social, and physical aspects suffered.

It would have been the start of the monitoring of the implementation of the first steps to address the priority SDGs at least but there was a sudden shift of attention. Though it may still

be connected to the SDGs, special mention on Goal 1, Goal 2, Goal 3 and Goal 4, Goal 6, Goal 8, Goal 9, Goal 10.

From no to limited face-to-face, acting out on planned projects may seem to affect the participation of many or challenge the delivery of such. While we are still addressing the causes of and implementing solutions to the pre-covid-19 plans, then came another shift of focus. But the call is specific actions leaders, at least in the communities must indulge.

One of the ways to have better governance, according to the UN Department of Economic and Social Affairs (2020), is to have a broader level, the way institutions are set up and operate in practice influences the trust that people place in them and their ability to promote transformation at the societal level. https://sdgs.un.org/sites/default/files/2020-07/SDO2020_Book.pdf

5.3.3 Feedback Mechanism

The amount of success or failure, in some cases, of any action given, depends on the feedback we get back. At a basic level, a feedback mechanism provides a means for you to track your performance. It is not to provide a review of your past behavior. They are naturally forward-focused because they connect your current actions to your future results (Windust, 2022). The participants noted that less is heard about anything to do with the actions, whether to be implemented or done the same that there is too much silence when it comes to what happened and things are doing to projects or activities. Comments, most informal usually go around the barangay but to them, there is no formal announcement of how things are doing. They call for transparency for the feedback, use of social platforms if possible, progress report may be, or at least some recognition of efforts made. The design to whatever way of giving things are doing is what they are up to.

5.4 On Predicted Challenges in the realization of the global goals

Challenges concentrated on financial difficulty, social and physical structure, and apathy and non-conformity of beliefs and understanding.

5.4.1 Financial Difficulty

Developing the project budget is a process for allocating administered and departmental funds necessary to build a financial foundation for producing stated project deliverables. (McConnell, 2011). Delay in construction projects is a common phenomenon and a costly problem (Abdul- Rahman, Takim & Min, 2009).

One participant mentioned, "funding is the primary concern. While knowledge output from research, for example, maybe provided for free, organizing and implementing any PPA will require funds, this will also affect the support of the community.

Though the national government has allocated funds for the implementation of SDG measures but the sudden change and redirecting of funds made many world leaders, especially

the developing countries discuss budgets well. The covid-19 pandemic and the variants that endanger social, political, and economic is still on.

But observations of the participants cannot be ignored though. Another participant raised, "I think the challenge is the availability of resources to be utilized."

Instability of governance in terms of other political and national problems (aside from health and covid-19 related) may just shake leaders to what must be prioritized. Unified actions and concerns are not just feasible when they are thinking of the opposite. Now that the election is fast approaching, many will be halfhearted in the projects. "politicking" as popularly referred to might affect the approval of support. And time is not at their comfort. Time must be valued as 2030 is approaching for the member countries to brag for actions for replication.

5.4.2 Changes in the Social and Physical Structure of the Community

A community, like other social institutions, is not merely a collection of individual persons; it is a changing set of relationships, including the attitudes and behavior of its members.

What may bring about the change in the physical structure of the community?

The kinds of physical changes that people can make in their community may steer people's behavior in healthy directions, improve lives, and will continue to maintain a high quality of life for new generations.

It may also lead to the promotion of health and prevention of diseases. Ways in which physical changes can enable a healthier lifestyle. The built and natural environments together make up the physical structure of a community. By changing that structure, you may be able to change community members' attitudes, behaviors, prospects for health and well-being, economic opportunity, social interactions, and quality of life. It's one of the ways to approach creating a healthy community (Rabinowitz, 2022).

One participant who was a former president of all the accredited clubs, now the adviser of the Central Student Government, said, "social barriers that include population growth, paired with unsustainable consumption and production patterns among the wealthy, are the biggest social challenges to achieving sustainable development in the world."

The pandemic is bringing tension at a global level by giving on the one hand reason for closing borders, restricting the movement of people and goods, and authorization actions, while on the other hand requiring global collaboration for tackling the inherently global pandemic.

A potential leader can have all desire and motivation to bolster the greater, good, but without some core competencies to get other people to follow their lead will fail.

5.4.3 Apathy and Non-Conformity of Beliefs and Understanding.

Not all people want to participate/cooperate, conflict of interest, lack of funds or financial support in implementing projects/programs and services.

The participant stated Many people are not aware of the emerging concerns related to SDG. Thus they need to be informed and educated before they take action.

One challenge that Participant 14 thought of is the acceptance of the members of the community [of SDGs]. Having an open mind is very necessary for the realization of SDGs. It is one of the most difficult things to get from people. According to him, non acceptance leads to nonparticipation in the conduct of the global goals.

Political deterrence is also one contest that will also hinder success in the implementation. While good leadership is a good factor, the opposite will make the common tao antipathetical. Being indifferent and negative unquestionably leads to nowhere.   Community leadership is the courage, creativity, and capacity to inspire participation, development, and sustainability for strong communities. (https://www.skillsyouneed.com/rhubarb/community-leaders .html The leaders that will blend the personal thoughts of the constituents and move them to action always and will a challenge to overcome. When people become cooperative and responsible, everything is achievable. Though problems may arise again the skill a leader has to overturn non-conformist to echt a common goal, this time the sustainable developments.
It is equally true that many of the most prominent leaders in a given community get their influence because they possess certain traits that enable them to represent their locality and drive progressive social change.(https://www.skillsyouneed.com/rhubarb/community-leaders.html).

The fact that a community of differences - in opinions culture, beliefs, understanding because of migration and constant movement, then the tendency of unifying a common mental object might lead one to another track or varied interpretations of the call. But the desire - the motivation to affect positive change in the community and at the forefront of transformation. The inherent possession of dedication and drive is a paramount necessity in being an effective leader and they are willing to put in the time and effort towards service, selflessly providing their time and effort for the greater good. https://www.skillsyouneed.com/rhubarb/community-leaders.html

6. Conclusion

Sustainable development goals are concerns that must be accounted for at this present time. While the government planned for policies, designed acitivies to implement but there will always be challenges to face. the voices of everyone must be an echo that reminds us of our roles to play. This exploration that tackled what goals to focus which was divergent. Whether popular and not so, at the end of the rope, all SDGs deserve equal, fair reliable treatment. Responses though are divergent. Hope is directed to setting of policies and contextualized with emphasis on massive and strong awareness campaign, drawing of unified social action through cooperation and collaboration and continuous education through massive platforms. Anticipated engagements were determined in terms on the design of inclusive long and short-term plans,

implementation of alternative deliveries, and establishment of feedback mechanism - monitoring, assessment and evaluating. Finally, Expected challeges revoled aroung financial crises and poor resource generation, social and physical changes in the structure and environmental conditions and the feeling of apathy and non-conformity of beliefs and understanding. Listening to expectations from young people matters for they are our future.

7. Recommendations

Based on the results and conclusions, the following recommendations are as follows:

7.1. Intensified campaigns and activities towards the intertwining goals must be escalated through online modalities, most especially education and the use of various platforms.

7.2 While popular goals are attended to, equal emphasis should also be made, particularly on SDG 11: sustainable cities and communities, SDG 12: responsible consumption and reproduction, and SDG 14: life below water.

7.3 Voluntary work may be extended as a support to the development of materials through cooperation and collaboration among various sectors, especially education and peoples' organization.

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Education

(Oral Presentation)

Sustaining Quality Education in the New Normal Through Constructivism and Constructive Alignment

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Sustaining quality education during the pandemic is a great challenge, and educational institutions have adapted to the so-called new normal education. This lecture emphasizes that learning outcomes can be assured even in flexible modalities by integrating constructivist perspectives and employing constructive alignment.

It is widely known that the Constructivist Learning Theory states that learners actively construct knowledge, instead of passively receiving knowledge from the teacher. Learning is facilitated when learners reflect upon their experiences in the world, build their own understanding and come up with meanings which they integrate into their prior knowledge. The construction of acceptable knowledge which includes the changes in the initial ideas of the learner is carried through the processes of assimilation and accommodation. We assimilate new information and if we find this better than what we initially know, we accommodate the new information to build a new meaning. This constructivist perspective posits learning as an active and a social process that accords the learner meaningful experiences nurturing knowledge construction.

Constructivism can be incorporated in the teaching sequence in a number of models. In the Driver and Oldham's model, there are four phases: Orientation, Elicitation, Restructuring, and Evaluation and Review. Phase 1 orients the learners with tasks to be done. Phase 2 elicits students' initial ideas by answering questions relate to their experiences. Phase 3 is called restructuring in which learners build acceptable conceptions, replacing or modifying their initial ideas or misconceptions. Phase 4, Evaluation and Review is where students reflect on the changes of their ideas, and apply what they learned in more complexed topics. Another teaching sequence is the famous 5E model with five stages, namely: Engage, Explore, Explain, Elaborate and Evaluate. In the "Engage" stage, students' prior knowledge is addressed. In the "Explore" stage, students are exposed to interactive activities. In the "Explain" stage, the teachers help the students in synthesizing new knowledge. In the "Elaborate" stage, the students apply what they have learned, and in the final stage, "Evaluate," assessment of learning is done. Another model worthy to be described in that of the University of Buffalo. The sequence begins with eliciting prior knowledge. This is followed by the creation of cognitive dissonance in which the learners replace their initial conceptions with acceptable knowledge. The next stage is applying what the students have learned. The final stage is called reflecting about the students' learning. All of the three teaching

sequences described above begin with addressing students' prior knowledge, and have next stages which give students opportunities to explore and interact, and then change their pre-conceptions with the new conceptions, and finally to reflect and evaluate their learning with the teacher assuming a facilitative role.

How do we use constructivism in the new normal? Education in the new normal makes use of flexible learning. Huang and others define flexible learning as a learner-centered educational strategy, which provides choices from the many dimensions of study, such as time and location of learning, resources for teaching and learning, instructional approaches, learning activities, support for teachers and learners. In this way, teaching and learning can be flexible rather than fixed. This can help promote easy, engaged and effective learning. Three important characteristics of flexible learning are: (1) Flexible learning provides learners with adequate learning choices from multiple dimensions of study. (2) Flexible learning applies learner-centered constructivism approach. This is so because there is a paradigm shift from the teacher taking learning responsibilities to the students taking the responsibilities. (3) Students are given a variety of choices and they take more responsibilities for their own learning. It is necessary that in using flexible learning, students should learn the skills of self-regulation in the aspects of goal setting, self-monitoring and making adjustments. Likewise, teachers should promote active learning to ensure an engaging and effective student learning. In online learning whether the environment is synchronous or asynchronous using a variety of devices, students can be anywhere to learn independently and interact with instructors.

Specific constructivist approaches that can be utilized in the new normal include addressing students' prior knowledge, assigning activities and experiments which they can perform to emphasize discovery method and learning by doing, assigning tasks which can be done collaboratively in small groups, using raw data and primary sources and integrate real-world problems and culture to deepen student understanding, providing opportunities for students to present their outputs, encouraging students to share their ideas with their teacher and classmates, asking open-ended questions to promote critical thinking and inquiry, providing students time for consultation and using coaching to facilitate their learning, promoting student initiative, resourcefulness, autonomy, and responsibility, allowing flexibility in the schedule of lessons and tasks to give sufficient time for student's construction of knowledge, developing and using online instructional materials that incorporate the features of constructivist learning. including other forms of assessment such as observation, portfolio and performance, and asking students to reflect on their learning.

Finally, it is important to engage the students in their attainment of the intended learning outcomes even in new normal education. To ensure quality instruction, the learning outcomes

need to be aligned to the constructivist teaching and learning tasks as well as to the appropriate assessment tasks.

Keywords : Quality Education, New Normal, Constructivism, Constructive Alignment

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Elevating Global Partnerships in Higher Education during the Covid 19 Pandemic : The Juxtaposition of SDGs 14 and 17

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This paper focuses on Sustainability Development Goals #14 (Education) and Goal #17 (Global Partnerships) and offers suggestions for two collaborative global efforts that will promote the international advancement of research programs in higher education. Two efforts in particular, an international PhD program, and the second, the creation of a universal PhD research course are highlighted within the context of both Covid and non-Covid environments.

Multilingualism and Its Impact in North-East India

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Abstract

The North-East region of India is home to many native languages. This paper will exhibit a profile of multilingualism of three North-Eastern states viz Manipur, Assam and Meghalaya. These states have their own independent languages, culture and identity. It is seen that each state is a mixture of different ethnic tribes and indigenous people speaking a number of different languages. In these states, English also serves as the dominant medium of instruction. It will also highlight the impacts of multilingualism on all spheres of everyday life, be it in business, institutions or media. The inclusion of English along with Hindi as a language for official and educational purposes have made these two languages as a gateway of intelligible communication and interaction among people with different mother tongue and regional languages. In this way, the cultivation and practices of multilingualism and linguistic diversity in the North-East has a great impact not only in shaping and preservation of identity but also provides a great deal on how the North-Eastern people interact and communicate with fellow Indians and international communities beyond state and national border.

Attitudes towards Multilingualism at Secondary Schools in Bangladesh

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Abstract

This study investigated the attitudes towards multilingualism at Secondary institutions in Sylhet, a north-eastern city of Bangladesh.. In Sylhet, two languages, Bangla and English, are widely used at secondary level for academic purpose. Bangla is used as the mother tongue (L1) and English is learned as a Foreign Language (L2). The attitudes towards multilingualism at secondary public and private schools vary significantly. This research took into account the variable of social status, education, curriculum, textbook, co-curricular activities, pass-times into context to prove the reasons behind different language attitudes. This study aimed to find out how these variables play their role in shaping language attitudes. The data was collected through interviewing 20 students from different secondary schools. The interview instrument was used to know how the components deal with the variables regarding language acquisition. The study also integrated the theoretical observation and come up with some significant findings concerning multilingual approach to the secondary schools in Sylhet. Though, most of components had conscious approach and application towards Bangla and English, Bangla supersedes English due to its Listening and Speaking approach. Bangla is an acquired language and English is still a learned one. The study also revealed the fact that the variables, though were dealt in Bangla more frequently, English was also applied in different institutions. The investigation exposed the fact that the society turned into multilingualism, though unconsciously, and is leading towards a phase where both Bangla and English would necessarily be acquired. As a result, the study recommends a number of suggestions to build a diversified multilingual society to compete with the progressing multilingual world and uphold the developments of emerging Bangladesh.

Keywords : Attitudes, Secondary, Schools, Multilingualism, Sylhet

Student Centred Learning in the 21st Century

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Abstract

Learning takes place optimally when learners are fully engaged during the learning process, in which they actively construct and co-construct knowledge under the skilful guidance of an effective teacher. This type of learning can happen when educators adopt a student-centred teaching, i.e., an approach that enables the teacher to address the cognitive, affective, kinaesthetic and social needs of the students. In this presentation, I first explain what student centred pedagogy means in the context of teaching in the 21st century, where a huge amount of information is now accessible to both teachers and students. I suggest that a simple transmission model of teaching is no longer tenable. Instead, students need to learn how to access, select and evaluate information and more importantly, learn how self-manage and self-assess their own learning. In the second part, I argue that a student-centred pedagogy requires that the teacher use instructional strategies that spark students' genuine interest and motivation. By focusing more on the motivational aspect of learning, students can be expected to learn more in the classroom and continue learning beyond the classroom.

Keywords : Student-Centred Learning, Motivation, Engaged Learning

The Role of Youngers for Global Sustainable Governance
: The Implication for Higher Education Innovation

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Abstract

This study is based the recognition of the significance of youngers in terms of global sustainable governance, by explication of the example of UN of addressing different roles of youngers and engaging the youth in SDGs (Sustainable Development Goals). Through identifying the roles of youth as critical thinkers, change-makers, innovators, communicators, and leaders, this study is attempted to offer some implications for higher education innovation, particularly to the epistemological presumptions of higher education learning. It is claimed in this study that the necessity of reflection-in-action and reflection -on-action in the design of practicum and internships in higher education and the primacy of the fields and of participation in its communities of practice for re- construction of the epistemological frame of professionals and transformation of their professional identities. It is argued that the conventional presumption of higher education focused on the knowledge systemic learning and application to the practice must be transformed into the identity reconstruction via action- reflection- participation in communities of practice of the field in the real world.

Keywords : Global Sustainable Governance, Role of Youth, Higher Education Innovation, Innovation Learning And Teaching, Reconstruction Of Epistemological Presumption of Higher Education Learning

The Role of Vocational Training in Myanmar

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Abstract

The Government of Myanmar has undertaken swift reforms in all areas, and the education sector is no exception since 2011. The vision of the Ministry of Education of Myanmar "to create an education system that will generate a learning society capable of facing the challenges of the Knowledge Age" is reflected in its motto to "build a modern, developed nation through education" and is one of the signs that the education sector is high on the reform agenda. Myanmar, an agricultural country in Southeast Asia, has started vocational education in recent years. The vocational education in Myanmar comes in the two levels of secondary vocational education and higher vocational education. The government technical and agricultural high schools and the government technical and agricultural institutes become double and can cooperate with other countries in establishing a number of international cooperative vocational education institutions, such as Myanmar Industrial Training Centre, Myanmar Centre for Vocational Training, Singapore–Myanmar Vocational Training Institute, etc. Although the Government of Myanmar guarantees the quality of vocational education, Myanmar still faces critical challenges in management, capital investment, quality assurance, and school–enterprise cooperation in vocational education. Interestingly, development potential is strengthening in different sectors for the rapid-changing Myanmar. But management of widespread capacity challenges like human resource-related troubles comes out as the main concern in actualizing this prospect. This included curriculum development; the alignment of education to university education; regional diversification; and the alignment of the program to regional needs.

Keywords : Vocational Training, Regional Needs, Myanmar

1. Introduction

Myanmar, one of the member countries of ASEAN, is known as the Republic of the Union of Myanmar, a presidential republic with a total area of 676,578 square kilometers and a population of over 54 million, divided into seven regions, seven states, and one union territory. Agriculture will continue to hold a significant share in Myanmar's economy.

1.1 National Education System in Myanmar

The education system in Myanmar, under the charge of the Ministry of Education, consists of basic education (divided into primary and secondary education), higher education and vocational education. Currently, the 5-4-2system is adopted for basic education, that is, six years of primary (Grade 1 to Grade 6), three years of lower secondary (Grade 7 to Grade 9) and two years of upper secondary (Grade 10 and Grade 11) education.

1.1.1 Primary Education

Primary education is the first stage of basic education and, in principle, is compulsory. Primary education lasts five years, including one year of preschool education (kindergarten); it is organized in two cycles: lower and upper primary. It offers courses in mathematics, English, Burmese, science, morality, life, art, history, geography, and sports.

1.1.2 Secondary Education

Secondary education in Myanmar involves Junior High School (6th through 9th) and Senior High School (10thand11th) grades. In comparison with primary education, the junior high school stage has included public and vocational courses, such as handcraft and cooking. After entering senior high school, the students can choose courses of arts or sciences. Burmese, English, and mathematics are compulsory subjects for all students. While arts students study geography, history, and economics, the science students study chemistry, physics, and biology.

1.2 Higher Education

Ministry of Education has successfully completed a 3-5 year Comprehensive Education Sector Review (CESR) to develop an evidence-based National Education Strategic Plan (NESP) for 2016–2021. NESP Goal of Myanmar: Improved teaching and learning, vocational education and training, research and innovation leading to measurable improvements in student achievement in all schools and educational institutions. Higher education in Myanmar is mainly provided to the students who have completed basic education and passed college entrance examinations, and the number of higher education institutions in Myanmar increased from 32 in 1988 to 163 in 2012. The 3-1-2 system is adopted for higher education in Myanmar, namely 3 years of courses for the bachelor's degree, 1 year of qualification courses, and 2 years of courses for the master's degree. Starting from the 2011–2012 academic year, all institutions of higher learning under the Ministry of Education have extended the degree programs by one year, transforming the higher education system into the 4-1-3 structure. In order to ensure consistency of the new degree courses, the professional committees have developed new curricula and syllabi in line with those of the universities of ASEAN countries.

1.3 Overview of Vocational Education in Myanmar

Vocational education is an important component of the Myanmar education system, which covers a wide range of areas related to architecture, electricity, electronics, machinery,

hotels and tourism, development of pharmaceuticals and nursing, agriculture, and animal husbandry. The Government of Myanmar has 19 ministries involved in vocational education, and the Ministry of Labor, Employment and Social Security, with the approval of the Cabinet, has set up the National Skill Development Authority (NSDA) to manage vocational education. The vocational education system includes the two levels of secondary vocational education and higher vocational education. At present, there are 36 secondary vocational schools including the Government Technical High Schools (GTHS) all under the management of the Department of Vocational and Technical Education and Training of the Ministry of Education of Myanmar. Admission to the GTHS requires students to complete the nine-year (covering junior high school) study and to pass the entrance exams. The GTHS study lasts for two years, covering the same basic subjects as in the regular high school in addition to technical courses. After completing the two-year courses, the student will receive a state-recognized diploma. The regular high school graduates are required to pass the college entrance examinations while the GTHS graduates are required to meet the requirements regarding the average score of every subject they have taken. In addition, vocational education in Myanmar represents an important area to receive international assistance. Some countries, in cooperation with the Government of Myanmar, have established vocational education institutions to provide the young people in Myanmar with various training and to create job opportunities for them.

Secondary vocational education in Myanmar is mainly offered by the GTHS. At present, Myanmar has 36 GTHS nationwide. Under the Department of Vocational and Technical Education and Training of the Ministry of Education, the GTHS have over 500 teachers and 8,000 students. The GTHS aim to train skilled workers, engineers and technicians, who constitute the important human resources for the industrial development of Myanmar, and the industrial development is one of the keys enabling factors for Myanmar to become a developed country. The GTHS provide professional training in science, technology and business, train skilled workforce meeting the market demand, and encourage the students from rural and remote areas to participate more in education, training and employment related to vocational technology. The professional study helps students to get professional skills, so as to prepare them for related production and work or for entrepreneurship.

The GTHS offer two-year academic education or short-term training. In the past, the students who completed junior high school (ninth grade) may directly apply to go to the GTHS for two-year academic education. As the number of applicants keeps growing in recent years, the examination system has been introduced for the admission, with the contents of the examination covering English and mathematics or the 9th graders. Upon the end of the two-year study, the students may choose to enter the GTI for further study or go to work as skilled workers or assistant engineers based on their own conditions. If they cannot go to the GTI, they can apply to take

college entrance exams no matter they have passed the GTHS exams or not. The two-year academic education covers specialized and public courses. Both specialized and public courses are offered 15 h a week, and the yearly total amounts to 600 h. Specialized courses include architectural engineering, electrical technology, electronic technology, automotive repair technology, mechanical processing technology, refrigeration and air conditioning technology, metal processing technology, and information technology. Public courses include Burmese, English, mathematics, physics, and chemistry.

The GTHS offer the same public courses as the regular senior high school. All the students must complete the study of all the public courses and certain specialized courses. The students' performance is evaluated through theoretical examination and practical operation evaluation, with the former accounting for 30% and the latter 70% of the total score. The GTHS distinguish themselves with skill training, which takes place partly in the classroom and partly in the workshop within the school. The GTHS curriculum system is composed of theoretical knowledge and practical operation. The teaching is usually conducted in the classroom for theoretical study and the workshop in the teaching building. The GTHS policy makers hope to help students change their attitudes toward vocational education and employment through diversified courses, and to help the students to make the transition from a student to a worker. The GTHS also help students choose areas appropriate for their development, depending on their interests and abilities.

1.4 Higher Vocational Education in Myanmar

Article 366 of the Myanmar Constitution stipulates that: "Every citizen shall, in accordance with the educational policy laid down by the Union: (a) have the right to education; (b) be given basic education which the Union prescribes by law as compulsory; and (c) have the right to conduct scientific research, explore science, work with creativity and write, to develop the arts, and conduct research freely with other branches of culture." The Myanmar education authorities approved the National Education Law (NEL) in September 2014 and passed an amendment to the NEL in 2015. The NEL and NEL amendment provide a framework for the extensive implementation of complementary reforms in the national education system. The NEL explains the role of vocational education: After the completion of primary education, one can go for basic vocational education; after the completion of secondary education, one can go for medium vocational education; and after the completion of high school education, one can go for higher-level vocational education.

Private vocational education institutions provide various technical and vocational skill training in accordance with existing regulations/standards to promote the trainees' skill development, which is accessible to all of any educational level and age. The Government of Myanmar promulgated the Technical, Agricultural and Vocational Education Act in 1974, which was amended in 1983 (Law No. 8) and 1989 (LawNo.20/89). The law further regulates all kinds

of vocational education and training. In 2013, the new Employment and Skill Development Law (ESDL) was promulgated in Myanmar, the second important law on vocational education in the country. It stipulates various forms of skill development for current workers and for those who are about to work. The law also provides the establishment and functions of the National Skill Standard Authority (NSSA), as well as the skill development tax initiated by employers to finance training MOE (2016a).

In addition, these vocational education institutions have established partnerships with vocational colleges, research institutions, and universities in donor countries, drawing on the latest inter-national curriculum for vocational education. These vocational education institutions provide a training mode different from that of the government vocational education institutions, and they play a significant role in the vocational training of Myanmar. The Singapore–Myanmar Vocational Training Institute (SMVTI), founded in 2016 in Yangon, is a cooperation program between the governments of Singapore and Myanmar. The program utilizes the equipment and facilities from the Ministry of Education in Myanmar and it is managed by a private education institution of Singapore. The program aims to support human resource development in Myanmar, especially the vocational skill development of the Myanmar youth. The program consists of training projects, each of which lasts for six months and covers such areas as engineering, technology, and services. Upon the end of the training, the trainees will receive the corresponding vocational certificates.

2. Research Objectives

The research objectives are as follows:

2.1 To evaluate management of vocational education in Myanmar

2.2 To investigate the challenges to vocational education in Myanmar

3. Methodology

The participants of this study were 3350(Ten household, atleast three family members, were survey by 100 researchers) in Maubin district, Ayeyarwady division of Myanmar. They were chosen based on the idea of purposeful sampling. In Myanmar, Maubin is a town in the Ayeyarwady Division of south-west Myanmar. It is the seat of the Maubin Township in the Maubin District. The population as of 2021 was 51,542. The inhabitants of the town, as well as the district are mainly Bamar and Karen. This affected the study in a positive way that participants took the study seriously and cooperated completely with the researcher anyway.

3.1 Semi-structured Interview

Interviews used in this study consisted of 6 questions that the participants could give extra information or explanation if they wanted to and the researcher was open to new topics

and issues in this regard. Each interview lasted about 25 minutes and was recorded and transcribed later for further analysis.

3.2 Qualitative Content Analysis Method

The researcher used the qualitative content analysis method to interpret the participants' expressions elicited from two of the instruments of the study. This model of content analysis which has been used in this study is explained by Ellis and Barkhuizen (2005) as follows: "It consists of the following sequences: coding for theme and making interpretations. The researcher has read the interview transcriptions for several times and marked out the important themes and expressions that can help to develop the research questions, the unit of analyzing the texts was sentence. Afterwards, the important expressions and themes were categorized under two groups coded A and B. Each category is labeled with a phrase or sentence as it is presented below: Code A: Management of Vocational Education in Myanmar, Code B: Challenges to Vocational Education in Myanmar.

4. Results

4.1 Management of Vocational Education in Myanmar

All interviewees reported that the demand for qualified workers is high, locally and abroad, in every sector. Some interviewees conveyed that some private providers are cooperating with private businesses and are catering to their needs for a trained and skilled labour force. Some of the private providers expressed concerns about the capacity of their training centre to cater properly, in terms of quality and quantity, to the needs of businesses for a skilled labour force. Via the interviews, it is known that they also lack support in terms of facilities, rooms, equipment and tools, qualified teachers, and wellstructured curricula.

Level 1: Beginner

To understand the safety regulations in the work; have basic practical skills and operational knowledge in a specific work area; complete the day-to-day work according to clear requirements; receive, communicate, spread and, record information; bear certain responsibility

Level 2: Skilled worker

Have practical skills and operational knowledge in a number of areas; complete work with skill requirements; take responsibility for the products you produce

Level 3: Highly skilled worker

Have some theoretical knowledge and a range of high-level skills; solve daily problems; interpret a large amount of information; take responsibility for the products produced by others

Level 4: Management

Management has a wide range of basic knowledge, apply theoretical knowledge to practice; identify and apply various skills; identify, analyze, and evaluate varied information; have a good understanding of and take responsibility for, quality, safety, and environmental issues (Miriam Amine, 2016).

4.2 Challenges to Vocational Education in Myanmar

Although Myanmar has made some achievements in vocational education over recent years, it still faces grave challenges. The vocational education is under the management of many departments in Myanmar, among which there is lacking in effective coordination and unified management, and the management and curriculum of vocational institutions have a lot to be improved. Myanmar vocational education authorities have yet to set up a comprehensive and well-developed quality assurance system, and vocational education cannot meet the local labor market needs for highly competent personnel. Although some skill standards have been set, the skill standards of some industries are inadequate as they are not closely linked with practice. In addition, local enterprises in Myanmar have a low degree of participation in vocational education. Many vocational education projects have been developed and implemented without enterprise participation, with more than enough emphasis on theory but little connection with practice.

In result, the skills and abilities of the graduates from vocational institutions often do not meet the needs of the labor market. In terms of training content, the types of training provided by vocational institutions at present are limited. Public vocational education institutions mainly focus on academic education and pay insufficient attention to short-term informal vocational training needed in the labor market. With regard to funding, there is still a serious shortage of funds and resources in the development of vocational education in Myanmar.

5. Discussions

The National Education Strategic Plan (2016–2021) launched by the Ministry of Education of Myanmar in 2016 has planned vocational education in three aspects. First, it is to expand access to vocational education for all groups. In order to provide more opportunities for all citizens, including disadvantages groups and persons with disabilities, to participate in vocational training, the Ministry of Education of Myanmar will implement the Comprehensive Vocational Education Project. The project will improve access to vocational education at all stages and expand subsidies and scholarships to disadvantaged students through upgrading the existing vocational courses and providing capacity-based modular short-term courses.

Second, it is to improve the quality of vocational education and make it closely connected with practice. It develops a number of skills training programs, including management, teaching and specific skills. Vocational education courses are developed based on the needs of

the workplaces in different industries, and a national qualifications framework for vocational education, the national skill standard, the quality assurance system involving capacity-based courses, and institutional and personal certification are established.

Third, it is to strengthen vocational education management, carry out vocational education management system reform in Myanmar, enhance coordination among management departments of vocational education, encourage public–private cooperation, step up the financial management and supervision, build up the monitoring system and information management system of vocational education, and take improving vocational management as the top priority.

6. Conclusion

The Myanmar government has realized the importance of vocational education in creating skilled labor markets. So, many ministries are responsible for providing vocational education to have better employment and self-employment opportunities, which will lead to higher income and welfare. It is believed that Myanmar's vocational skills training plays a vital role in training and skills development and in increasing workers' chances to find better employment. In order to be able to open new kinds of vocational education, Maubin University is now attempting to offer vocational subjects in accordance with the need of the community. A plan is drawn to provide the school curriculum of vocational subjects such as practical agriculture, industrial arts, business training and domestic science for community development.

7. Recommendations

The followings are some recommendations from the analysis:

7.1 Surveys on the demands of the labour market need to be conducted. Students in some cases are trained in skills and technical areas that do not necessarily respond to labour market needs.

7.2 The mentoring and coaching mechanisms to support the practical aspect of vocational education and training in companies should be substantially developed.

7.3 The combined issues of the quality of curricula and teaching methodology will affect the skills level of graduates.

7.4 Well-developed curricula that are in line with skills standards and quality standards should be planned to improve the current situation and to assist the overall transformation process in Myanmar.

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A Synthesis Study of Writing Approaches Employed in the Researches on Teaching Writing

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Abstract

Writing is one of the most essential abilities in learning English language, and it is the most difficult skill among the four skills. In the past decades, the researches on writing approaches have been in the interest and conducted by researchers. The purpose of this paper was to present a synthesis based on the past studies published on writing approaches employed in the English teaching classroom. The studies synthesized were during 2012 to 2021 with a total number of fifteen studies. The instrument of this research was a frequency distribution synthesis table. This research was conducted by studying the research articles on the literature review on the writing approaches before being synthesized by using the frequency distribution synthesis table. The research results revealed that there were five main writing approaches employed in the researches as follows: genre based approach, content based approach, process writing approach, process genre approach, and collaborative writing approach. The results also indicated that two dominant writing approaches, process writing approach and genre based approach, were found as the foremost employed approaches in most studies.

Keywords : Synthesis Study, Writing Approaches, Teaching Writing

1. Introduction

Writing is one of the most important skills to have when studying a second language. In recent years, the necessity of being able to write in a second or foreign language has increased. As a result, numerous writing strategies arose, including the product approach, the process approach, and, more recently, the process-product approach, all of which have been studied by language scholars (Pasand, 2013).

Due to a variety of circumstances, including exposure to the target language, students in ESL schools come from a variety of backgrounds and proficiency levels. As a result, in addition to methods and procedures, students require approaches that are tailored to their specific needs. "Approaches represent an interaction between the learner and the learning context, with strategies acting as a link in the negotiation process that leads to a task outcome" (Lavelle and Zuercher, 2001). Every writing lesson requires a variety of writing styles. For a variety of reasons, ESL teachers should choose the strategy that should be used in a certain session. In order to get a successful outcome in a writing classroom, it is critical to identify the appropriate method. Choosing an improper method would merely make the courses intimidating for ESL students and disappoint teachers after so much time and effort has gone into planning and teaching.

The writing approaches used by first-language users differ from those used by second-language learners. Many ideas and approaches have been developed in order to meet the writing needs of ESL students. These writing styles have evolved significantly over time to help second language learners become better writers (Fujida, 2006).

There are several writing approaches presented currently. The characteristics of each writing approach are varied depending on the purposes of the implantation. One of things, content-based instruction (CBI) is considered as one of the instructional methodologies in developing English language performance. Teaching in this approach is organized around the content and the principles of content-based instruction are heavily rooted on the principles of communicative language teaching (Villalobos, 2013). With content-based instruction, students learn language and content at the same time, each supporting the development of the other (Lyster, 2007). Also, writing process approach is a reflection of the notion that writing is a thinking process in which a writer undergoes the thinking process before he or she produces a final piece of writing based on their thought (Brown, 2001). Basically, the four basic writing stages are incorporated in Process Writing; these are planning, drafting (writing), revising (redrafting), and editing (Diliduzgun, 2013). Next, product based approach, according to Nunan (1999), in this approach the focus is on the final product which should be a coherent, error-free text and students will initiate, copy and transform models provided by textbooks or by teachers. Modeling is at the center of this approach and it has always been regarded as a beneficial source for providing feedback to students as well as being an effective teaching tool (Saeidi & Sahebkheir, 2011). According to Steele (2015), a product approach to writing constitutes a four-stage process: Stage 1 Familiarization, Stage 2 Controlled Writing, Stage 3 Guided Writing, and Stage 4 Free Writing. Another approach is genre-based approach. Hasan and Akhand (2010) define genre approach as a social and culture practice. The purpose of this writing involves the context where the writing occurs, and the conventions of the target discourse community. It is clear that the genre approach focuses on the language and discourse features.According to Feez (1998), the Stages of a genre

approach were as follows: (1) Building Context, (2) Modelling and Deconstructing Text, (3) Joint Construction of Texts, (4) Independent Construction, and (5) Linking Related Texts. Then, collaborative writing is defined as two or more people are jointly composing, editing and drafting the complete text of a document based on their ideas (Spring, 2007). Barkley et al (2005) state that in collaborative writing, since the class was divided into some groups, group members compose a paper together. Last but not least, based on the integration of concepts from the process-based approach and the genre-based approach, the process-genre approach has been proposed to help develop students' writing skills (Badger & White, 2000; Kim & Kim, 2005; Yan, 2005; Frith, 2016). The process-genre approach is conducted through the following stages: preparation, modelling and reinforcing, planning, joint constructing, independent constructing, and revising (Badger & White, 2000; Yan 2005).

Some researchers have been interested in conducting their studies on the writing approaches and writing plays a significant role in language learning. Previous researches have reported on the effectiveness of several writing approaches to develop writing skills to enhance writing competence, but little attention has been given to the synthesis of the writing approaches employed in the English teaching classes. Consequently, this research aimed at conducting a synthesis based on the past researches published on writing approaches employed in the English teaching classroom to provide insightful information on writing approaches.

2. Research Objectives

To synthesize the writing approaches employed in the research articles of writing skill.

3. Research Methodology

3.1 Data Source

The study is a research analysis and related theory (Documentary Research) in the writing approaches applied in the research articles of writing skill. The researcher studied from the document of 15 research articles from 3 domestic and 12 international papers published in 2012-2021. The articles were selected from the journals in SCOPUS, Education Resources Information Center (ERIK), ASEAN Citation Index (ACI), and Thai Citation Index TCI.

3.2 Data Analysis

Data was analyzed by content analysis method then categorize the important issues according to the academic scope. After that the data were brought together by using the frequency distribution synthesis table.

4. Research Results

4.1 Writing Approaches Employed in Research Articles

According to the studying of writing approaches employed in the research, the result shows that there are five important writing approaches found in the application in the researches, namely, genre-based approach, process writing approach, process genre approach, content-based approach, and collaborative writing approach as shown in Table 1 below.

Table 1 Writing Approaches Employed in Research Articles

Writing Approaches / Author & Year	Pham (2021)	Phami et al. (2021)	Mastural et al. (2020)	Vanichvasin (2019)	Sritrakarn et al. (2019)	Alabere et al. (2019)	Srinon (2019)	Dokchandra (2018)	Agesta et al. (2017)	Ghina (2016)	Syafi et al. (2016)	Khatib et al. (2015)	BAYAT et al. (2014)	Heriyawati et al. (2014)	Pasand et al. (2013)	Frequency	Percentage	Rank
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
1 Employing Genre Based Approach in research		✓	✓		✓	✓	✓	✓	✓	✓						8	30.77	2
2 Employing Content Based Approach in research			✓					✓						✓		3	11.54	3
3 Employing Process Writing Based Approach in research	✓				✓	✓		✓	✓	✓	✓		✓	✓	✓	10	38.46	1
4 Employing Collaborative Writing in research	✓											✓				2	7.69	5
5 Employing Process Genre Approach in research							✓		✓	✓						3	11.54	4
Total																26	100.00	

As shown in Table 1, the results shown that there were five main writing approaches employed in the researches. The most frequently employed writing approaches were process writing approach (f=10, 38.46%), followed by genre based approach (f=8, 30.77%), process genre approach (f=3, 11.54%), content based approach (f=3, 11.54%), and collaborative writing approach (f=2, 7.69%)

4.2 The Results of Employing Writing Approaches in Researches

4.2.1 Process Writing Approach Employed in the Researches

Summary of past related studies in employing writing approaches in English teaching class in total of fifteen past related studies were identified using five different approaches highlighted. Some researchers employed process writing approach in the researches. Parastou Gholami Pasand, Eshrat BazarmajHaghi (2013), BAYAT (2014), Nihat BAYAT, Ph.D (2014), Dwi Fita Heriyawati, Teguh Sulistyo, Agus Sholeh (2014), Fadhliatul Ghina (2016), Silvira Agesta and Prof. Bambang Yudi Cahyono (2017), Dentisak Dokchantra (2018), Pasand and Haghi (2018), Napak-on Sritrakarn (2019), Rabiat Ajoke Alabere, Aspalila Shapii (2019), and Vu Phi Ho Pham (2021), employed the writing process in their studies and they found that the writing process approach can help students improve their writing abilities. Nevertheless, the studies conducted by

Qomariyah and Permana (2016) on the process writing approach showed that it was not effective towards students' English paragraph writing ability.

4.2.2 Genre Based Approach Employed in the Researches

Summary of past related studies in employing writing approaches in English teaching class in total of fifteen past related studies were identified using five different approaches highlighted. Some researchers employed genre based approach in the researches. Srinon (2019), Mastura, Arsyad, Koto (2020), Sritrakarn (2020), and Vu Phi Ho Pham and Thi Kim Loan Bui (2021) employed genre based approach in their studies. Sritrakarn (2020), found that the SFL genre-based approach has the potential to help equip students with awareness of the focused genre. Meanwhile, Mastura, Arsyad, Koto (2020) found that there was significant effect of genre based approach on students' writing ability of recount text. The effects were on the content, organization, vocabulary, language use, and mechanics. However, Pham and Bui (2021) found that the students had difficulty following the fixed move-step structure, and they also faced challenges of lexico-grammatical usage for the expository. Similarly, Srinon (2019) found that it is a challenging task for the lecturer to help students to understand and to follow the typical generic structure as identified in the Sydney genre -based school while they are accustomed to other writing approaches from previous courses.

4.2.3 Process Genre Approach Employed in the Researches

Summary of past related studies in employing writing approaches in English teaching class in total of fifteen past related studies were identified using five different approaches highlighted. Some researchers employed genre based approach in the researches. Ghina (2016), Agesta and Cahyono (2017), and Alabere and Shapii (2019) employed process genre approach in their studies. Ghina (2016) found that the students who were taught using the PGA performed significantly better in writing than those who were taught the standard way. Students' writing ability gain more than 20 % improvement in four aspects of writing: organization, structure/grammar, content/idea and mechanics, and he concluded that using the PGA can improve EFL writing ability more than present standard teaching-learning for EFL writing. Agesta and Cahyono (2017) found that there was a significant effect of process-genre approach on the students' writing achievement, covering four writing components: organization, vocabulary, grammar, and mechanics. However, it also revealed that there was no significant difference in the writing ability of the extrovert and introvert students who were taught by using the process-genre approach. Alabere and Shapii (2019) found that, the experimental group outperformed the control group proving that PGA is effective in teaching academic writing in tertiary institutions. The PGA group scored higher than the PA group proving that there is an impressive performance of the students in academic essay writing of the PGA group of students. Therefore, PGA is an effective approach to teaching academic writing if properly applied.

4.2.4 Content Based Approach Employed in the Researches

Summary of past related studies in employing writing approaches in English teaching class in total of fifteen past related studies were identified using five different approaches highlighted. Some researchers employed genre based approach in the researches. Vanichvasin (2019) and Heriyawati, Sulistyo, and Sholeh (2014) employed content based approach in their studies. Heriyawati, Sulistyo, and Sholeh (2014) found that there was statistically significant difference between the scores of pre-test and post-test, and they made progress, especially dealing with content even though they still produced grammatical errors. He concluded that CBA is beneficial to improve students' writing skills. Vanichvasin (2019) found that content-based instruction produced positive results and could be used as an effective methodology and essential aid in generating opportunities to use English, which resulted in increased English language performance.

4.2.5 Collaborative Writing Approach Employed in the Researches

Summary of past related studies in employing writing approaches in English teaching class in total of fifteen past related studies were identified using five different approaches highlighted. Some researchers employed collaborative writing approach in the researches. Khatib and Meihami (2015) found that using collaborative techniques and activities had a positive effect on overall writing performance of EFL students, and on writing components such as content, organization, grammar, vocabulary, and mechanics. It shed light on the importance of using collaborative techniques and activities in L2 writing classrooms, which bears some implication for teachers and curriculum planners. Similarly, Pham (2021) found that collaborative writing had great effects on students' writing fluency in both collaboratively written papers and individually written papers

5. Discussion

According to the research results, it shows that there are five important writing approaches found in the application in the researches, namely, process writing approach, genre-based approach, process genre approach, content-based approach, and collaborative writing approach. Interestingly, the results also indicated that two dominant writing approaches, process writing approach and genre based approach, were found as the foremost employed approaches in most studies.

Some researchers employed process writing approach in the researches, and they found that the writing process approach can help students improve their writing abilities. One result drawn from this study is that the process writing technique had a very positive and statistically significant impact on paragraph writing success. Because the process writing approach focuses on the process of text construction, many facets of writing (Grabe & Kaplan, 1996) have been thoroughly examined in research using this method. Steps in the PWA may have contributed to

the remarkable improvement in the pupils' paragraph writing. The procedures involved the students in a systematic way in their attempts to produce written goods, thereby improving their writing skills. The teacher's intervention during the writing process may have also contributed to the pupils' improved writing skills. The participants also had very positive feelings about the teacher's feedback for English growth, which could explain why the students' essay writing performance increased dramatically.

According to Dentisak Dokchandra (2018), the Process Writing Approach could greatly improve Thai EFL students' writing performance in a large class context. Furthermore, the students expressed highly favorable feelings about participating in PWA in such a learning environment, gaining a better understanding of systematic essay writing. According to the findings of our research, students' writing faults such as punctuation, capitalization, spelling, subject-verb agreement, tense, the usage of connectors, utilizing correct pronouns, and possessives were reduced in the second session when the incomplete model text was used. We can infer that utilizing a model text and encouraging students to continue it can help students improve their writing correctness in some, but not all, parts of their writing (Pasand and Haghi, 2013).

One of the findings of the study was that the process writing technique had a favorable and statistically significant impact on writing success (BAYAT, 2014). Many variables underlying writing (Grabe & Kaplan, 1996) have been thoroughly studied in the studies where this approach was used because the process writing approach focuses on the process of text construction. The research also discovered that the likelihood of producing an unsuccessful manuscript at the end of the writing process was significantly reduced. Another explanation for the approach's success is that written texts are examined multiple times in the studies in which it is used. Texts have less errors since evaluations are done by students, their friends, and their teacher. According to a study done by Yayli (2009), process writing sessions reduced students' unfavorable attitudes about writing. This result could be the consequence of errors being identified and fixed as soon as possible throughout the writing process. The process writing strategy was also demonstrated to reduce writing anxiety to a statistically significant degree in the current study (BAYAT, 2014). Writing causes anxiety, according to Sawkins (1971) and Thompson (1981). The fear of being judged is the most common source of writing anxiety. The prospect of confronting the flaws that would be highlighted in the evaluation causes the student some anxiety (Graves, 1994; zbay & Zorbaz, 2011; Routman, 1996). During the process of text production during process writing, however, errors are minimized, and anxiety levels are reduced. Students develop a favorable attitude about writing in this way. Yayl (2009) discovered that process writing alters students' unfavorable attitudes toward writing. Furthermore, in a study using the portfolio technique (ztürk & eçen, 2007), which can be regarded an extended version of process writing, writing anxiety was observed to diminish.

6. Conclusion

The purpose of this paper was to present a synthesis based on the past studies published on writing approaches employed in the English teaching classroom. The studies synthesized were during 2012 to 2021 with a total number of fifteen studies. The instrument of this research was a frequency distribution synthesis table. This research was conducted by studying the research articles on the literature review on the writing approaches before being synthesized by using the frequency distribution synthesis table. The research results revealed that there were five main writing approaches employed in the researches as follows: genre based approach, content based approach, process writing approach, process genre approach, and collaborative writing approach. The results also indicated that two dominant writing approaches, process writing approach and genre based approach, were found as the foremost employed approaches in most studies.

7. Recommendation

7.1 Teachers should integrate the teaching writing approaches to scaffold students writing ability since every approach has its practical features and inadequacies.

7.2 A further research should be done in other approaches in teaching writing so that teachers in English writing classrooms have broader choices to utilize in the writing classrooms.

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Effectiveness of Using an Outcome-based Approach to Design Contents
of an In-service Training Program
for Training secondary school English Teachers in Laos

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Abstract

This research aimed at evaluating effectiveness of an Outcome-based Approach (OBA) for redesigning contents (training tasks, instructions and assessments) of a teacher training program. Research participants were three English secondary school teachers. The effectiveness was evaluated by assessing abilities of in-service teachers to use 15 student-centered teaching techniques to design activities to teach English, appropriateness of training contents and usefulness of abilities gained from the training. Therefore, the data were gathered by assessing trainees' abilities during and after training and interviewing them at the end of the training. The findings show that all of the in-service teachers have gained high abilities to use the 15 students centered teaching techniques for designing activities to teach English (M= 9.43; SD=0.64). The findings from interview show that the training contents are suitable for training the new teaching skills and they confident to use them. Therefore, high training achievement and very positive opinions found in this research confirm that OBA is effective to use for designing contents of training program.

Keywords : In-Service English Teachers, Training Program, OBA, Secondary School, Teaching Techniques

The Effects of Using Padlet Application (PA) to Enhance Writing Ability of English-Majored Students at Savannakhet Teacher Training College, Lao PDR

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Abstract

The objectives of this study were to 1) examine the effectiveness of using Padlet Application to enhance writing ability of English-majored students at Savannakhet Teacher Training College, Lao PDR, and 2) study students' satisfaction towards using Padlet Application to enhance writing ability of English-majored students at Savannakhet Teacher Training College, Lao PDR. This research applied one group experimental design comprising pre-test and post-test. The population of this research were 23 second- year of English-majored students at Savannakhet Teacher Training College, Lao PDR, of which the samples were 12 students, selected by using the convenience sampling technique. The research instruments were 6 lesson plans (PPT), the pre-test and post-test, and the satisfaction questionnaire. The data were analyzed by using basic statistics, including mean (M), standard deviation (SD) percentage, and t-test. The data gained from the open-ended questions was decoded and interpreted meanings.

The findings were:

1) the post-test mean score was ($\bar{x}$ = 40.86 (81.72 %), S.D = 2.40) and the pre-test means score was ($\bar{x}$ = 16.94 (33.89 %), which clearly illustrates that the post-test mean score was higher than the pre-test mean score at 23.92 or 47.83 %.

2) students' satisfaction towards using Padlet Application to enhance writing ability of English-majored students at Savannakhet Teacher Training College, Lao PDR after learning with Padlet Application were at more satisfaction ($\bar{x}$ = 4.30, S.D. = 0.40).

In conclusion, it exposed that the use of Padlet Application to enhance writing ability of English-majored students at Savannakhet Teacher Training College, Lao PDR was effective as expected, in which learners hold high satisfaction.

Keywords : Writing Ability, Padlet Application, Satisfaction

Learning Achievement and Satisfaction by Using Collaborative Learning in Information System Analysis Course

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Abstract

Collaborative learning, a student-centered concept, focuses on group activity based on group process. This methodology makes learners understand the content from the activity provided and stimulated by the instructor in the facilitator role. This research, supported by a fund from the Faculty Development Academy, Suranaree University of Technology aims (1) to compare learning achievement in implementing the collaborative learning methodology with traditional lecture and (2) to study learner satisfaction when applying this methodology in an Information System Analysis course. The researcher developed the project into 5 units of learning and organized the learning methodology based on the nature of the content. Units 1, 3, and 5 used the traditional lecture. Units 2, and 4 applied collaborative learning. The research utilizes (1) a comparison of pre-test and post-test to measure the learning achievement and (2) learner satisfaction data in 3 stages (preparation, organizing, and evaluation) and overall. The results show that learners get the higher score in post-test when collaborative learning is used, especially in unit 2 (Business Process). Applying this methodology, the facilitator role should not only provide the appropriate learning material and group process activity, but also observe and assist learners when they need further assistance or consulting. These activities improve learners' satisfaction when collaborative learning is implemented.

Keywords : Collaborative Learning, Group Process, Effective Collaborative Activity, Learning Achievement, Learner Satisfaction

1. Introduction

Collaborative Learning and Student-centered Concept

Rapidly technological changing that occur in the 21st century make the educational sectors to adapt from teacher-centered to student-centered concept. Reference to National Education Act. B.E. 2542 (since 1999) section 22 mentioned that educational organizing must base on their ability and self-development and student-centered is the most important. Educational

institutes should encourage learning system to develop learners with their highly self-potential. As learners are different by their individualize and learning abilities, instructors should belief in different learners' factors (individual background, ability to learn, and learning can happen in anywhere anytime) when organize the course. To implement Student-centered learning concept, instructors need to set up atmosphere, activities, learning materials, situations for learners. Instructors must clarify learners for analyzing and designing the course related to learners' backgrounds.

One of student-centered methodologies is "Collaborative Learning". This focuses on group activities based on group processes. Group members (learners) which differ from skills and abilities, experiences, and background must do the activities collaboratively to find out the output or solutions assisting by instructor in the role of facilitator. Facilitators should provide learners with consulting and assistance when they have any questions, or confuse from the activities provided. (Sutheera Nimitniwat, 2010)

This methodology is related to the concept of Cognitive Psychology theory. This theory believes that humans lives with their knowledge which reflect to behavior, interpretation, together with creating and developing knowledges themselves. Vvgotsky mentioned that knowledge and learning development are the result from thinking and communicating from social processes including knowledge acquisition, comprehension, and problem solving. These knowledge and learning development can enhance through assistant among capable each others by group team members. Cole, John-Steiner, Scribner & Souberman (1978; as cited in Erica Pretorius, Hanna Nel, 2021). Collaborative learning is not only the working in a team approach, but instructor need to provide the teaching strategies to generate what they have learned from activities whaich setting up by instructor. Pimpan Dachakupt (2001; as cited in Chanasith Sithsungnoen, 2020). Students' mentalities begin with socio communication which could not be separated from daily life. This can be assumed that learning will begin when humans start working together in the appropriate atmosphere, they will have structural controverted to stimulate new vision of learning and develop their cognitive skills together with their mindset organizing. These processes will help learner to exchange their knowledge that they have in their mind and find out weakness that need to develop.

This methodology is the good concept to support higher education strategies to success their goals which referred to National Higher Education Act. B.E. 2562 section 31 mentioned that universities must provide varieties of curriculums such as modular course, and lifelong learning to develop learners in all ages, and section 5 (2) to develop perfect humans for both bodies and minds with responsibility in their communities and societies and have happily living in the communities.

Reference to the study of collaborative learning in Saudi English classrooms from Abdulbagi Babiker Ali Abulhassan, and Fatima Ibrahih Altayeb Hamid (2021), this method of

learning can improve social skills, interpersonal skills, and self-confidence for learners. Learning environment made students learn effectively, obtained more communication skills, respected different opinions, and increased motivation when students worked in group. Students felt more relax than the lecture-based learning method that teacher as the center of knowledge. They had higher satisfaction by compared with lecture-based learning especially in the role of playing.

Key success factors in organize the learning by apply collaborative learning from the study of Karin Scager, Johannes Boonstra, Ton Peeters, Jonne Vulperhorst, and Fred Wiegant (2016) from Utrecht University were activities and team regulations, supporting and reinforcement, and positive interaction in learning activities. Size of group effected to this learning methodology. Learners were in the high-rate grading score, had individual accountability, and realized in benefits in group activities more than grading score. Also, activities in this learning method should concern in group works and time management which are the resources that use for learning. This mentioned in the study of Erica Pretorius and Hanna Nel (2021) in the "Fourth Industrial Revolution" course' topic for University of Johannesburg students. Furthermore, there were the challenges to conduct the course with this methodology such as complicating and encouraging learners to do their group activities.

This can be summarized that collaborative learning is focus on student-centered concept that encourages learners' attentions to the activity in the whole picture as much as they can by using the group processes. These are the important source of learning. This methodology can make learners to find out new kind of knowledge and solutions themselves together with improve their memorizing. Finally, they can apply this kind of learning methodology in terms of teamwork to develop their leadership skills for the future.

Course Lesson Plan

Conducting this course to measure the effectiveness of collaborative learning and traditional lecture style, researcher provided the learning to 5 units, and classified the appropriate methodology based on the nature of content as shown in table 1.

Table 1 Lesson plan for Information System Analysis trimester 3/2020

Learning Activity	Learning Unit / Lesson	Date
Traditional Lecture	Unit 1 Fundamental of Information System	March 23rd 2021
- Pre-test		March 30th 2021
- Lecture		April 4th 2021
- Discussion	Unit 3 Information	May 18th 2021
- Assignment	System Development	

Table 1 (Continue)

Learning Activity	Learning Unit / Lesson	Date
- Post-test	Unit 5 Information System in Business Approach	June 15th 2021
Collaborative Learning	Unit 2 Business Process	April 20th 2021
- Pre-test		April 27th 2021
- Introduction and provide short brief (Mini Lecture)		May 4th 2021
- Collaborative learning activities	Unit 4 Information Circulation	May 25th 2021
- Discussion and review		June 1st 2021
- Post-test		June 8th 2021

Collaborative Learning Activity

Operating Collaborative learning began with assigning the group for students into 4 groups by their interest and assigned the regulations in students' variety such as learning progress, and educational background. Course Instructor as facilitator provided mini lecture including introduction, glossary, and content that should be followed the same direction for students in main session by using Zoom Cloud Meeting application. Students needed to download the electronic worksheets provided by instructor from SUT E-Learning system. Then they were assigned to breakout room which is one of application of Zoom Cloud Meeting. Facilitators needed to monitor in case the students call for help and observed them. This observation should not disturbed them because when facilitator joined the breakout room as the host of meeting, there was no notification for the participants. When activity finished, facilitators would allowed students to present and discuss their outputs. Finally, facilitator reviewed the lesson learn and output from the activities then debriefed the group evaluation.

Current Situation for Online Learning

There were many of complaints from instructors and students in Suranaree University of Technology about online learning during covid 19 pandemics such as lack of participations, making students' attention to the lesson content, and course evaluations methods. This were the challenges for instructors to find the solutions to close the gap of these challenges which can help students understand the lesson learnt and achieve the course learning outcome and its objectives. Refer to the online teaching in Introduction in MICE Industry course, Hospitality Technology Innovation program, Suranaree University of Technology (trimester 2 of the academic year 2020), researcher adopt the learning methodology from traditional lecture based to class activity learning that made students to be active learners. The results found that students were involved in the lesson

learnt and got high score in the final examination. This was the reason that made researcher interesting to study more about learning achievement when applying this methodology to the class by applying group activities related. Resercher found that collaborative learning was one of methodology that quite be similar to the method that used in this trimester.

To make sure that this methodology can make students' attention as one of. the appropriate methodology, it is important to understand their needs based on their satisfactions in all stages of learning method and overall.

2. Research Objectives

The objectives of this research are (1) to compare learning achievement in implementing the collaborative learning methodology with traditional lecture and (2) to study learner satisfaction when applying this methodology in "Information System Analysis" for Hospitality Technology Innovation (international program) students, Suranaree University of Technology.

3. Research Methodology

Data used in this research were collecting from 13 students who studied course named "Information System Analysis", (Hospitality Technology Innovation (international program), School of Management Technology, Institute of Social Technology, Suranaree University of Technology) in trimester 3/2563. There were 2 parts of data collecting from different sources as following.

(1) Individual pre-test and post-test scores for 5 unit of learning.

(2) Learner satisfaction from questionnaire in the stage of preparation, learning operating, evaluation, and overall satisfaction in terms of collaborative learning.

Data analysis involved an analysis in comparison of learning achievement in the collaborative learning methodology and traditional lecture method by using statistical computation of averages and standard deviations. So that t-tests could be conducted on testing of an assumption applicable to a population in terms of degrees of freedom to determine the statistical significance. To make sure that this methodology of learning can be one of the effective solutions to apply for the class, studying learning satisfaction was needed by using the descriptive statistic.

4. Research Results

4.1 Learning Achievement

T-test analysis in all 5 learning units' pre-test and post-test scores which using the different method of learning illustrates as table 2. The result shows that students achieved the lesson learned at statistically significant (0.00) but implementing the concept of collaborative learning

(unit 2, and unit 4) made students get more higher score in post-test especially in unit 2 business process.

Table 2 T-test analysis comparison of 5 learning units' pre-test and post-test score.

	Pre-test		Post-test		T	sig	Mean difference	SE difference
	Mean	SD	Mean	SD				
Unit 1	5.00	1.29	7.69	1.18	11.4	<0.001	2.69	0.237
Unit 2	4.00	1.00	9.31	0.86	14.5	<0.001	5.31	0.365
Unit 3	4.31	1.11	8.15	0.90	10.3	<0.001	3.85	0.373
Unit 4	3.85	0.69	8.54	0.66	17.9	<0.001	4.69	0.263
Unit 5	4.08	0.76	8.23	0.83	15.2	<0.001	4.15	0.274

4.2 Learning Satisfaction

Appling the concept of collaborative learning to student, the result was found that they satisfied in all dimensions (3 stages of learning methodology and overall). Details are shown as following.

4.2.1 Preparation, students satisfied in all items most in organizing group, content planning and activity relationship, and demonstrate achievement from facilitator as shown in this following table.

Table 3 Satisfaction level in preparation stage

Preparation	Mean	SD
1) Identify objectives (content)	4.15	0.69
2) Identify objectives (group process)	4.31	0.75
3) Organize group	4.77	0.44
4) Assign individual role	4.38	0.51
5) Content planning and activity relationship	4.69	0.48
6) Demonstrate activity details	4.54	0.52
7) Demonstrate achievement	4.62	0.51

4.2.2 Organizing collaborative learning, students were satisfied most in facilitator role, more than the process and examination of group responsibility, that shown in table 4.

Table 4 Satisfaction level in organizing stage

Collaborative Learning	Mean	SD
1) Collaborative learning process	3.92	0.76
2) Examination of group responsibility	4.08	0.64
3) Consulting from facilitator	4.54	0.52
4) Observation from facilitator	4.69	0.48
5) Intervention from facilitator (if necessary)	4.62	0.51

4.2.3 Evaluation, this satisfaction in this stage illustrated that the learners' satisfaction was highly in the output and group evaluation that shown in table 5.

Table 5 Satisfaction level in evaluation stage

Evaluation	Mean	SD
1) Learning achievement (output from activity)	4.62	0.51
2) Group evaluation	4.77	0.44
3) evaluation, review, and debrief	4.38	0.87

4.2.4 Overall satisfaction, students satisfied highly in all items of the overall in this learning methodology. They satisfied most in learning material, instructor roles, and group process. The result illustrate in table 6.

Table 6 Overall satisfaction level

Overall	Mean	SD
1) Appropriate learning material	4.85	0.38
2) Group process implementation	4.77	0.60
3) Student roles (as student-centered)	4.62	0.77
4) Instructor roles (as facilitator)	4.77	0.43
5) Collaborative learning overall	4.54	0.52

5. Discussion

The following points based on the research results were discussed that

5.1   Students got the learning achievement for all units especially higher score in unit 2 (Business Process) than other units because students had their abilities to apply the concept in terms of content learned and discussion from this learning methodology. Students made the business processes from missions provided by instructor. They adapt their knowledge and abilities by situation changes and find out the appropriate solutions from missions and case study. This is same as unit 4 (Information Circular) that students used the concept to discuss data flow approach including data flow, data stored, and related entities. They felt free to design the data flow diagram of their interesting business. These show that students had improved the group interpersonal skills with self-confidence when doing group activities that assigned by facilitators. This result is related to the study of Abdulbagi Babiker Ali Abulhassan, and Fatima Ibrahih Altayeb Hamid (2021).

5.2   Learning satisfaction is high in all stages of applying this methodology.

5.2.1 Preparation stage satisfaction, students most satisfied in organize group. Researcher had a chance to discuss and observe when they did the activities. The result found that they were happy when doing the activities because they were allowed to organize the group by their own hospitality industry field of interesting when instructor assigned the case study for them. Furthermore, to make students achieve the goal and their satisfaction, facilitator should provide them the resources with the content, activity achievement, and activity details together with the roles and relationship in the group.

5.2.2 Organizing collaborative learning stage satisfaction, as the result shown that students satisfied most in facilitator role. This reflected that students needed facilitator assistance when following the concept of this learning methodology such as assisting them when they have any problems regarding to the class activities when assigning them to the breakout rooms. This can be referred that students were not confident in this learning methodology because they were not familiar with this method. Other courses in the university designed the lesson plan for them with the traditional lecture based. When facilitator observed by joining the breakout room they would asked or needed consulting for the results that could be the answers or appropriate solutions for each activities.

5.2.3 Evaluation stage satisfaction, this is the important part to summaries the results that students will conclude all the knowledge that they have found and learned. Regarding to the highly satisfaction in the output and group evaluation, this shows that students were proud in what they had found the solutions from the task that provided from facilitator.

5.2.4   Overall, students satisfied in this learning methodology.   They satisfied the most in learning material, instructor roles, and group process. This could be described when

implementing this learning methodology that instructor need to prepare the appropriate learning material in each activities, design the group processes, and provide the instruction role as facilitator to assist learners when they need assistances. Facilitator should observe them with proper distance and not disturb them when they find out the result.

Regarding to the satisfaction, instructor should not only provide objectives and details together clearly, but also the learning materials and learning processes to make their comfortable when doing the activity. This related to the lesson design and the related content. Then facilitator changes the role to facilitator to assist learners with positive reinforcement. As the facilitator role, facilitator should assist them , when learners need assistance without disturb the learning processes. This is the method to encourage them to do the group activities and make them satisfied which related to the study from Karin Scager, et.al. (2016).

By the way, Students in this study were not familiar with this kind of learning methodology. So they did not confident when doing the activity because activities and time management are the important. This refers to the study from Erica P. and Hanna N. (2021). Facilitator need to intervene and provide some consultants sometimes to manage the time.

6. Conclusion

Collaborative learning concept is one of methodology that can apply in the courses which contain the information technology content for a small group which conduct for university students effectively. Instructor should apply collaborative learning methodology to make student to be the center of learning. When design the lesson plan by using this methodology, instructor should prepare the appropriate content to apply. Instructor changes the roles to facilitator when running the activities. This learning method make learner satisfy in all stages and overall. Higher education instructors should encourage the group processes and provide the student-centered concept to students to make them familiar with this methodology.

7. Recommendation

As the results show that study only 1 group of students with separate unit of learning in traditional lecture (units 1, 3, and 5) and collaborative learning (units 2, and 4) cause of the limitation of students registered in this course. Researcher suggests that the further studies should divide students into 2 groups to study the same content with this methodology. This will help to find out for the power of this learning methodology. Furthermore, study about related factors will make researcher to know more about which key success factors that will reflect this methodology such as students' backgrounds, learning styles, and GPA.

The limitation of this implementation for this methodology is the number of students in the class. For further studies, if there are many students enrolling this course when divided to small

group, facilitator cannot efficiently observe and assist them on time when they need assistance. This will make students get loss in some situations or the stage of knowledge acquisition. Training for the trainer concept will assist course instructor. Course coordinator should provide the short course to make the effective facilitators from all teaching assistants. This should be one of solutions that can be solve this problem mentioned above.

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Improving Grade 3 Students' Vocabulary Knowledge
through Communicative Activities

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Abstract

Vocabulary is the most important part of learning a language. Learning English through communication activities gives students opportunities to use vocabulary in real situations and encourage students to memorize more words. The aims of this study were 1) to determine the efficiency of lesson plans using communicative activities to improve students' English vocabulary knowledge based on the criterion set at 75/75; 2) to study the effectiveness of using communicative activities to teach vocabulary for grade 3 students; 3) to investigate the students' satisfaction after learning vocabulary through communicative activities. The samples were 15 grade 3 students at Bannongnamkhun School, Pakham District, Buriram Province. They were selected using the purposive sampling technique.

The research instruments were 16 communicative activities lesson plans, achievement test (pre-test and post-test), and satisfaction questionnaire. The statistics used to analyze the data were percentage, mean, standard deviation and dependent samples   t-test. The findings revealed as follows:

1. The efficiency of lesson plans using communicative activities to improve English vocabulary knowledge of grade 3 students was 78.66/76.22 which was higher than the criterion set at 75/75.

2. The learning achievement of grade 3 students' post-test mean score was higher than pre-test mean score with statistically significant difference at .05 level in all three aspects, namely form, meaning an use of vocabulary knowledge.

3. The satisfaction of grade 3 students towards communicative activities to improve vocabulary knowledge was at the most satisfactory level.

Keywords : Communicative Activities, Vocabulary Knowledge, Students, Activities

1. Introduction

        English is an international language of communication, internet and media. It is widely used by people in many parts of the world. It has become an important language and it is one of the most helpful tools for international business, technology, science, politics, entertainment, travel industry and especially for various fields of education. Soares (2011; cited in Phisutthangkoon. 2012) mentions that the numbers of English speakers grow continually because knowing English increases more job opportunities for people who can speak the language. According to Vungsangoungij (2012), in South East Asia, English also becomes an important language for the ASEAN community. It is used to communicate between people in 10 ASEAN member countries. ASEAN countries use English language to work together to promote political, economic and security cooperation and to improve their countries in many ways such as technology, education, social progress, and regional peace.

        In Thailand, English is used as a foreign language but has a huge effect on Thai education. The Ministry of Education (2008) specifies listening, speaking, reading and writing as mentioned in the current core curriculum, students are required to focus on 4 English language skills from grade one to twelve but the ability of Thai students to communicate in English is increasing dramatically because students know a small number of vocabulary. Lack of vocabulary is a huge obstacle to learn a language. Nation (2001) states that the relationship between vocabulary and language is complementary: vocabulary knowledge facilitates language use and the use of language increases vocabulary knowledge.

        Vocabulary is the most crucial components of learning foreign languages; without abundant vocabulary, English learners cannot understand the texts and communicate with others. According to Harmer (2002), vocabulary is the core of language acquisition; he further suggests that if language structures make up the skeleton of language, then it is vocabulary that provides the vital organs and the flesh. Thornbury (2002) believes that if learners spend a great amount of time studying grammar, they will not be able to make much progress in their language learning, but learning more vocabulary and phrases will most help them improve as they can say very little with grammar, but they can almost communicate everything with words.

        Methods of teaching and learning English in many Thai schools adversely affect students' vocabulary learning. According to Sander (n.d.), many Thai schools use simple rote teaching methods which students must follow closely in order to receive a passing score making them accustomed to memorizing. Saengpakdeejit (2014) states that the obstacle which Thai learners have when learning English is a lack of comprehension of the meaning of words. Moreover, Dhanasobhon (2006) says that from the examination of English classes, several researchers have pointed to some of the main factors contributing to failures in teaching and learning English, such as lack of teacher qualifications and poor training, low motivation in students,

multi-talented learners in classes that are too large and few opportunities for students to experience English outside of school hours. Furthermore, young learners also have a very short time of concentration and interest in studying. Teaching in a way that students only learn, the teacher explains, or any other ways the student does not move at all makes the student bored and not interested in learning. Perhaps, students do activities that they do with friends, the students have fun and enjoy studying in that particular session.

Communicative activities should be considered to improve students' vocabulary knowledge and motivate students to learn language with positive attitude. Gower, et.al (2005) state that communicative activities focus on encouraging students to acquire foreign languages naturally. Students may be influenced by communicative activities to learn for real situations. Moreover, Oradee (2012) suggests that communicative activities support the environment of language learning by motivating students and building a strong connection between students and teachers. In addition, Phisutthangkoon (2012) says that communicative activities aim to deliberately promote communication with learners. In addition, the objective of students talking about the development of communicative activities is to connect the difference in knowledge and opinion and sharing real information with other students. According to Moss and Ross-Feldman (2003), communicative activities include any activities that encourage and require the learners to speak with and listen to other learners.

Grade 3 students at Bannongnamkhun School also have problems developing vocabulary. They neither remember the forms, meanings and uses of vocabulary nor communicate with them in real life situations. This research focuses on improving the vocabulary of grade 3 students by enhancing the students' desire to expand English vocabulary through communicative activities.

2. Research Objectives

This research consisted of three objectives:

2.1 To find out the efficiency of lesson plans communicative activities to improve students' English vocabulary knowledge based on the criterion set at 75/75;

2.2 To compare grade 3 students' learning achievement before and after learning vocabulary through communicative activities;

2.3 To investigate the students' satisfaction after learning vocabulary through communicative activities.

3. Research Methodology

3.1 Samples

The population and sample of this study were 15 grade 3 students who can learn on site at Bannongnamkhun School of Pakham District, under Buriram Province under Buriram Educational Service Area Office 3 who were studying in Fundamental English (EN12101) the first semester of the academic year 2021. They were selected by using purposive sampling.

3.2 Research Instruments

The research instruments consisted of 16 lesson plans of English vocabulary learning through the communicative activities, vocabulary achievement test (pre-test and post-test) and satisfaction questionnaire. The statistics used to analyze the quantitative data were percentage, mean, standard deviation, effectiveness index, IOC, reliability coefficient and a five-point Likert scale criteria.

3.3 The Construction of Research Instruments

The process of the research instruments' construction and determination of the instruments' quality is clarified as follows:

Lesson plans for using communicative activities to improve vocabulary knowledge

The 16 lesson plans consider 4 topics: Animals, Food, Action Verb and Adjective based on Basic Education Core Curriculum B.E. 2551 (A.D. 2008). Communicative activities used included; role play, describing and drawing, survey and hangman. Role play refers to the activity which students take on the roles and gestures of that person or animal. Describing and drawing refers to the activity in which students describe a picture and have their classmates trying to guess or draw what it is. Survey Activity refers to the activity where students explore the preferences of their peers in the class on a given topic. Hangman refers to a word guessing activity for two or more students where one student thinks of a word and the other attempts to guess by suggesting letters within the given number of guesses. In each lesson, only 3-4 words were presented in 1 hour. Suraswadi (1992) and Torat (1991) state that in each hour Vocabulary should be limited to 3-5 words and students should use these new words in the sentence structure that has been learned. The plans were validated by the experts with IOC value at 4.59. Next, then the lesson plans were administered to 15 students from one class of grade 4 students at Bannongnamkhun School, Pakham District, Buriram Province, who were not the samples in order to find out the weak points. After that, improved lesson plans before using with the samples. The researcher conducted the complete lesson plans for the samples. The mean scores of the lesson plans were set at 0.75-1.00 to estimate the efficiency of the lesson plan used through communicative activities.

Vocabulary Achievement Test

48 English words from 4 themes; animals, food, action verbs and adjectives were chosen to be included in Vocabulary Achievement Test. The test is edited and revised by the thesis advisors before being proposed by the experts in order to examine the validity, using the IOC formula. The test was validated by the experts with IOC value at 0.88. Only 30 multiple choice questions with three alternatives were chosen. The test is divided into 3 areas to measure knowledge: form, meaning and use.

Satisfaction Questionnaire

The questionnaire contained 10 statements based on the issue compiled from learning English vocabulary through communicative activities were designed in 5 point Likert scales. Each question item was calculated by utilizing Pearson's correlation coefficient formula to find out the discrimination power at 0.20-1.00 level. Coefficient alpha of Cronbach (a-Coefficient) (Srisa-ard. 2002) was used to found out the reliability coefficient of the questionnaire. The value was at 0.9.

3.4 Data Collection

The following were the procedures of data collection:

3.4.1 The researcher gave the specific directions to the students before the beginning of communicative activities class. The specific directions were explained to students about the communicative activities, teacher's role, students' role and assessment procedures.

3.4.2 The teacher gave out the pre-test to the samples. The test comprised 30 items with 3 multiple choices.

3.4.3 The researcher started teaching English vocabulary with the communicative activities, lesson plans and 16 teaching hours. Each lesson plan took up 1 hour under 4 topics including animals, food, action verb and adjective.

3.4.4 After the lessons, the post-test was used to evaluate students' vocabulary learning comprehension.

3.4.5 The students were asked to fill out the questionnaires focusing on their satisfaction after being taught via communicative activities. There were 16 hours.

3.5 Data Analysis

The sample was analyzed using the statistics as follows: the content validity of the pre-test, post-test and satisfaction questionnaire was examined by three experts and possessed the IOC of 0.67-1.00. Pre-test and Post-test scores were computed to find out the percentage, mean, and standard deviation. Dependent sample t-test is used to analyze the difference between pre-test and post-test mean scores. The scores obtained efficiency of process (E1) and the efficiency of the outcomes (E2). The data showing students' satisfaction toward learning English vocabulary through communicative activities were computed for mean and standard deviation.

4. Research Results

The results were presented according to the research objectives as follows:

4.1 The Efficiency of Lesson Plans Using Communicative Activities to Improve Vocabulary Learning of Grade 3 Students was shown in Table 1 below:

Table 1 Worksheet Scores of Vocabulary Learning Using Communicative Activities (Efficiency of the Process)

Sample (15 grade 3 students)	Worksheet Scores of Vocabulary Learning Using Communicative Activities (Efficiency of the Process)	Post-test (30 scores/ person)
	Total scores (800 scores/person)	
Total	9439	343
$\overline{x}$	629.27	22.87
S.D.	1.98	1.85
%	**78.66**	**76.22**

As shown in Table 1, the efficiency of the lesson plan was 78.66/76.22 which was higher than the criterion set at 75/75. It claims that students, who have learned English vocabulary through communicative activities, had received a total mean score from the worksheet scores at 78.66 and total mean scores from the vocabulary achievement test after learning through communicative activities at 76.22.

Table 2 A Comparison of the Difference between Pre-test and Post-test Mean Scores of English Vocabulary Achievement after Learning through Communicative Activities in Terms of Form

Form Test	n	Full score	$\overline{x}$	S.D.	t	p-value
Pre-test	15	10	5.73	1.10	6.99	.000***
Post-test	15	10	8.67	0.98		

As shown in Table 2, the pre-test mean score was 5.73, and the post-test mean score was 8.67. When comparing the pre-test and post-test mean scores by using dependent sample t-test, the results show that there was a statistically significant difference between the pre-test and the post-test mean scores in learning English vocabulary in terms of form at the significant level .05

Table 3 A comparison of Pre-test and Post-test Means Scores of English Vocabulary Learning through Communicate Activities of Grade 3 Students in Terms of Meaning

Meaning Test	n	Full score	$\overline{x}$	S.D.	t	p-value
Pre-test	15	10	3.60	2.26	6.41	.000***
Post-test	15	10	7.13	1.30		

From Table 3, the pre-test mean score was 3.60, and the post-test mean score was 7.13. When comparing the pre-test and post-test mean scores by using dependent samples t-test, the results show that there was a statistically significant difference between pre-test and post-test mean score in terms of meaning at .05 level.

Table 4 A Comparison of the Difference between Pre-test and Post-test Mean Scores of English Vocabulary Learning through Communicative Activities in Terms of Use

Use Test	n	Full score	$\overline{x}$	S.D.	t	p-value
Pre-test	15	10	4.67	1.18	6.00	.000***
Post-test	15	10	7.07	0.96		

As shown in Table 4.4, the pre-test mean score was 4.67, and the post-test mean score was 7.07. When comparing the pre-test and post-test mean scores by using dependent samples t-test, the result show that there was a statistically significant difference between the pre-test and the post-test mean scores in learning English vocabulary in terms of use through communicative activities of grade 3 students at .05 level.

Table 5 An overall Comparison of the Difference between Pre-test and Post-test Mean Scores of English Vocabulary Learning through Communicative Activities in Total

Use Test	n	Full score	$\overline{x}$	S.D.	t	p-value
Pre-test	15	10	4.67	1.18	6.00	.000***
Post-test	15	10	7.07	0.96		

As shown in Table 4.5, the pre-test mean score was 14.00, and the post-test mean score was 22.87. When comparing the pre-test and post-test mean score by using dependent sample t-test, the results showed that there was a statistically significant difference between grade 3 students pre-test and the post-test mean scores in learning English vocabulary through communicative activities at .05 level. According to the results of the three parts of the mean scores, these showed the best score in part 1, form. It means that the form is the easiest to do the test because the students only remembered the meanings in Thai language with English language.

Table 6 Students' Satisfaction in English Vocabulary Learning by Using Communicative Activities

Item	Statements	Level of Satisfaction		Meaning	Rank
		$\overline{X}$	S.D.		
1	I can remember English vocabulary better than before.	4.53	0.64	The most satisfactory	5
2	I can pronounce and spell the words correctly.	4.33	0.62	Moderate satisfactory	7
3	I can use the words with the right meaning.	4.47	0.64	Moderate satisfactory	6
4	Learning English through communicative activities makes it easy to understand the meaning of vocabulary.	4.53	0.64	The most satisfactory	5
5	I can use the vocabulary for communicating.	4.60	0.51	The most satisfactory	4
6	I enjoy learning vocabulary through communicative activities.	4.73	0.46	The most satisfactory	2
7	I feel more confidence to use English vocabulary after learning through communicative activities.	4.53	0.52	The most satisfactory	5
8	I am interested in learning through communicative activities.	4.67	0.49	The most satisfactory	3
9	I am motivated to learn English through communicative activities.	4.60	0.51	The most satisfactory	4
10	I enjoy participating in communicative activities class.	4.87	0.35	The most satisfactory	1
	Total	4.59	0.54	The most satisfactory	

As shown in Table 4.6 the finding, indicates that the students' satisfaction toward learning English vocabulary through communicative activities was at "the most satisfactory" level ($\overline{X}$= 4.59, S.D. = 0.54). When considering each item, it was found that the highest mean scores were item 10 "I enjoy participating in communicative activities class." ($\overline{X}$ = 4.87, S.D. = 0.35), respectively. In contrast, the lowest mean score which is at the moderate level was item 2 "I can pronounce and spell the words correctly." ($\overline{X}$= 4.33, S.D. = 0.62).

5. Discussion

    5.1 The Efficiency of Lesson Plan Using Communicative Activities to Improve Vocabulary

        The results showed that the efficiency of lesson plans of English vocabulary through communicative activities was 78.66/76.22, which was higher than the criterion set at 75/75. In addition, the efficiency of the outcomes was lower than the efficiency of the process because the worksheets were easier than the post-test. Moreover, the results presented the percentage of pre-test mean score at 46.89 and post-test score at 76.22. This showed the development of English vocabulary achievement after learning vocabulary through communicative activities at 29.33. The mean scores of pre-test at 14.07 while post-test at 22.87 showed the development at 8.8. The results revealed that the students' vocabulary learning post-test mean score was higher than the pre-test mean score with statistically significant difference at .05 level.

        The results of the study could be considered that the researcher revised the related literature. The communicative activities were settled step by step and properly. Furthermore, the advisors and the experts assessed the research instruments, provided comments, and made recommendations. Lastly, the communicative activities were trialed three times before employing with the samples. The research conducted the communicative activities following the concepts of many psychologists, such as Littlewood (1998), Richards (2006), Scrivener (2005) and Harmer (2007). They have claimed the communicative activities as an easy and effective way to encourage students to acquire languages. Activities that the students learned including role play, describing and drawing, survey and hangman, encouraged students to improve vocabulary knowledge. After learning through communicative activities, students could improve their English vocabulary knowledge. Moreover, communication activities encourage children to say the words more often to memorize vocabulary. The results were consistent with Vungsangoungij's (2012) study that students' ability in vocabulary was higher after learning through communicative activities. According to Littlewood (1998), Richards (2006), Scrivener (2005) and Harmer (2007), communicative activities can encourage more confidence and the ability to use language of students.

        The result confirmed with the previous research works, namely, Pojit (2004), Nanthaboot (2012) and Ali, et.al (2019) who developed and tested the effectiveness of the communicative activities method. The mean score of the class that was taught using communicative activities was higher than that without communicative activities. The results pointed out that there was significant effectiveness of communicative activities on students' vocabulary achievements.

5.2 Difference between the Pre-test and Post-test Mean Scores of Learning English Vocabulary through Communicative Activities

The findings revealed that the vocabulary learning achievement of post-test mean score was higher than the pre-test mean score of grade 3 students who learned English vocabulary through communicative activities with statistically significant difference at .05 level. This could be explained that the lessons constructed for improving English vocabulary through communicative activities of grade 3 students are effective since they were evaluated, edited, and revised by the thesis advisors and three experts. Moreover, the chosen communicative activities motivate them to learn a lot. Grade 3 students enjoyed learning vocabulary and involved in doing activities well. Therefore, learning English vocabulary through communicative activities motivates them to learn and to improve their vocabulary knowledge. It is consistent with Vungsangoungij (2012) and Suksamarn (2021). Vungsangoungij (2012) indicated that communicative activities had a greater impact on vocabulary acquisition and communicative activities technique emphasized comprehension by motivated students to remember words better as they do the activities because communicative activities is one of an effective vocabulary acquiring techniques.

5.3 Grade 3 Students' Satisfaction toward Learning English Vocabulary through Communicative Activities

The result showed that students' satisfaction toward learning English vocabulary through communicative activities was at the most satisfactory level. It could be said that the lessons were evaluated the quality by the experts on the correctness and appropriateness of the contents which are suitable for the level of students. Moreover, the students mentioned that communicative activities were not only useful for vocabulary knowledge but also made them enjoy learning vocabulary as seen in the satisfaction questionnaire item 4 "I enjoy participating in communicative activities class.", which is the highest mean score rated by them. Ochoa, et.al (2016) stated that communicative activities are motivating and students feel highly motivated when participating in communicative activities. In addition, the researcher assumes that it could be productive and beneficial to increase the students' mastery of vocabulary in an easy way. The use of communicative activities is expected to motivate the students to learn and engage in the English teaching-learning process. Also, the result was consistent with Vungsangoungij (2012) who investigated the communicative activities to teach new vocabulary, and showed that the students had positive attitudes towards using communicative activities.

6. Conclusion

Communicative activities is an effective teaching technique, which encourages students' learning achievement, motivation, and makes them more satisfied with this teaching method.

Moreover, it is important to raise student's awareness of vocabulary using communicative activities and support or empower them to apply more for their lifelong learning.

7. Recommendations

1 Pedagogical Implications

There are some pedagogical implications to using communicative activities in the suitable ways and from this study, the researcher made useful pedagogical implication as follows:

1.1 The teachers should encourage the weaker to participate in the activities by giving the responsibility in taking care of their friends in the group.

1.2 The teachers should provide extra lessons to the weaker learners in the classroom.

1.3 Teacher should encourage the students to find their ways of requiring comprehension vocabulary by using communicative activities such as, practicing vocabulary with the friends, learning English vocabulary in the contents, trying to use the vocabulary and applying their own pace.

2 Suggestions for the Future Research

2.1 The further researcher should use more materials for students to practice for to increase understanding.

2.2 Reviewing the outcome of learning through communicative activities with other variables such as levels of education, ages and attitude, etc. should be examined.

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Administration Psychology Model of University in Thailand

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Abstract

The purposes of this mixed quantitative and qualitative research were 1) to indicate administration psychology model 1. 2) to find the practice level of using administration methods and psychology methods model 2. 3) to find the correlation between administration methods and psychology methods model 3. 4) to find administration psychology model 4 that was developed and approved for the good practice model. The sample were 364 administrators from 28 universities all around the region of Thailand by cluster random sampling. Questionnaire with 5 levels 51 items with 5 rating scales reliability at .94 were used to collecting data. Statistical using to analyzes were mean, Person's product moment correlation and focus group for development and approved the administration psychology, good practice model we had found.

Summary of research finding: 1) the model 1 from qualitative research composed of administration methods 4 indicators and psychology methods 9 indicators. 2) the model 2 from quantitative research were remodel by rotated indicators in 2 major factors. 3) from the coefficient correlation we found the model 3 and rotated indicators in 2 major factors again. 4) from the focus group we found the model 4 with importance factors as follows. We found high correlation between administration methods and psychology methods. 76. The most three high correlation were administration methods: leading, planning and organizing and psychology methods: concreteness (love, trust, faith and justice), cultural empathy and confrontation.

Keywords : Psychology, Administration, University in Thailand

Blended Learning During Pandemic Corona Virus: Teachers' and Students' Perceptions at Chaiyaphum Rajabhut University

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Abstract

The pandemic coronavirus is forcing educational institutions to shift rapidly to distance and online learning. It forces teachers and students to apply blended learning even though they may not be ready to teach and learn in fully online contexts. Hence, this research aims to explore teachers' and students' perceptions at CPRU. This research was a qualitative design applying phenomenology. The technique of selecting participants was convenience sampling. The participants of this study consist of 16 graduate student and 3 In-Service Teachers at DCPRU. This study utilized semi-structured interviews as the single data collection method. The data collected were analyzed using thematic analysis. The result of this study covered two parts, namely the teachers' and students' perceptions. In terms of teachers' perception, the teachers reported some advantages regarding blended learning such as effective learning, autonomous learning and easy to use. However, there were challenges for the teachers in teaching through blended learning such as poor internet connection, time-consuming, and less experience.On the contrary, regarding students' perceptions, students also reported benefits the blended learning like flexible learning, motivation, interaction, and improving their ICT skills. In addition, poor internet connection and incomprehensible materials were considered as the problem that hampers their learning.

Keywords : Blended Learning, Corona Virus, Perceptions

1. Introduction

At the end of 2019, an epidemic occurred in China which is caused by a new strain of the corona virus 2019: COVID 19 This disease has flu-like symptoms but with more severe symptoms, and easier to spread. Some patients may have severe pneumonia to the death. And then the disease spread quickly. The government announced that education institutions at all levels should stop education to prevent the spread of the disease. All this has led the government to implement mammoth measures. Great efforts are in place to ensure social and physical distancing by convincing the public to stay at home. These endeavors are primarily directed to break the infection chain and ensure a reduced burden on the civic-health machinery. While the onus of all

the trouble was laid on the medical facilities, the changes that have been adopted are massive. This has resulted in subsequent commercial and communal defeats. The consequential fiscal and communal exercise of social distancing has led to some major policy changes in the functioning of higher education guided towards "online pivot". For the first time in the history of the Thailand education system, there has been a shift from a face-to-face teaching model to a completely online one. The extensive use of digital media is in place. Teachers across the section of the society variably or invariably have had to quickly get used to the online mode of teaching guided towards a digital mindset. The student community is also deeply affected. They have had to let go of their campus life, stay indoors, and attend online classes. Some researchers believe that students who adopt an online learning mode are slightly more receptive than those who "prefer to learn in a traditional face-to-face environment." However, some other researchers proved that the blended teaching mode yields the best results (Means et al., 2013). The teaching community remains cynical about the success of online teaching and learning pattern. A study conducted on complete reliance on online mode of teaching based on the Technology Acceptance Model has revealed that students and faculty share common concerns regarding the availability of the Internet, student-teacher engagement, and incessant workload (Renumas, 2016 : 169-176)

With a global health crisis in process, the world has begun to look at the future considerations of the present scenario. Reopening of educational institutions is highly unpredictable and hence, blended learning will become the future of educational society. Post pandemic with the opening of educational institutes, especially schools, blended learning will be important to priorities the health and wellbeing of not only students but teachers as well.

Blended learning, in the traditional sense, combines in-person teacher-student interactions with online learning tools to support overall instruction for both the teacher and student. And with the widespread use of technology in teaching and learning, there are numerous ways to approach blended learning today. Blended learning for our program is a combination of digital learning, which can be accessed anywhere the student has internet access, 24 hours a day, seven days a week; face-to-face instruction with a certified instructor; and project-based community-service learning activities. Combining all of this with a staff who is persistent in making sure students visualize the goal of completing high school and beyond, there is no justification for students being left behind. Students are attracted to this model because they can work at their own pace while having teachers on hand to give guidance in the areas that they need help, and they can give back to the community. Students receive grades based on a combination of their completion of coursework through the digital learning system and lessons teachers create based on standards addressed in the school-based projects. We have developed a curriculum framework around five elements that are the foundation of our blended learning model. The most energizing

aspect of this framework is that teachers have the autonomy to take risks and be as innovative as they can think to be.

The present situation (of the year 2021) in the world demands teachers and educators to adopt blended learning teaching practices. These practices will not just be for teaching but also for learning. Hence, a blended learning approach for professional growth of school teachers would be recommended where social norms laid by the government are also considered.

Blended learning being one of the approaches suggested where online and offline strategies can be used together for teaching-learning along with following social distancing norms like work from home, avoiding gathering. Blended learning is a model that implements an online and offline approach to teaching and learning with help of technology which will make the learning process more enhanced and will help in catering to a wide audience especially to those who wish to attend but can't due to geographical distance. This is what will make blended learning a viable model post COVID-19 pandemic (Education Trends, 2020). For blended learning to work, all learners would need to have the technology and connectivity they need. The teachers have now become learners where they are striving hard to adapt to the new teaching-learning pedagogies in order to help education prosper. The institutions conducting professional growth programs for teachers will have to evaluate and adjust their methodologies and curriculums for a blended learning environment that would be flexible. In conclusion blended learning has some face-to-face class meetings, on hand, on demand, and some class sessions are replaced with online learning.

The perceptions of blended learning as media learning have been investigated in previous studies. There are some positive perceptions of blended learning, such as useful, helpful, efficient, motivated, satisfied, and flexible. However, some researchers who conducted a study of blended learning found negative perceptions, namely network problems, low skill to use technology, and waste of time.

In line with the statement above, the current study is interested in knowing the use of blended learning towards teachers and students more detail. In addition, there are still limited perceptions about the implementation of blended learning affected by the corona virus, especially in Chaiyaphum Province Thailand. Therefore, to fill the gap, the current study formulates the research question as follows: (a) What are the teachers' perceptions of blended learning during corona virus pandemic? (b) What are the students' perceptions of blended learning during corona virus pandemic?

2. Research Objective

This research aims to explore teachers' and students' perceptions to used Blended Learning During Pandemic Corona Virus at Chaiyaphum Rajabhat University.

3. Research Methodology

This research were a qualitative research design and employed phenomenology design. There are 19 participants of this study that consisted of 16 graduate students practice teaching professional experience from the second semester who were enrolled in the Internship in Professional of Teaching and 3 In-Service Teachers at DCPRU. The reason of choosing this university because it applied blended learning as concepts in a learning environment. Furthermore, convenience sampling was used as the technique of selecting participants. It is recommended because easy participation was based on their availability without any specific criteria (Given, 2008 : 59-60). In gathering the data information, an interview used as a method in this research. Participants interviewed in a semi-structured about their perceptions of blended learning during pandemic corona virus.

For data analysis, thematic analysis was used to analyze the results of data collection. This analysis is a concept in a qualitative data collection strategy based on segmentation, category, summary, and reconstruction that have been a reduction (Given, 2008). Data interviews from participants' was transcribed and then labeled as the themes of the data.

4. Research Results

To explore the teachers' and students` perceptions of blended learning during pandemic corona virus, the current study used semi-structured interviews to collect the data with 3 lecturers and 16 graduate students as respondents. Their responses in the interview would be categorized and then built into themes.

1. Teachers' perceptions of blended learning

Based on teachers' responses in the semi-structural interview, it showed that they had the same main points about blended learning, which can be described in two categories: advantages of blended learning and challenges in blended learning.

1.1 Advantages of blended learning: Effective learning

When the teachers were asked whether blended learning effective during pandemic corona virus, teachers commented that blended learning was more effective in teaching during pandemic corona virus. Teacher 1 mentioned that "*Before corona, it was not very effective, especially in my class. Meanwhile during this pandemic corona, it is more effective. To be honest, blended learning is more effective during the pandemic corona*". Similarly, teacher 2 commented that "*In the current conditions, it is helpful and useful to preventing the transmission of covid. It is*

effective because it can create discussion forums in the LMS. I can teach by using video. Then, I can also add assignments". Furthermore, blended learning also helped teachers in teaching because of its flexibility. Teacher 3 said that "*sometimes, if any of my students are sick, they can still learn in my class"*.

When asked about whether they understood the use of blended learning, all interviewees said that they understood the use of blended learning. This was due to the training that campus is often held on understanding the use of technology for teachers. Teacher 1 said that "*it is enough because it is supported by the existence of the LMS and the frequent trainings that are held"*. Similarly, teacher 2 commented that "*actually, I had known how to use it"*. Furthermore, teacher 3 mentioned that "*.... yesterday there was a training from campus but I didn't participate. I am sure that I can learn on my own, and I think I can, even though if I study alone"*.

1.2 Challenges in blended learning

Meanwhile, they also mentioned some challenges to deal with when applied blended learning, such as poor internet connection, time consuming, and less of experiences.

1.2.1 Poor internet connection

When the teachers were interviewed whether the main challenge in teaching using blended learning, 2 interviewees stated that problem network was the main challenge in teaching using blended learning. Teacher 1 said that "*the network is a major challenge. Most of the students complain about the network, such as no network or bad network. Especially for synchronous is difficult, such as zoom applications, because it requires many internet data"*. Similarly, teacher 3 mentioned that "*the problem is when there is miscommunication between the teacher and the student. Sometimes, the one has problems is the student. When we want to present learning, they are inactive due to network problems"*.

1.2.2 Time consuming

When asked about whether they felt they were spending more time with the blended learning system, all interviewees stated that they need more time to arrange the materials. Teacher 1 commented that "*in my opinion, online learning, takes more time than if we teach offline, because there are many preparations that I assume should have unique materials and creative learning"*. Furthermore, teacher 3 said that "*for obstacles, need more preparation. If online, I have to prepare a special time to make a PowerPoint, then record myself for make teaching videos"*.

1.2.3 Lack of experiences

When interviewed the other challenges whether there are still challenges other than network problems in teaching using blended learning, 1 interviewees revealed there are still challenges in teaching using blended learning, such as lack of motivation and lack of skill to create interesting material. Teacher 2 stated that "*in my reason for the LMS, I have not fully*

mastered it, due to factors from myself who do not always practice it". Another reason also revealed by teacher 3 said that "*for me, there are still challenges. The challenge is to create interesting content, the challenge to make students really to understand what we teach, and making easy material for students to understand because online and face-to-face are very different*".

2. Students' perceptions of blended learning

The students' responses in the results interview showed that they also had the same main points about blended learning, which can be described in two categories: advantages of blended learning and challenges in blended learning.

2.1 Advantages of blended learning

These blended learning advantages were divided into four themes: flexibility, motivation, interaction, and improving ICT skills.

2.1.1 flexibility

When asked about whether this blended learning was useful for learning during pandemic coronavirus, 5 students responded that blended learning offered flexibility. They could be complete the materials wherever and whenever they wanted to. Student 1 stated that "actually this blended learning has been helpful for me because we can complete assignments anywhere and anytime. The term is flexible because we can manage the time in studying". Similarly, student 2 also commented in the following extract below:

"*In my opinion, it is good because making easier for me to do my assignments. For example, when a lecturer gives an assignment and collected on that day, we can do and send assignments on that day. Honestly, it helps because we can manage time to study and do assignments*".

Moreover, student 3 mentioned that "*it is useful because if we get assignments from lecturer, there is no need to bother coming to campus to collected assignments. With online, assignments can be collected quickly. I feel this effect during corona*". Furthermore, student 7 said that "*in my point of view, it is flexible because if there is an assignment, we can immediately to know the deadline. Therefore, we can manage time to do assignments*". In addition, student 9 also revealed that

"*For me, it is useful because sometimes the lecturers and students do not have time to face-to-face during corona, therefore online learning is a solution to replace the face-to-face class. In addition, it can also reduce additional costs such as paper printing and transportation costs*".

2.1.2 Motivation

When asked about whether they felt motivated in learning with the blended learning system, 5 interviewees revealed that they were motivated when they had some learning problems by using blended learning. They felt that it was challenging learning, especially when

they did not understand the material had been taught. Student 1 said that "*if the class is online, we are required to learn autonomously, therefore, my knowledge will be automatically increase because of the existence of technology as a learning tool*". Similarly, student 2 commented that "*it can motivate me because I can practice to learn autonomously. For example, when I don't know the discussion of the material, I can use google to find out the difficult materials in learning*". Furthermore, student 13 mentioned that "*personally, it motivate me to study because if I don't understand the material, I can find out by browsing the internet*".

Moreover, student 14 stated that "*I motivated because we are learning online, so automatically the material provided by the lecturer is not always sufficient. Therefore, sometimes I usually ask friends or open google if there is material that is difficult*". In addition, student 16 argued that "*I mostly search the internet if there is material that is not understood*".

2.1.3 Interaction

When asked about whether blended learning could facilitate their interaction with other students, 7 interviewees said that they could have social interaction even though they are distance. They also reported that it could help them in sharing knowledge. Student 11 reported that "*I feel my interactions with my friends because most of the lecturers direct us to doing group assignments, so automatically there will be more communication interactions with friends*". Moreover, student 12 commented that "*sometimes when we have assignments, I usually communicate with my friends when I have difficulties both in doing assignments and learning materials*". Similarly, student 13 mentioned that "*if we have assignments in online, I usually communicate with my friends and sometimes discuss with each friends via WhatsApp*".

Furthermore, student 15 said that "*if I don't understand the material given by lecturer, sometimes I ask friends who understand the material, so I think my interactions with friends are active*". In addition, student 16 also revealed that "*if I don't understand the material provided by the lecturer, I usually ask my friends via WhatsApp and also ask for he/she assignments that have been done*".

2.1.4 Improving ICT skill

Students were also asked whether the blended learning system could improve their ICT skills, all of the interviewees had the same opinion about increasing their ICT skills. Student 3 said that "*with this blended learning, I can operate the computer better wherever and whenever I am, especially the most influential one is setting the features of the zoom meeting application*". Student 5 also said that

"*Something related to online, I directly practice the features. For example, when in the early pandemic of corona, I was still unfamiliar with the zoom application, but because I often practiced myself, I finally knew how to operate the zoom application*".

Similarly, students 8 mentioned that "*improving my ICT's abilities. For example, I previously didn't know how to use technology such as zoom, google, and others. Personally, there is an increase because when I use technology, because I practice it*". Additionally, student 9 also commented that "*for ICT, there are improving regarding using the application. Like how to make a room in the zoom application and using google drive. I had never learned it before blended learning applied*".

2.2 Challenges in blended learning

Some students also reported that they also had some challenges dealing with learning by using blended learning, such as internet connection and incomprehensible materials.

2.2.1 Poor internet connection

When the students asked about whether there are challenges when learning with a blended learning system, 3 students answered that poor internet connection is a major barrier when learning online during pandemic coronavirus. Student 1 argued that "since covid, internet access, especially in my village, has been difficult, so I am usually to be late for online learning". Similarly, student 12 stated that "the network problem is very influential too because not all friends have a good network, including myself, who have difficulty getting a good network when in the village". Moreover, student 17 also said that "I usually have problems on the network because that is the main factor for me. Usually, when there is a course in the zoom, my connection often breaks".

2.2.2 Incomprehensible materials

The students were also asked if there were other challenges when learning with blended learning besides a bad internet connection, 2 students answered that they did not understand the material when studying online. They preferred face-to-face learning to online learning because they can interact directly with the teacher. Student 2 revealed that "personally, I better understand the material when learning full offline because I can ask questions directly to the lecturer compared to online learning that sometimes have problems on the network". Similarly, student 6 also commented that "if understanding the material, I prefer it to be full offline because I am immediately understands when the lecturer explains it"

5. Discussion

1. Teachers' perceptions

The current study found that teachers' perceptions of blended learning could be categorized into two aspects, namely advantages and challenges in teaching using blended learning. The teachers pointed out some advantages of blended learning, such as effective learning, autonomous learning, and easy to use. In terms of effective learning which as the main point in the advantages of blended learning, two of three teachers said that blended learning

helped them in providing learning material to students because of its flexibility. In other words, teachers could carry out teaching activities online wherever and whenever they want. This is also supported by Aldosemani, Shepherd, & Bolliger (2019, p. 341-352) research which stated that learning with the blended learning system could provide easy, real-time, and flexible access to the material. Furthermore, in terms of autonomous learning, most of the teachers argued that it could increase students' autonomously in learning with this blended learning system. This aligns with Kosar (2016, 736-744); Mohsen and Shafeeq (2014, 108-118) research which concluded that blended learning as a learning environment could make students more autonomously than face-to-face and improved students' motivation to learn a lesson.

In addition, the last advantage of blended learning is easy to use. Most of the teachers stated that they have known the features of blended learning. This is supported by frequent trainings on how to use and apply blended learning. In this regard, this is related to the research of Aldosemani, Shepherd, and Bolliger (2019 : 341-352) which stated that most of the teachers understood the role of teaching through blended learning.

The teachers also mentioned some challenges in implementing blended learning, such as poor internet connection, time consuming, and less experience. Poor internet connection was a significant problem for teachers when teaching with blended learning because not all students have a good network. In relation with this problem, Kosar (2016 : 736-744) stated that not all students have access to an internet connection.

The last problem reported by the teacher was the lack of experience in implementing blended learning. Two of three teachers stated that other challenges in blended learning lack of motivation, which caused teachers to be less proficient in applying blended learning, and a lack of making interesting material, which caused students to feel bored and inactive when they learning.

2. Students' perceptions

Based on the results of student interviews, it is known that most students mentioned that blended learning also has advantages and challenges in learning. Students reported several advantages, such as flexible, interactive, motivated, and improved ICT skills. However, some students also reported that blended learning also had challenges such as poor internet connection and incomprehensible of the material being taught. In terms of advantages such as flexibility, most of the students commented this was very useful for students in their learning during the corona virus pandemic. In other words, they can follow the learning if they are connected to an internet connection.

In addition, students are also motivated to learn when they have difficulty understanding the material. In line with Warman (2018 : 36) research, he summarized that blended learning are

useful, helpful, and practical ways to help students learn English. He also stated that it could improve student motivation in the learning environment.

Another advantage of blended learning is increased interaction between students. Most of students said that blended learning made student interaction with other students increased. The last advantage of blended learning is the increase in students' ICT skills. Students reported that there was a significant increase in their ICT skills during blended learning. This is also related to the research of Rombe (2014 : 105-106), which concluded that blended learning could improve students' computer and internet skills.

Another problem that students face in blended learning was incomprehensible materials. Three of nine students commented that online learning with the blended learning system made them not interested, and making them not understood the material. One of the factors that influence it was the absence of teacher feedback on students.

6. Conclusion

This study yields several findings. First, teachers perceived that blended learning has some advantages; effective learning, autonomous learning, and easy to use. Meanwhile, they also mentioned some challenges to deal with when applied blended learning, they are poor internet connection, time consuming, and less of experiences. Second, students perceived that the implementations of blended learning are flexible, motivated, interactive, and improved ICT skills. Nevertheless, some of them reported that they also had some challenges dealing with learning by using blended learning, such as internet connection and incomprehensible materials.

Despite these findings, this study has several limitations. First, the data collection method only used an interview instrument. Second, there is still a lack of participants to explore more profound perceptions of blended learning. Apart from these limitations, this study can contribute to the literature on blended learning during the corona virus pandemic. Besides that, it can also make practical contributions for teachers and educators to design blended learning by considering this study's findings. In addition, for further research can investigate the implementation of blended learning on a large scale. It is also suggested to probe deeper into the perceptions seen by teachers and students by using an instrument questionnaire and observation.

7. Recommendation

7.1 Schools should enact policies for coordinated training, encouragement of content development, knowledge sharing sessions and managing best teaching practices.

7.2 Teachers should develop an integrated learning management design that looks like a combination of concept, learning processes, advanced thinking skills, technological skills, and

desirable attributes can be integrated into ideas that are combined in the same or different learning materials. And organize activities for learners to apply in everyday life.

7.3 In the further study Once COVID has become an endemic disease, it is worth studying the comparative between blended learning and traditional learning.

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A Synthesis Study of Assessing Learners' Pragmatic Competence

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Abstract

This study aimed to synthesize the instruments and components used in assessing learners' pragmatic competence. The data were collected by compiling 20 domestic and international academic documents and research articles. The data were then analyzed and summarized according to the frequency distribution synthesis table. The findings revealed that the instruments used for assessing learners' pragmatic competence consisted of Written Discourse Completion Task (WDCT), Multiple-Choice Discourse Completion Task (MDCT), Oral Discourse Completion Task (ODCT), Discourse Role-Play Task (DRPT), Discourse Self-Assessment Task (DSAT), and Role-Play Self-Assessment (RPSA). In addition, the components used in assessing learners' pragmatic competence were speech acts, implicatures, routines, and presuppositions.

Keywords : Synthesis Study, Pragmatic Competence, Pragmatic Assessment

1. Introduction

Pragmatic is a subfield of linguistics. It studies speaker meaning and concerns the meaning communicated by a speaker and interpreted by a listener. The term "Pragmatic" was initially placed by Morris (1938). Levinson (1983) mentions that pragmatic is the term used to study linguistic features between context or user and language. Crystal (1985) also defines pragmatics as the study of language from users' point of view, especially of their choices, the constraints they encounter in using language in social interaction, and the effects of their use of language. There are many kinds of pragmatic: deixis and distance, reference and inreference, presupposition and entailment, cooperation and implicature, speech acts and events, politeness and interaction, conversation and preference structure, and discourse and culture (Yule, 2000). However, pragmatic have developed and related to sociolinguistics and other subdisciplines. Currently, this term is extensively used in second and foreign language acquisition and teaching

to create learners' ability to communicate appropriately in a given target language and culture. The language testing services then have focused on the tests that could measure the learners' communicative ability called pragmatic competence.

The idea of pragmatic competence can be drawn back to linguistic competence proposed by Chomsky (1965), which refers to linguistic knowledge or underlying grammar of language users. Later, he acknowledged the intention of language use and proposed the concept of pragmatic competence as the ability to understand how language relates to the context in which it is used (Chomsky, 1980). Canale and Swain (1980) comprise pragmatic competence as a critical component of their model of communicative competence. They also identify pragmatic competence as sociolinguistic competence and the knowledge of contextually appropriate language use in their model. Similarly, Bachman (1990) suggests that communicative competence consists of two interactive components. They are organizational competence to account for grammatical knowledge and pragmatic competence to account for the capacity in implementing contextualized communicative language use. According to Bialystok (1993), pragmatic competence involves 1) the speaker's ability in using language for different purposes; 2) the listeners' ability in getting past the language to understand the speakers' actual intentions; and 3) the command of the rules that the utterances come together to create discourse. It is argued that pragmatic competence plays a vital role in making linguistic communication successful. Therefore, it is essential to pay much more attention to the development of pragmatic competence to avoid pragmatic failure in communication.

It is undeniable to consider pragmatic failure when evaluating pragmatic competence or performance. Thomas (1983) has identified pragmatic failure as the inability to understand what is meant by what is said; a hearer perceives the speaker's utterance as different than what the speaker intended should be perceived. The term "pragmatic failure" is chosen instead of "pragmatic error," unlike grammatical errors, which can be judged according to prescriptive rules. Pragmatic competence entails probable rather than definite rules. Therefore, it is impossible to say that the pragmatic force of an utterance is wrong, but rather it failed to achieve the speaker's purpose. Pragmatic failures can identify into two kinds as pragmalinguistic failure and sociolinguistic failure. Pragmalinguisitc failure is a linguistic problem resulting from the differences in the linguistic interpretation of pragmatic force. In contrast, sociopragmatic failure occurs from the cross-cultural differences in perceptions related to appropriate linguistic behavior (Thomas, 1983). As pragmatic failure can often lead to misunderstanding or confusion in cross-cultural communication, thus it is crucial to encourage students' pragmatic competence in ELT classrooms. Pragmatic competence can be developed effectively if proper strategies are adopted.

In developing pragmatic competence to avoid any pragmatic failure, pragmatic assessment is involved. Pragmatics assessments mainly have focused on one or the other aspects

of pragmatic competence. They oriented toward the testing appropriateness in the context of social relationships (sociopragmatic) and the linguistic testing forms necessary to achieve communicatively (pragmatic linguistic) (Bardovi-Harling, 1999).

This study tries to understand the instruments and components in assessing learners' pragmatic competence. In particular, the study results will be beneficial to teachers, textbook writers, and curriculum designers. The results can also be used as guidelines for developing the tools for measuring learners' pragmatic competence. Moreover, it may be helpful in future research in the field of pragmatic competence.

2. Research Objective

The research objective was to synthesize the instruments and components in assessing learners' pragmatic competence.

3. Research Methodology

3.1 Data Source

This study synthesized relevant academic documents and research articles on the instruments and components in assessing learners' pragmatic competence.
In addition, the researcher studied 20 relevant academic documents and research articles collected from domestic and international articles published from 2012 to 2021.

3.2 Data Analysis

The data were analyzed by the content analysis method. The data were then categorized into critical issues according to the components and instruments used in assessing learners' pragmatic competence. After that, the data were brought together by using the frequency distribution synthesis table.

4. Research Results

This research synthesized the instruments and components used in assessing learners' pragmatic competence. According to the document analysis form synthesized, the results were presented as follows:

4.1 Instruments in Assessing Learners' Pragmatic Competence

The instruments reviewed from 20 domestic and international research articles in assessing learners' pragmatic competence are shown in Table 1.

Table 1 Instruments in Assessing Learners' Pragmatic Competence

Instruments	Su (2021)	Bi (2021)	Derakhshan & Malmir (2021)	Lv et al. (2021)	Derakhshan et al. (2021)	Al-Khadhmi et al. (2021)	Joyce (2021)	Chang & Ren (2020)	Youn (2020)	Sell et al. (2019)	Zhang et al. (2019)	Bachelor (2018)	Masjedi & Paramasivam (2018)	Taghizadeh (2017)	Xu & Wannaruk (2016)	Al-Ervani (2016)	Rajabia et al. (2015)	Ziafar & Maftoon (2015)	Ifantidou (2013)	Liu (2012)	Frequency	Percentage	Rank
WDCT				/	/			/	/	/	/	/	/	/	/	/			/		11	45.84	1
MDCT			/	/	/								/					/		/	6	25.00	2
ODCT						/						/									2	8.33	4
DRPT	/	/	/						/									/			5	20.83	3
DSAT																					-	-	
RPSA																					-	-	
Total																					24	100.00	

As shown in Table 1, it could be explained that four instruments were employed in this study. The result also informs that the highest instrument was Written Discourse Completion Task (WDCT) (f=13, 23.65%), followed by Multiple-Choice Discourse Completion Task (MDCT) (f=10, 18.18%), and Discourse Role-Play Task (DRPT) (f=7, 12.74%), respectively. However, Discourse Self-Assessment Task (DSAT) and Role-Play Self-Assessment (RPSA) were not found.

Assessing pragmatic competence has made significant progress in the past decades since Hudson, Detmer, and Brown's pioneering project, demonstrating the use of various test tasks and expanding the range of measurable features of pragmatics. Hudson, Detmer, and Brown (1992, 1995) pointed out that the criteria for developing pragmatics competence tests concern the different testing methods, speech acts, and contextual conditions. So, they developed six prototype pragmatics test instruments for assessing pragmatic competence. These instruments are listed below, and they were surveyed in this study.

1. Written Discourse Completion Task (WDCT) or Open Discourse Completion Test (OPDCT), this instrument requires the test-takers to read a situation description and write what they would say next in the situation.

2. Multiple-Choice Discourse Completion Task (MDCT), this instrument asks the test-takers to read a written description of a situation and then select what would be best to say next in that situation.

3. Oral Discourse Completion Task (ODCT) or Listening Laboratory Production Test) this instrument invites the test-takers to listen to a recorded description of a situation and then record what they would say next in that situation.

4. Discourse Role-Play Task (DRPT) or Role-Play test (RP), this instrument encourages the test-takers to read a description of a situation and then play a particular role with another person in that situation.

5. Discourse Self-Assessment Task (DSAT) or Self-Assessment Test (SA), this instrument requires the test-takers to read a written description of a situation and then rate their own pragmatic ability to respond pragmatically correctly in the case.

6. Role-Play Self-Assessment (RPSA), this instrument asks the test-takers to rate their pragmatics performance based on a previously recorded audio- or videotaped role-play.

McNamara and Roever (2006) pointed out that the DCTs are attractive because they "elicit something akin to real-world speech act performance and because they are still somewhat practical despite the need for rating at least they can be administered to large numbers of test-takers at the same time." However, Discourse Role-Play Task (DRPT) is more similar to real-life speech situations than DCTs. Furthermore, these six analytical rating criteria were used to measure pragmatics competence in the ability to use the correct speech act and overall politeness level.

4.2 Components in Assessing Learners' Pragmatic Competence

The components obtained from 20 domestic and international research articles in assessing learners' pragmatic competence are shown in Table 2 below.

Table 2 Components in Assessing Learners' Pragmatic Competence

Aspects of Pragmatic Competence	Su (2021)	Bi (2021)	Derakhshan & Malmir (2021)	Lv et al. (2021)	Derakhshan et al. (2021)	Al-Khadhmi et al. (2021)	Joyce (2021)	Chana & Ren (2020)	Youn (2020)	Sell et al. (2019)	Zhang et al. (2019)	Bachelor (2018)	Masiedi & Paramasivam (2018)	Taghizadeh (2017)	Xu & Wannaruk (2016)	Al-Eryani (2016)	Rajabia et al. (2015)	Ziafar & Maftoon (2015)	Ifantidou (2013)	Liu (2012)	Frequency	Percentage	Rank
Routine			/															/		/	3	5.46	
Implicatures														/				/		/	3	5.46	
Presuppositions														/							1	1.81	
Speech acts of																							
Offer	/																				1	1.81	
Invitation	/																				1	1.81	
Request		/	/		/		/		/	/	/	/			/	/	/	/		/	13	23.65	1
Apology			/		/				/					/			/	/	/		7	12.74	3
Refusal		/	/	/	/	/			/	/		/			/		/				10	18.18	2
Advice											/			/							2	3.65	
Gratitude														/							1	1.81	
Greeting														/							1	1.81	
congratulation														/							1	1.81	
Inquiry														/							1	1.81	
Compliment			/											/				/			3	5.46	
Compliment-response			/											/							2	3.65	
Complaint			/								/		/								3	5.46	
Suggestion																		/			1	1.81	
Thanking																		/			1	1.81	
Total																					55	100.00	

Table 2 revealed four aspects of pragmatic competence with 55 topics in total. The results also reported that the highest issue was the speech act of request (f=13, 23.65%), followed by speech act of refusal (f=10, 18.18%) and speech act of apology (f=7, 12.74%), respectively.

It can be seen that the components in some aspects of pragmatic competence were frequently studied. As shown in Table 1, there were speech act, implicature, routine, and presupposition.

1. Speech act is one of the most frequently studied objects of interlanguage pragmatics. The term speech acts were invented by philosopher Austin (1962) and have developed by Searle (1969). They have identified speech acts as a valid topic in pragmatics, which presented the thought in linguistics that humans act out while speaking; in short, when speakers say something, they do something simultaneously. Speech acts are the principal in daily communication (Mitchell, 2007). Green (2007) connects speech acts and semantic content, grammatical mood, speaker-meaning, logically perfect languages, perlocutions, performatives, presuppositions, and implicature, found the ecological niche of speech acts is situated easily. Communications often start with a request since it is a face-threatening act (Achiba, 2003). Likewise, the apology is a face-saving act for the hearer and a face-threatening act for the speaker (Olshtain, 1989). There are various strategies in speech acts found in assessing pragmatic competence research such as requesting, apology, refusal, advice, gratitude, greeting, congratulation, inquiry, compliment response, complaints, suggesting, thanking, offering, inviting, etc.

2. Implicature is a phenomenon that the speaker says is not what he means in communications. The speakers' intention communication might be far richer than what they utter directly (He, 2003). Grice (1975) characterizes conventional implicature and conversational implicature. In conventional implicature, the inferences are based on the conventional meanings of lexical items with no influence on the context. On the other hand, the inferences of conversational implicature strongly rely on context features. Also, conversational principles are assumed to be shared mutually in conversational implicature.

3. Routine is conventionalized pre-patterned expressions whose occurrence is highly context-dependent (Coulmas, 1981). Pragmatic routines realize in specific social contexts that members of a particular speech community share. Rover (2005) divides routines into situational routines and functional routines. Situational routines are limited in their appropriate occurrence to fulfill situational conditions. In contrast, the occurrence of functional routines is with a wide variety of situations and allows variation in context conditions. One central function of functional routines is to serve as part of speech acts to manage discourse and conversations.

4. Presupposition is something the speaker assumes to be the case before making an utterance (Yule, 2000). Pragmatic presuppositions include the preconditions for linguistic interaction, the norms of turn-taking in dialogue, and more particularized information about

conversational plans and goals. The most precise instances of pragmatic presuppositions are those that cannot easily be traced to specific words or phrases but instead seem to arise from more general properties of the context and the expectations of the discourse participants (Stalnaker, 1970, 1973).

5. Discussions

A pragmatic competence assessment is a procedure or task that leads the learners to process sequences of elements in a particular language considering the normal contextual constraints of that language (Oller, 1979). This section discusses the research results on instruments and components in assessing learners' pragmatic competence.

The results indicated the main instruments employed in this study were the Discourse Completion Tasks (DCTs). DCTs are attractive because they elicit real-world speech act performance (McNamara, & Roever, 2006). The WDCT requires the learners to read a situation description and write what they would say next to produce a particular language considering the normal contextual constraints (Hudson et al., 1995; Oller, 1979). Similarly, the MDCT invites the learners to read a written description and then select what would be best to say next in that situation. This instrument can be administered to large numbers of learners simultaneously. Furthermore, Discourse Role-Play Task (DRPT), compared to DCTs, are more like real-life speech situations (McNamara, & Roever, 2006). However, assessing learners' pragmatics competence is still in the research and development phase; as a result, reported that the Discourse Self-Assessment Task (DSAT) and Role-Play Self-Assessment (RPSA) were not found.

The result also revealed that the major components focused on the speech acts. This is because speech acts are the daily communication principle (Mitchell, 2007), and the ecological niche speech acts are situated easily (Green, 2007). Speech acts of request, refusal, and apology were found at a high rank. A request has been the most frequently researched in second language studies. Communications often start with a request since it is a face-threatening act (Achiba, 2003). A refusal is also a face-threatening act to the listener because it denies the expectations and is often realized through indirect strategies. Likewise, an apology is a face-saving act for the hearer and a face-threatening act for the speaker. Thus, these kinds of speech acts require a high level of pragmatic competence (Chen, 1996; Olshtain, 1989).

6. Conclusion

Assessing language proficiency should be correlated with grammatical knowledge and the pragmatic aspects of the target language, the lack of which may result in communication breakdown. This study has been primarily concerned with highlighting issues referring to pragmatic competence and components that are relevant for its assessment. Finally, instruments for testing

pragmatic competence are discussed. The speech act is the most frequently studied aspect of pragmatic competence, and producing proper speech requires a high level of pragmatic competence. Since Discourse Completion Tasks (DCTs) elicit real-world speech act performance, they are primary instruments to assess learners' pragmatic competence.

7. Recommendation

There are many issues that researchers and teachers will need to consider in pragmatics competence. It is hoped that this study will provide insights that will help teachers decide which of those issues are important for them to incorporate into their classroom teaching and assessment. The findings revealed interesting issues related to pragmatic competence assessment along these lines: the pragmatic competence assessment should adopt multiple other instruments than DCTs to examine pragmatic competence, such as Discourse Self-Assessment Task (DSAT) and Role-Play Self-Assessment (RPSA) methods. In raising students' pragmatic competence, the examination of other aspects of communicative competence such as grammatical competence, discourse competence, and sociolinguistic competence should be concerned.

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Study Abroad Opportunities and Intercultural Competencies
of University Students in Myanmar

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Abstract

Universities have been promoting study abroad programs for a long time to improve intercultural competence. However, the mere exposure to cultural differences while studying abroad does not ensure intercultural competence, unless study abroad students' reflective processes are explicitly targeted. In addition to university organized international opportunities, students often have access to informal and recreational travel experiences through connections with student groups, religious organizations, friends, and family. Some students opt to participate in study abroad programs through their own institutions while others participate in study abroad opportunities through another institution or consortium of programs. Additionally, university students often travel abroad for recreational purposes and obtain cultural experiences that are not directly tied to an academic experience. This multi-institutional study attempts to discover whether different international activities in which students participate yield different outcomes for the development of students' global and intercultural competencies. The research aim that guides this inquiry are to explore the participation in international travel activities associated with different outcomes in students' development of global and intercultural competencies. The outcome variables used to measure students' development in global and intercultural competencies include self-reported gains in students' understanding of the complexities of global issues, ability to apply disciplinary knowledge in a global context, linguistic or cultural competency in another language and ability to work with people from other cultures. The survey was administered to 87 undergraduate and postgraduate students across twelve government universities. Of the total participants who responded to the survey, 54% were female and 46% male. It has been found that study abroad opportunities are moderately significant (Average Mean=1.60) in the overall increase for students' development in all areas of intercultural and global competencies. This research contributes to the scholarly literature related to students' international and study abroad experiences which was considered of partly supportive because it examines the differential effects of participation in several types of programs which has influenced on the development of students' global and intercultural competencies (Average Mean=1.25). Moreover, it provides intercultural competencies students perceive when considering learning abroad opportunities and study abroad experiences

that provide students with the greatest opportunities for development and engagement (Average Mean=1.70)

A Need Analysis of Blended Learning to Enhance Chemistry Specialization Students' Metacognitive Skills and Attitudes

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Abstract

Digital technology in the 21st century is considered as a powerful tool to support innovation in learning systems. Blended learning is a model that adopts digital technology in the learning process, and if supported by technology-based teaching materials, it will be very efficient and effective. This research aims to investigate the needs of blended learning in Chemistry to enhance university students' metacognitive skills and attitudes towards Chemistry. Particularly, the purposes of this study are described as follows: (1) to investigate students' attitudes towards chemistry; (2) to analyze students' digital knowledge and experience; and (3) to analyze the needs of students and teachers on Chemistry for the blended learning modules Learning Management System (LMS). One hundred and nine students and 41 teachers participated in this study. Data collection technique used a questionnaire and an interview survey. The data were analyzed through qualitative and quantitative methods. The qualitative analysis focused on the teacher's interview, while quantitative analysis was the students' questionnaire. The study obtained the following conclusions: (1) students' attitudes towards chemistry were still relatively low; (2) knowledge and experience of digital technology in learning was high; (3) the need for LMS-based blended learning module to improve students' attitude towards Chemistry and metacognition skills was very high.

Keywords : Chemistry Students, Metacognitive Skills, Attitudes, Digital Knowledge and Experience

University Students' Self-Efficacy, Attitudes, and Intentions toward Chemistry : Myanmar Context

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Abstract

This research examined the self-efficacy beliefs, attitudes towards Chemistry, and intentions to take future Chemistry courses in a sample of (n = 112) students from selected universities in Myanmar. The main purpose of the study was to determine the university students' self-efficacy, attitudes, and intentions toward Chemistry in Myanmar context. Findings indicate that self-efficacy (Mean=2.05) and attitude (Mean=2.47) are both significant, making a larger unique contribution. According to the findings, Self-efficacy of undergraduate students was slightly significant indicating confidence of the participants. Our findings suggest that in general, although the population at Myanmar universities slightly feel confident in their ability to perform in Chemistry (Mean=2.06, SD=0.60), have strong attitude towards Chemistry (Mean=2.47, SD=0.84), and moderate intentions toward enrolling in future Chemistry courses (M=1.98, SD=0.97). In the current context, the students believe that they are capable of successfully performing tasks affiliated with Chemistry content. Students with a high self-efficacy toward Chemistry will be more likely to take on the challenge of Chemistry and persist through the courses. Finally, implications for educators and administrators are discussed.

Keywords : University Students, Self-efficacy, Attitudes, Intentions, Chemistry, Myanmar

An Analysis of Illocutionary Acts in the Short Story
A Small Sacrifice for an Enormous Happiness by Jai Chakrabarti

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Abstract

The aim of this paper is to investigate illocutionary acts in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti. The objectives are to find out the utterances in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti, to classify the utterances into five types of illocutionary acts and its functions based on Searle's (1979) theory, and to explore which act is frequently used and which type is the least in the short story. According to Searle's (1979) theory, the utterances were categorized into five types; assertive, directive, commissive, expressive and declarative. 92 utterances of the characters in the short story were analyzed. It was found that only four types of illocutionary acts; 61 assertive (informing, asserting, suggesting, questioning, claiming, reminding and stating), 19 directive (commanding, ordering, requesting, suggesting and insisting), 8 commissive (intending and promising) and 4 expressive (greeting, expressing feeling and expressing desire) are used in the short story. The research shows that assertive is the most frequently used, and expressive is the least frequently used in the short story. Declarative is not found in this short story.

Keywords : Illocutionary Acts, Utterances, Short Story

1. Introduction

Language is a media and a tool of communication, and it plays an important role in communication as it is the exchanging of information by speaking or writing. Speech is important for an effective communication with other people and it has power to express feelings, opinions, or ideas about something to the listeners or audiences. Therefore, the study of what utterances mean is important to language learning. Yule (1996) states that pragmatics is concerned with the study of meaning as communicated by a speaker (or writer) and interpreted by a listener (or reader). The interpretation of what utterances mean in a particular context and how the context influences what is said are involved in the type of pragmatic study.

Therefore, this study investigates the speech acts in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti. This paper focuses on speech acts included in

pragmatic study. Yule (1996) states that actions performed via utterances are called speech acts. Speech act is an utterance that serves a function in language and communication. According to Austin (1962), there are three types of speech acts; locutionary act which is the simple speech act producing a meaningful linguistic expression, illocutionary act is the main concept of the speech act that is uttered by the speaker to state something and to ask someone else to do something and perlocutionary act which is the effect of the utterance uttered by the speaker to the hearer. In addition, Searle (1979) classifies speech acts into assertive (or representative), directive, commissive, expressive and declarative.

Assertive focuses on the strong belief that the speaker wants to state and that belief can be evaluated to be true or false. It represents a state of affairs as claiming, stating, hypothesizing, describing, telling, insisting, suggesting, asserting, or swearing that something is the case. Directive is produced by the speaker to try to get the hearer to do something. It consists of questioning, ordering, commanding, requesting, praying, insisting and suggesting. Commissive is produced by the speaker to do themselves to some future actions. It includes promising, threatening, intending, vowing of refrain from doing something. Expressive expresses the mental state of the speaker about an event presumed to be true. It consists of congratulating, thanking, deploring, welcoming and apologizing. Declarative brings the correspondence between proportional content and reality; therefore, it changes the reality. Declaratives involves naming, appointing, listening, declaring, dismissing, etc.

This study focuses on analyzing illocutionary speech acts in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti. The reasons for doing this research are to help the readers comprehend the illocutionary act and its functions while reading the short stories.

It is one of the best American short stories in 2017. Jai Chakarabarti awarded a Pushcart Prize wrote this short story. The story is about a hidden affair between two men; Nikhil and Sharma, and the interest of having a child.

2. Aim and Objectives

The aim of this study is;

- to investigate illocutionary acts in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti

The objectives of this study are;

1. to find out the utterances in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti

2. to classify the utterances into five main types of illocutionary acts and its functions based on Searle's (1979) theory

3. to explore which act is frequently used and which type is the least in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti

3. Hypothesis

This research is expected to give precious contribution not only theoretically but also practically. Theoretically, the result of this study is expected to contribute on the development of the pragmatic study, especially on the classification of illocutionary acts. Practically, the result of this study is expected to give knowledge about illocutionary acts for the readers and future researchers.

4. Research Methodology

This research used descriptive qualitative method based on Searle's (1979) theory. Firstly, the story was thoroughly read. The utterances are found out and classified from the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti. There are 92 utterances in the short story, and the occurrences of the utterances from the short story are categorized into five main types of illocutionary acts based on Searle's (1979) theory. In addition, the classified utterances are explored which act is frequently used and which type is the least. The classification of speech acts found in the short story can be seen in table 1. This table has altogether ten columns; 1. serial number, 2. speaker, 3. hearer, 4. utterances, 5. assertive, 6. directive, 7. commissive, 8. expressive, 9. declarative and 10. functions. The types of speech acts are coded as follow:

Assertive	- As	
Directive	- Di	
Commissive	- Co	
Expressive	- Ex	
Declarative	- De	

Table 1 The Sample of Data Analysis

Sr No.	Speaker	Hearer	Utterances	As	Di	Co	Ex	De	Functions
1.	Nikhil	Kanu	You must send a car		Â				Command-ing
2.	Sharma	Nikhil	Tomorrow, I'll see you			Â			Promising
3.	Nikhil	Sharma	I want our love to increase				Â		expressing desire
4.	Tripti	Nikhil	I know who you are	Â					Asserting

5. Research Results

Based on the data, there are four speakers (Sharma, Nikhil, Tripti and Kanu), and 92 utterances in the short story. The data were classified based on the characters' utterances to explore which act is the most frequently used and which type is the least. The results of the analysis can be seen in table 2, 3, 4, 5 and 6.

Table 2 The frequency of Illocutionary Acts found in Sharma's Utterances

No	Illocutionary Acts	Functions	Frequencies	Percentages (%)
1.	Assertive	a. Informing	3	83.9%
		b. Asserting	14	
		c. Suggesting	1	
		d. Claiming	4	
		e. Questioning	3	
		f. Stating	1	
2.	Directive	a. Ordering	1	12.9%
		b. Suggesting	2	
		c. Insisting	1	
3.	Commissive	Promising	1	3.2%
4.	Expressive	-	-	-
5.	Declarative	-	-	-
	Total		31	100%

Table 2 shows the frequency of illocutionary acts found in Sharma's utterances. Assertive is the most frequently used with the occurrence of 26(83.9%). Followed by directive and commissive which occur 4(12.9%) and 1(3.2%). Assertive consists of informing, asserting, suggesting, questioning, claiming and stating in Sharma's utterances. The kinds of directive include ordering, requesting, suggesting and insisting. Commissive consists of promising. Expressive and declarative are not found in Sharma's utterances.

Table 3 The frequency of Illocutionary Acts found in Nikhil's Utterances

No	Illocutionary Acts	Functions	Frequencies	Percentages (%)
1.	Assertive	a. Asserting	8	43.6%
		b. Questioning	2	
		c. Reminding	1	
		d. Stating	6	

Table 3 (Continue)

No	Illocutionary Acts	Functions	Frequencies	Percentages (%)
2.	Directive	a. Commanding	3	35.9%
		b. Ordering	1	
		c. Requesting	3	
		d. Suggesting	4	
		e. Insisting	3	
3.	Commissive	a. Intending	3	12.8%
		b. Promising	2	
4.	Expressive	a. Expressing feeling	1	7.7%
		b. Expressing desire	2	
5.	Declarative	-	-	-
	Total		**39**	**100%**

Table 3 shows that the frequency of illocutionary acts found in Nikhil's utterances. Assertive is the most frequently used with the occurrence of 17(43.6%). It is followed by directive, commissive, expressive which occurs 14 (35.9%), 5 (12.8%) and 3(7.7%) respectively. Declarative is not found in Nikhil's utterances. The kinds of assertive consist of informing, asserting, questioning, reminding and stating. Directive includes commanding, ordering, requesting, suggesting and insisting. Commissive consists of intending and promising. The types of expressive include expressing feeling and expressing desire.

Table 4 The frequency of Illocutionary Acts Found in Tripti's Utterances

No	Illocutionary Acts	Functions	Frequencies	Percentages (%)
1.	Assertive	a. Asserting	6	83.3%
		b. Suggesting	1	
		c. Questioning	4	
		d. Stating	4	
2.	Directive	Ordering	1	5.6%
3.	Commissive	Intending	2	11.1%
4.	Expressive	-	-	-
5.	Declarative	-	-	-
	Total		**18**	**100%**

The above table shows that the frequency of illocutionary acts found in Tripti's utterances. Assertive is the most frequently used with the occurrence of 15(83.3%) and it is followed by

directive and commissive which occur 1(5.6%) and 2(11.1%) respectively. The kinds of assertive consist of asserting, questioning, suggesting and stating. Directive includes ordering. Commissive includes intending in Tripti's utterances.

Table 5 The frequency of Illocutionary Acts Found in Kanu's Utterances

No	Illocutionary Acts	Functions	Frequencies	Percentages(%)
1.	Assertive	Questioning	3	75%
2.	Directive	-	-	-
3.	Commissive	-	-	-
4.	Expressive	Greeting	1	25%
5.	Declarative		-	-
	Total		4	100%

Table 5 shows the frequency of illocutionary acts found in Kanu's utterances. Assertive is the most frequently used with the occurrence of 3(75%). It is followed by expressive which occurs only 1(25%).

Table 6 The frequency of Illocutionary Acts Found in the Utterances of Sharma, Nikhil, Tripti and Kanu

No.	Illocutionary Acts	SHARMA's Utterances		NIKHIL's Utterances		TRIPTI's Utterances		KANU's Utterances		TOTAL	
		Frequencies	Percentages	Frequencies	Percentages	Frequencies	Percentages	Frequencies	Percentages	Frequencies	Percentages
1.	Assertive	26	83.9%	17	43.6%	15	83.3%	3	75%	61	66.3%
2.	Directive	4	12.9%	14	35.9%	1	5.6%	-	-	19	20.7%
3.	Commissive	1	3.2%	5	12.8%	2	11.1%	-	-	8	8.7%
4.	Expressive	-	-	3	7.7%	-	-	1	25%	4	4.3%
5.	Declarative	-	-	-	-	-	-	-	-	-	-
	Total	31	100%	39	100%	18	100%	4	100%	92	100%

Table 6 shows the total frequency of illocutionary acts found in the utterances of Sharma, Nikhil, Tripti and Kanu. The most frequency is assertive, followed by directive, commissive, expressive which occur 61(66.3%), 19(20.7%), 8(8.7%) and 4(4.3%) respectively. The least frequency is expressive, and declarative is not found in this research.

6. Discussion

According to the results, it is found that there are 92 utterances in the short story *A Small Sacrifice An Enormous Happiness* by Jai Chakrabarti. Moreover, four types of illocutionary acts are found in this short story. They are assertive, directive, commissive and expressive; furthermore, declarative is not found. The functions of assertive include informing, asserting, suggesting, claiming, questioning, reminding and stating. Directive consists of commanding, ordering, requesting, suggesting and insisting. The kinds of commissive include intending and promising. Expressive includes greeting, expressing feeling and expressing desire. In Nugoho's (2011) research, assertive includes arguing, asserting, informing and telling. Directive includes advising, asking, commanding, entreating, insisting, inviting, ordering, requesting. Commissive consists of promising and refusal. Expressive includes congratulating, praising, welcoming, thanking. Declarative consists of appointing in the previous study, but declarative is not included in this research because using research instruments, materials are different. Assertive is the most frequently used in this story because the characters in the short story want to state their strong belief and that belief can be evaluated to be true or false. It is found that because of the most frequent use of assertive, it can let the readers understand the story more clearly. Directive is the second dominant illocutionary act because the characters uttered the hearer to do something. It could be said that the original writer wants to give the main sense of the story by using directive frequently. Commissive is the third dominant illocutionary act because the speakers used to commit themselves to do in the future by promising and intending. Expressive is the least because only two characters; Nikhil and Kanu used it to express feeling, desire and greeting. The writer uses this act because he himself may be the one who doesn't want to express his expressive feeling publicly. Declarative is not found may be this story is about the marital problems in marriage.

7. Conclusion

The main purpose of this research is to analyze illocutionary acts in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti. Data were collected from the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti. There are three objectives in this research besides the aim mentioned above.

The first objective of this study is to find out the utterances in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti. In finding out the utterances, the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti was used, and 92 utterances are found in this story.

Objective two of this study is to classify the utterances into five main types of illocutionary acts and its functions based on Searle's (1979) theory. The results of this study showed that four types of illocutionary acts; assertive, directive, commissive and expressive are found and declarative

is not found in the short story. The functions of assertive include informing, asserting, suggesting, claiming, questioning, reminding and stating. Directive consists of commanding, ordering, requesting, suggesting and insisting. Commissive includes intending and promising. Expressive includes greeting, expressing feeling and expressing desire.

Objective three is to explore which act is frequently used and which type is the least in the short story *A Small Sacrifice for an Enormous Happiness* by Jai Chakrabarti. The findings revealed that assertive is the most frequently used and expressive is the least; moreover, declarative is not found in the short story.

It has been found that according to the findings, the author has used almost of Searle (1979) illocutionary acts in the short story. Moreover, the readers will comprehend the short story vividly through the use of different types of illocutionary acts. Accordingly, the information gained from this study can be helpful for teachers, students and readers in that it will allow them to have a wider view when reading literary texts.

It could be said that by using various illocutionary acts, the author can make his writing more effective and attractive to draw the attention of the readers to it.

8. Recommendation

The researcher wants to offer some recommendations that may be useful for other researchers, especially for the researchers who want to do a research in illocutionary speech acts. It is recommended to investigate the illocutionary acts in different instruments such as song lyrics, movies, speeches and daily conversation.

9. Acknowledgements

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The General Attitude of Students and Teachers towards Effectiveness of Using Short Stories in EFL Classrooms of Myanmar

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Abstract

The objectives of this quantitative and qualitative research were 1) to evaluate if short stories enhance learners' language skills, develop their personal reflection and facilitate cultural tolerance, 2) to investigate practice of students and teachers towards effectiveness of using short stories in EFL classrooms of Myanmar and 3)to identify the opinions of the EFL learners and teachers towards the use of short stories for developing language skills and communicative competence. The samples were composed of 143 English specialization students from second year to fourth year and 27 English teachers who are currently teaching short stories at selected universities in Myanmar.They were selected through a purposive sampling method. The instruments used to gather information were student questionnaire, selected students interview survey and teacher's semi-structured interviews. The statistics employed to analyze the quantitative data were percentage, mean, and standard deviation. The result revealed that short stories help to develop the language skills more effectively. Another important finding was that students also show a significant gain in vocabulary and expressions through reading and listening. According to teacher participants, short stories can contribute to students' reinforcing effectively and meaningfully their knowledge of grammar and vocabulary. It is also found that it can help students to be more creative and imaginative in their writing in a way to free the students from the routine procedures occurring in the classroom.

Keywords : General Attitude, Students and Teachers, Effectiveness of using Short Stories, EFL Classrooms, Myanmar

Benefits of Dramatic Play for Enhancing University Students' Understanding of Poetry

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Abstract

The objectives of this quantitative and qualitative research were 1) to evaluate if dramatic play help students appreciate poetry as an artistic and aesthetic medium to which they can relate perfectly and 2) to investigate the opinions of the EFL learners and teachers towards the use of poetry for developing language skills and life skills. Dramatic play can be defined as a type of play where students accept and assign roles, and then act them out. The samples were composed of 320 English specialization students from first year to fourth year and 115 English teachers who are currently teaching poetry at selected universities in Myanmar.They were selected through a purposive sampling method. The instruments used to gather information were student questionnaire, selected students interview survey and teacher's semi-structured interviews. The statistics employed to analyze the quantitative data were percentage, mean, and standard deviation. The results revealed that (1) dramatic play provides an excellent context for students to develop and practice many important skills and behaviors that contribute to later success at university and life & (2) the students are having relief from emotional tension, feeling powerful, using social interaction skills, having language development, using symbols and sorting out fantasy and reality through dramatic play.

Keywords : Dramatic Play, Enhancing, Understanding Poetry, University Students

Gender and Language Use in Myanmar Context

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Abstract

Differences between men's and women's language can be traced in such areas as grammar, vocabulary, and pronunciation. Language is a major tool people utilize to constitute themselves, and that how people employ language including word choice, grammar, and pronunciation is a very significant component of self-constitution. Sociolinguistics analyses inform about male and female speaking styles which include differences in pronunciation, use of prosodic cues (such as intonation, velocity, and volume), grammatical forms, and choices of vocabulary (Bonvillain, 2000). In this research, perceptions of 41 language teachers and 66 students towards gender and language use in Myanmar context were examined using standardized categories. This research focuses on presenting gender and language use in Myanmar context. Firstly, prior to discussing the basic physical differences between men and women, teacher and student participants commonly agreed physical differences between males and females. Next, teachers' perceptions about the gender differences in the use of language in home context were explored with teachers' interview survey. Regarding it, although both men and women use the same features in the home context, they develop distinct speech styles, as the boundaries are not clearly identified. After that, gender differences in the use of language have also been particularly looked at in the classroom through student questionnaire and major findings have been mentioned. In addition, some testable claims about men's and women's language use have been also pointed out. Finally, claims about women's use of Language in Myanmar context has been generally predicted in a systematic manner.

Keywords : Language Teachers and Students, Gender and language use, Myanmar Context

1. Introduction

Sociolinguistics, the study of the relationship between language and society, investigates numerous variables that may affect language use such as age, ethnicity, regional locations, social classes, and gender. Historically, gender was first employed in linguistics and other areas of social sciences. Gender indeed is a social construct, and it is through the concepts of gender which

society transforms female and male human beings into social women and men and assigns them roles and gives them cultural values (Bonvillain, 2000).

1.1 Physical Differences between Male and Female

Prior to discussing the differences between language use of women and men, commonly agreed physical differences between males and females may be worth mentioning. Key (1975) pinpointed some basic physical differences between men and women which have been accepted among scientists without contradiction.

    i.   Females have less muscle and more fat.

    ii.   Females have less muscular strength.

    iii.   Females weigh less.

    iv.   Females tend to be less well coordinated, except for fine hand movement.

    v.   Females mature physically more rapidly.

    vi.   Females live longer.

1.2 Gender Differences in the Use of Language in Home Context

The different patterns of language use are arrangement of identifiable repeated or corresponding elements in a text. These include patterns of repetition or similarity (for example, the repeated use of verbs at the beginning of each step in a recipe, or the repetition of a chorus after each verse in a song). In terms of gender equality, perhaps gendered languages have a role in shaping how they perceive their educational, economic, and professional opportunities, and how they perceive their political position on the world stage. Wardhaugh (2010) presented five testable claims as follows.

    i.   Women and men develop different patterns of language use.

    ii.   Women tend to focus on the affective functions of an interaction more often than men do.

    iii.   Women tend to use linguistic devices that stress solidarity more than men do.

    iv.   Women tend to interact in ways which will maintain and increase solidarity, while (especially in formal context) men tend to interact in ways which will maintain and increase their power and status.

    v.   Women are stylistically more flexible than men.

1.3 Gender Differences in the Use of Language in Classroom Context

Whereas gender differences in the use of language have been researched in various social contexts, gender differences have also been particularly looked at in the classroom. Swann (1992) presented some major findings in research on gender differentiation in the classroom.

    i.   While there are quiet students of both sexes, the more outspoken students tend to be boys.

    ii.   Boys also tend to 'stand out' more than girls.

iii. Girls and boys tend to sit separately; in group work, students usually elect to work in single-sex rather than mixed-sex groups.

iv. When they have the choice, girls and boys often discuss or write about gender-typed topics.

v. Boys are often openly disparaging towards girls.

vi. Teachers often make distinctions between girls and boys – for disciplinary or administrative reasons or to motivate students to do things.

vii. Teachers give more attention to boys than to girls.

viii. Topics and materials for discussion are often chosen to maintain boys' interests.

ix. Teachers accept certain behavior (such as calling out) from boys but not from girls.

x. 'Disaffected' girls tend to opt out quietly at the back of the class, whereas disaffected boys make trouble (pp.51-52).

1.4 Claims about Women's Use of Language

Freeman and McElhinny (1996, p. 232) presented the list of Lakoff's (1975) claims about women's use of language and pointed out some studies that critically investigated the claims.

i. Stronger expletives are reserved for men; weaker expletives are reserved for women.

ii. Topics that are considered trivial or unimportant are women's domain (e.g., women discriminate among colors more than men do).

iii. Women use "empty" adjectives (adorable, charming, divine, nice).

iv. Women use tag questions more than men.

v. Women use question intonation in statements to express uncertainty ("My name is Tammy?").

vi. Women use hedges more than men do ("It's kinda nice").

vii. Women don't tell jokes.

2. Aim and Objectives

The aim of this research is to find out gender and language use Myanmar context. The objectives are

2.1 to investigate the perceptions of language teachers towards language use in Myanmar context

2.2 to investigate the perceptions of language teachers towards language use in Myanmar context

3. Methodology

Differences in the ways that men and women use language have long been of interest in the study of discourse. In this research, perceptions of the language teachers and students towards gender and language use in Myanmar context were examined using standardized categories to analyze a database of over 100 text files from 41 English and Myanmar language teachers and 66 English and Myanmar specialization students from selected Myanmar universities.

Table 1 Demographic data of participants

SN	Participants	Categories	Number	Age group
1	English Language teachers	Novice	9	25-35
		Experienced	12	36-58
2	English specialization students	Undergraduate	15	17-20
		Postgraduate	20	21-25
3	Myanmar Language teachers	Novice	10	25-35
		Experienced	10	36-58
4	Myanmar Language specialization students	Undergraduate	16	17-20
		Postgraduate	15	21-25

4. Results

Overall, this literature review has clearly indicated that the issue of language and gender is by no means a novel topic, and gender differences in the classroom is also not new; however, research on gender and language use in the English as a second language (ESL) classroom has not seemed to be investigated in a systematic manner. A few studies have been found to address this issue specifically. Thus, more empirical research is much needed to shed further light on gender differences in the use of English in the ESL classroom.

4.1 Physical Differences between Male and Female

Current research has looked at gender differences in the use of language in Myanmar context to investigate the areas of differences between men and women: basic physical differences between men and women; gender differences in the use of language in home context; gender differences in the use of language in classroom context; and claims about women's use of language. The following table shows the questionnaire responses of the teacher and student participants towards basic physical differences between men and women.

Table 2 Questionnaire responses of the teacher and student participants towards basic physical differences between men and women (n=66)

SN	Basic physical differences between men and women	Gender of Participants	Calculation		Interpretation
			Mean	SD	
1	Females have less muscle and more fat.	Male	3.00	0.00	Very much agree
		Female	2.98	0.20	Very much agree
2	Females have less muscular strength.	Male	3.00	0.00	Very much agree
		Female	2.98	0.20	Very much agree
3	Females weigh less.	Male	2.01	0.84	Just agree
		Female	2.17	0.84	Just agree
4	Females have a tendency to be less well coordinated, except for fine hand movement.	Male	2.62	0.64	Very much agree
		Female	2.28	0.87	Just agree
5	Females mature physically more rapidly.	Male	2.53	0.75	Very much agree
		Female	2.55	0.77	Very much agree
6	Females live longer.	Male	2.62	0.64	Very much agree
		Female	2.58	0.68	Very much agree

Note: 1.00-1.66   = Don't agree

1.67-2.33   = Just agree

2.34-3.00   = Very much agree

4.2 Gender Differences in the Use of Language in Home Context

Interview responses of language teachers towards five testable claims presented by Wardhaugh have been investigated in the ESL classroom. The result from such research may be of great interest to classroom teachers as well as sociolinguists. It is hoped that researchers start looking at the ESL classroom as a potential and fertile place for research on the differences in language use between male and female ESL teachers.

Table 3 Interview responses of language teachers towards five testable claims presented by Wardhaugh (2010) (n=41)

SN	Five testable claims	Interviewee	Discussion
1	Women and men develop different patterns of language use.	Male Interviewee 1	*Myanmar men often do report talk, while women often do rapport talk.* *Whereas men more often employ tags for speakers–oriented goals, to obtain or confirm information for themselves, women more often use tags for addressee-*

Table 3 (Continue)

SN	Five testable claims	Interviewee	Discussion
			oriented goals, specifically as strategies to engage addressees in talk.
		Female Interviewee 1	*In Myanmar, gender differences in language use appear early; girls are more likely to use language in the context of emotional relationships with others, while boys are more likely to use language to describe objects and events.*
2	Women tend to focus on the affective functions of an interaction more often than men do.	Male Interviewee 2	*Regarding speech styles, Myanmar men's talk is competitive, whereas women's talk is cooperative; men talk to gain status, but women talk to create intimacy and connection.*
		Female Interviewee 2	*In conversations that involve both men and women, men speak more than women do.* *Besides, women are reported to utilize more polite forms and more compliments than men to develop solidarity with others in order to maintain social relationships.*
3	Women tend to use linguistic devices that stress solidarity more than men do.	Male Interviewee 3	*Men frequently interrupt women, whereas women much less frequently interrupt men. There are significant differences between males and females in terms of interruptions in Myanmar culture.*
		Female Interviewee 3	*Women are more inclined to face each other and make eye contact when talking, while men are more likely to look away from each other.* *Some males tend to give more conversational support such as "Mnh," "Yeah," and "Right" than males.*
4	Women tend to interact in ways which will maintain and increase solidarity, while (especially in formal context) men tend to interact in ways which will maintain	Male Interviewee 4	*Most Myanmar men like to be experts on topics and issues and that we often show a willingness for verbal sparring, and that we are not afraid to show disagreement with others.*
		Female Interviewee 4	*Myanmar women used more words related to psychological and social processes.* *However, men referred more to object properties and impersonal topics.*

Table 3 (Continue)

SN	Five testable claims	Interviewee	Discussion
	and increase their power and status.		*Males were found to use explicit commands, whereas females were typically found to employ more mitigated directives.*
5	Women are stylistically more flexible than men.	Male Interviewee 5	*Men tend to talk more than women in public situations, but women tend to talk more than men at home.*
		Female Interviewee 5	*Women are inclined to express agreement and support, while men are more inclined to debate.*

According to the data, women used more words related to psychological and social processes. Men referred more to object properties and impersonal topics. Although these effects were largely consistent across different contexts, the pattern of variation suggests that gender differences are larger on tasks that place fewer constraints on language use. Besides, Holmes (1984) ascertained a significant difference in the functional role of tags in the speech of women and men. Interview responses show in item 1 that whereas men more often employ tags for speakers–oriented goals, to obtain or confirm information for themselves, women more often use tags for addressee-oriented goals, specifically as strategies to engage addressees in talk. In addition, Lakoff (1975) postulated that women employed tag questions, as they are reluctant to make direct assertions (cited in Bonvillain, 2000). Females are more likely to use features indicating tentativeness such as tag questions, hedges, and expressions that make them sound more hesitant and uncertain.

Moreover, men tend to jump from topic to topic, but women tend to talk at length about one topic. When listening, women make more noises such as "mm-hmm" and "uh-huh", while men are more likely to listen silently. Like the response of female interviewee in item 2, Reppen, Fitzmaurice & Biber (2002) also observed that it is generally thought that women are more polite than men. Swann (1992) further provided some conversational features employed by male or female speakers in that male speakers have a tendency to interrupt more than females. It has been found in item 3 that Men frequently interrupt women, whereas women much less frequently interrupt men. There are significant differences between males and females in terms of interruptions in Myanmar culture. According to the data in item 4, males were found to use explicit commands, whereas females were typically found to employ more mitigated directives. Females tend to speak in one way and males in another, but there are no forms which are exclusively female or male, and there is always an overlap between the sexes (Swann, 1992). Males utilize more direct speech that females. However, not like mentioned by Swann, (1992), females in Myanmar do not use more conversational support such as "Mnh," "Yeah," and "Right".

4.3 Gender Differences in the Use of Language in Classroom Context

Whereas gender differences in the use of language have been researched in various social contexts, gender differences have also been particularly looked at in the classroom. Swann (1992) presented some major findings in research on gender differentiation in the classroom.

Table 4 Questionnaire responses of the teacher participants towards gender differences in the use of language in classroom context (n=41)

SN	Statements	Mean	SD	Meaning
1	While there are quiet students of both sexes, the more outspoken students tend to be boys.	2.23	0.79	Partly different
2	Boys also tend to 'stand out' more than girls.	2.25	0.84	Partly different
3	Girls and boys tend to sit separately; in group activities, students usually elect to work in single-sex rather than mixed-sex groups.	2.07	0.80	Partly different
4	When they have the choice, girls and boys often discuss or write about gender-typed topics.	1.60	0.76	Slightly different
5	Boys are often openly disparaging towards girls.	1.42	0.67	Slightly different
6	We often make distinctions between girls and boys - for disciplinary or administrative reasons or to motivate students to do things.	1.55	0.83	Slightly different
7	We give more attention to boys than to girls.	1.19	0.50	Slightly different
8	Topics and materials for discussion are often chosen to maintain boys' interests.	1.26	0.58	Slightly different
9	We tend not to perceive disparities between the numbers of contributions from girls and boys.	2.47	0.82	Totally different
10	We accept certain behavior (such as calling out) from boys but not from girls.	1.46	0.71	Slightly different
	Average	**1.75**	**0.73**	**Partly different**

Note:
- 1.00-1.66 = Slightly different
- 1.67-2.33 = Partly different
- 2.34-3.00 = Totally different.

According to the data, the result of item no.9 is the highest and it points out disparities between the numbers of contributions from girls and boys are totally different. It seems that Myanmar Teachers tend not to perceive disparities between the numbers of contributions from

girls and boys. Teachers think that boys made three times as many contributions as girls, but teachers believed the girls had talked more. Secondly, the result of item 2 clearly states that the teachers also agree the statement "boys also tend to 'stand out' more than girls" (Mean=2.25). Furthermore, while there are quiet students of both sexes, the more outspoken students tend to be boys (Mean=2.23).

4.5. Claims about Women's Use of Language

There are some significant differences in how language develops and how people tend to express themselves based on gender. Lakoff claimed that women employ a distinct style of speech, 'women's language', which comprises linguistic features that demonstrate and reinforce women's inferior position in society. Claims about women's use of language have been mentioned in the following table.

Table 5 Questionnaire responses of the student participants towards claims about women's use of language (n=66)

SN	Claims	Calculation		Interpretation
		Mean	SD	
1	Stronger expletives are reserved for men; weaker expletives are reserved for women.	2.76	0.59	Very much agree
2	Topics that are considered trivial or unimportant are women's domain.	2.29	0.89	Just agree
3	Women use "empty" adjectives (adorable, charming, divine, nice).	2.68	0.69	Very much agree
4	Women use tag questions more than men.	2.48	0.82	Very much agree
5	Women use question intonation in statements to express uncertainty ("My name is Tammy?").	2.55	0.77	Very much agree
6	Women use hedges more than men do.	2.70	0.62	Very much agree Very much agree
7	Women don't tell jokes.	2.52	0.78	Very much agree
Average		**2.57**	**0.74**	

Note: 1.00-1.66 = Don't agree

1.67-2.33 = Just agree

2.34-3.00 = Very much agree

The data pointed out that men are believed to use curse words with greater frequency and greater profane force, than women, while women tend to use milder expletives (Mean=2.76). Second, women tend to employ more intensifiers and modifiers such as adjectives and adverbs

than men, because the society allows them to express emotion, whereas men are expected to control their feelings and they are also expected to refrain from employing words which have marked emotional expressiveness (Mean=2.68). Third, Myanmar women have a noted tendency to use more hedge words in discourse to minimize confrontation with an addressee who may have a different view (Mean=2.70).

5. Discussion

Current research has looked at gender differences in the use of language in Myanmar context to investigate four areas of differences between men and women: basic physical differences between men and women; gender differences in the use of language in home context; gender differences in the use of language in classroom context; and claims about women's use of language. Brown (1980) even indicated the reasons why women's language is more polite and formal than men. In this current research, it may seem reasonable to predict that Myanmar women generally speak more formally and politely because a higher level of politeness is expected from them to superiors. Moreover, Myanmar women also tend to employ more intensifiers and modifiers such as adjectives and adverbs than men, this may be because the society allows them to express emotion, whereas men are expected to control their feelings and they are also expected to refrain from using emotional expressiveness words. Additionally, directives, which can be defined as speech acts that try to get someone to do something (Coates, 1993) or utterances assigned to get someone to do something (Goodwin, 1990), can be used differently by males and females. According to the data in this research, males were found to use explicit commands, whereas females were typically found to employ more mitigated directives. It seems women are more ready to let other speakers into the conversation or to allow another speaker to dominate the discussion. The findings maintained that language is a major tool women utilize to constitute themselves, and that how they employ language including word choice, grammar, and pronunciation is a very significant component of self-constitution. One of the major differences between male and female speech can be found in word choice, (Hughes,1997). In this research, it is pointed out that Myanmar women employ more hedges than men. As Poos and Simpson indicated that hedging is more characteristic of women's language than men. If there is gender difference in the use of 'sort of' and 'kind of' in academic contexts, there is a noticeable difference in hedging frequencies depending on the academic division. Specifically, there is an obvious occurrence in the use of 'kind of' and 'sort of' between the men and women.

6. Conclusion

Overall, the results have clearly indicated that the issue of language and gender is by no means a novel topic, and gender differences in the classroom is also not new; however,

research on gender and language use in the English as a foreign language (EFL) classroom has not seemed to be investigated in a systematic manner. In the process of conducting the literature review, no study has been found to address this issue specifically in Myanmar. Thus, more empirical research is much needed to shed further light on gender differences in the use of English in the EFL classroom. Fairclough (1989) postulated that sociolinguistics is strong on finding out the facts of variation, but it is weak on exploring the reasons for the variation. It is, therefore, decidedly possible to investigate gender differences in language use in the EFL classroom. The result from such research may be of great interest to classroom teachers as well as sociolinguists. It is hoped that researchers may start looking at the EFL classroom as a potential and fertile place for research on the differences in language use between male and female EFL students.

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The Effect of Classroom Interaction on Developing the Learner's Speaking Skill
: Myanmar Context

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Abstract

This research aims at showing that classroom interaction can be a best pedagogical strategy to develop not only the learners' speaking skill, but also to foster their capacity to generate new language. The necessary data are collected by using Pr. Moumene Ahmed's questionnaire (2009). This study is based on two questionnaires administrated to both students and teachers to get information about the impact of classroom interaction on developing the learners' speaking skill. The analysis of the questionnaire shows that both learners and teachers consider classroom interaction as an important pedagogical strategy in enhancing the skill of speaking.

Keywords : Classroom Interaction, Speaking Skill, Myanmar

A Synthesis Study of Literary Texts to Enhance EFL Students' Critical Reading Skills

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Abstract

The purpose of this research was to synthesize components in the researches related to literary texts to enhance EFL students' critical reading skills by studying the principles, concepts, and theoretical frameworks. The target researches used in the research consisted of 16 research articles from both national and international papers published in 2011-2022. The research instruments were the frequency analysis table as the research method. This research was conducted by studying relevant documents and researches by compiling documents, academic textbooks, and various related works by using the frequency analysis tables by which only components with a frequency of 6 or more were selected. Data analysis is used to analyze content and summarize the essence, classified and organized according to the document analysis form synthesized. The research results revealed that the researches related to literary texts to enhance EFL students' critical reading skills were consisted of 4 components as follows: 1) Critical Thinking Approaches, 2) Critical Reading Strategies, 3) Literature-Based Instructions, and 4) Types of Literary Texts.

Keywords : Literary Texts, EFL Students, Critical Reading Skills

1. Introduction

Nowadays, teenagers in Thailand's reading behavior is being disrupted by modern and advanced technology. It is a common phrase to hear in the news that "Thai people read 8 sentences a year". This phrase also reflects a lot of Thai students' reading behavior. Their reading habits are declining. Many students in Thailand are facing reading problems, especially their critical thinking and reading skills. Students cannot think critically and are unable to understand the purpose of reading. Therefore, teaching a language must include a critical thinking framework to enhance their critical thinking skills.

Critical thinking is one of the essential abilities that students need to have in their life. Critical thinking skills are the ability to think clearly and rationally about what to do or what to believe. Developing students' critical thinking is also important in the education field. If students

can think critically, they will have a quality of reasoning and effective learning abilities. Critical thinking skills are the big umbrella that holds critical reading inside it. According to Taglieber (2003), we can distinguish between critical reading and critical thinking in the following way: critical thinking is a technique for evaluating information and ideas, for deciding what to accept and believe. However, critical reading is a strategy for discovering new knowledge and ideas within a text. Therefore, critical thinking skills go in hand with critical reading skills.

Critical reading skills are also an important skill in enabling the students to determine accurate and reliable information. According to Schnell (1987) explained that critical reading ability is a reading skill that relies on the student's past experiences, the criteria for evaluation, and the drawing of conclusions. Moreover, Huijie (2010) also describes critical reading skills as "a high-level reading process which entails the ability to read with analysis and judgment". In short, critical reading skills can be concluded as an advanced reading procedure that involves students understanding, evaluating, analyzing, interpreting, and questioning what they have read.

Using literary texts in an English as a foreign language (EFL) classroom is an ongoing debate. Some scholars disagree with using literary texts in critical reading classes. Teaching literature helps enhance learners' interests and involvement, stimulates their critical thinking, and transforms the entire teaching process into an active learning classroom (Moon, 2010). Sandra McKay (1982), a professor in ESL and applied linguistics, argues that the structure of literary texts is more complex and difficult to comprehend for students.

On the other hand, many scholars agree that teaching literary texts have more beneficial especially in the EFL classroom. According to Babaee and Yahya (2014), literary texts can help develop students' imagination and emotions. Moreover, literary texts provide a good language model for the students such as sentence structure, story structure, and new vocabularies (Roe & Ross, 2006). In addition, literary texts can be taught to promote students' critical reading and thinking skills in the EFL classroom (Kohzadi et al., 2014). The most important part of teaching critical reading skills by using literary texts in an EFL classroom is selecting suitable reading texts (Mokhtari, 2014).

Due to the background and importance of the students' critical reading skills, the researcher is interested in studying the synthesis components of literary texts to develop EFL students' critical reading skills effectively and sustainably. This will be one of the most important mechanisms that can drive to develop and enhance the students' critical reading skills by using literary texts in teaching and learning.

2. Research Objectives

To synthesize components in the researches related to literary texts to enhance EFL students' critical reading skills by studying the principles, concepts, and theoretical frameworks.

3. Research Methodology

3.1 Data Source

This study is a synthesis of research and documentary research related to literary texts to enhance EFL students' critical reading skills which the researcher studied from the document of 16 academic texts and related research from both national and international papers published in 2011-2022.

3.2 Data Analysis

Data were analyzed by content analysis method then categorize the important issues according to the academic scope. After that, the data were brought together by using the frequency analysis table. Finally, the data were selected only the available aspects frequency value from 6 or more.

4. Research Results

According to the studying of the scope of academic work and synthesizing the content with the frequency distribution synthetic table, the result shows that there are 4 important components of the literary texts to enhance EFL students' critical reading skills as follows:

4.1 Critical Thinking Approaches

The critical thinking approaches in 16 research articles from national and international in enhancing EFL students' critical reading skills are shown in Table 1.

Table 1 Critical Thinking Approaches

Critical Thinking Approaches	Indah (2012)	Hakim et al. (2021)	Bobkina & Stefanova (2016)	Tanapinijkarn (2015)	Kennedy (2019)	Almedee (2021)	Houda (2021)	Kaowiwattanakul (2021)	Mokhtari (2014)	Rattanasaeng (2011)	Tabrizi & Rideout (2017)	Niazi (2020)	Bunsom et al. (2011)	Srisermbhok (2018)	Rahman et al. (2017)	Huong (2019)	Frequency	Percentage	Rank
Bloom's Taxonomy	/							/	/		/	/	/		/	/	8	47.06	1
Dewey's Reflective Thinking		/									/	/	/				4	23.53	3
Critical Literacy			/	/	/						/	/					5	29.41	2
Paul-Elder Critical Thinking Model																	-	-	4
Total																	17	100.00	

As shown in Table 1, it could be explained that four critical thinking approaches have been used in many types of research that involve critical thinking abilities. The result also inform that the highest critical thinking approach was the critical thinking theory based on Bloom's Taxonomy (f=8, 47.06%), followed by Critical Literacy (f=5, 29.41%), and Dewey's Reflective Thinking (f=4, 23.53%), respectively. However, the Paul-Elder Critical Thinking Model was not found.

The concept of critical thinking skills has been approached by many well-known scholars throughout history. Critical thinking ability has become an essential goal in education. Students are taught to be 'good thinkers' by understanding and believing in information based on logical facts and reasoning knowledge. This is the conceptual knowledge about problem-solving and decision-making (Pithers & Soden, 2001). Many critical thinking approaches are used as theoretical frameworks in research. One of the most well-known principles of active learning principles in a classroom is the critical thinking theory adapting from Bloom's Taxonomy. Bloom's taxonomy applies to critical thinking skills. Bloom's taxonomy is a theory of the learners' thinking process when critically analyzing new knowledge and information. Bloom's taxonomy begins with knowledge or memory and slowly encourages the learners to look for more information based on the level of questions and keywords that evoke the learners' behavior. Therefore, Bloom's taxonomy and critical thinking are theories that support each other because both of the theories are necessary to learning and thinking skills.

To accomplish the learner's critical thinking goal, the learning principles are based on Bloom's taxonomy, which combines six levels (Overbaugh & Schultz, 2008) as follows:

1. Knowledge – Identification and recall of information.
2. Comprehension – Organization, and selection of facts and ideas.
3. Application – Use of facts, rules, and principles.
4. Analysis – Separating a whole into smaller parts.
5. Synthesis – Combining ideas to form a new whole.
6. Evaluation – Developing opinions, judgments, or decisions.
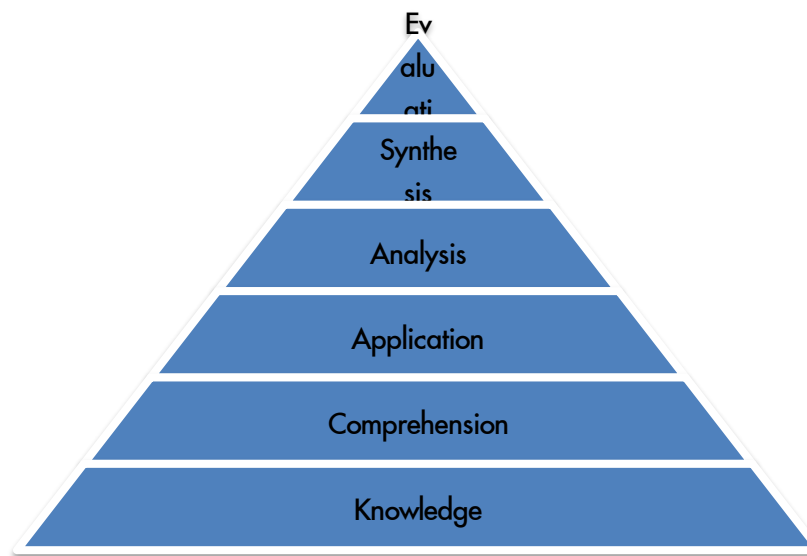
Figure 1 Critical Thinking: Bloom's Taxonomy (Overbaugh & Schultz, 2008)

4.2 Critical Reading Strategies

The critical reading strategies in 16 research articles from national and international in enhancing EFL students' critical reading skills are shown in Table 2.

Table 2 Type of Critical Reading Strategies

Type of Critical Reading Strategies	Indah (2012)	Hakim et al. (2021)	Bobkina & Stefanova (2016)	Tanapiniikam (2015)	Kennedy (2019)	Almedee (2021)	Houda (2021)	Kaowiwattanakul (2021)	Mokhtari (2014)	Rattanaseang (2011)	Tabrizi & Rideout (2017)	Niazi (2020)	Bunsom et al. (2011)	Srisermbhok (2018)	Rahman et al. (2017)	Huong (2019)	Frequency	Percentage	Rank
7 Steps of Critical Reading Strategies	/	/		/	/	/	/	/					/	/	/		10	90.90	1
Reception Strategies			/														1	9.10	2
Total																	11	100.00	

As shown in Table 2, it could be explained that two types of critical reading strategies have been used in research. The result also informed that the highest critical reading strategies were the seven steps of critical reading strategies (f= 10, 90.90%) and followed by Reception Strategies (f=1, 9.10%).

Being a 'good thinker' is not the only element that readers will need to comprehend reading better. To enhance the readers' effectively and critically, critical reading strategies are used in the classroom. Critical reading strategies enable readers to read beyond the line, go beyond understanding a text, and evaluate the arguments in the text. Critical reading strategies help and support readers to read more effectively. Critical reading is a more active way of

reading. It is a deeper and more complex connection to the text. Critical reading is the process of analysis, interpretation, and evaluation of the text. Readers can become good critical readers by enhancing critical reading strategies into their reading. There are many types of critical reading strategies to help learners.

According to Rohmani Nur Indah (2012), the researcher concluded the critical reading strategies into seven steps as follows:

1. Previewing – Learning about a text before reading it.
2. Contextualizing - Placing a text in its historical, biographical, and cultural contexts.
3. Questioning to understand and remember – Asking questions about the content.
4. Reflecting on challenges to reader's beliefs and values - Examining personal responses.
5. Overview and summary - Identifying the main ideas and restating them.
6. Evaluating an argument - Testing the logic of a text as well as its credibility and emotional impact.
7. Comparing and contrasting related readings: Exploring likenesses and differences between texts to understand them better.

4.3 Literature-Based Instructions

The approaches in teaching literature in 16 research articles from national and international in enhancing EFL students' critical reading skills are shown in Table 3.

Table 3 Literature-Based Instructions

Literature-Based Instructions	Indah (2012)	Hakim et al. (2021)	Bobkina & Stefanova (2016)	Tanapiniikarn (2015)	Kennedy (2019)	Almedee (2021)	Houda (2021)	Kaowiwattanakul (2021)	Mokhtari (2014)	Rattanasaena (2011)	Tabrizi & Rideout (2017)	Niazi (2020)	Bunsom et al. (2011)	Srisermbhok (2018)	Rahman et al. (2017)	Huong (2019)	Frequency	Percentage	Rank
1. Language-Based Approach	/	/	/	/	/	/	/	/	/	/	/						14	51.86	1
2. Personal-Response Approach	/	/	/	/					/		/		/	/	/	/	9	33.34	2
3. Collaborative Strategic Approach											/						1	3.70	4
4. Scaffolded Reading Experience Approach					/				/								2	7.40	3
5. CEFR Based Learning Approach								/									1	3.70	4
6. Paraphrastic Approach																	-	-	
7. Information-Based Approach																	-	-	
8. Moral-Philosophical Approach																	-	-	
9. Stylistic Approach																	-	-	
Total																	27	100.00	

As shown in Table 3, it could be explained that nine types of literature-based instructions have been used in many types of research. The result also informs that the highest literature-based instructions have was the language-based approach (f=14, 51.86%), followed by personal-response approach (f=9, 33.34%), scaffolded reading experience approach (f=2, 7.40%), and collaborative strategic approach and CEFR based learning approach are in the same level (f=1, 3.70%). However, the four literature-based instructions including the paraphrastic approach, information-based approach, moral-philosophical approach, and stylistic approach were not found.

Literature-based instruction is a significant approach in facilitating educators and teachers in the classroom. Teachers must choose an effective teaching approach that is in line with the students and the objectives of the class. Choosing the appropriate teaching instruction will also give students sufficient and successful learning acquisition. As shown in Table 3, most of the researchers used a language-based approach and a personal-response approach in teaching literature.

1. Language-based approach is one of the most frequently studied. This approach focuses on giving students a better understanding of reading literary texts. According to Rashid et al. (2010), this approach used literary texts to help students improve their language proficiency, vocabulary, and reading process. Maley and Duff (1990) insist that the main purpose of this approach is to use literary texts as a resource for motivating language activities.

2. Personal-response approach is another widely used approach in teaching literature. This approach focuses on the interaction between the reader and the text. This framework is one of the most significant studies about the benefits of critical reading of literary texts in the language classroom (Bobkina & Stefanova 2016). Furthermore, learners are encouraged to explore various textual meanings, their interpretation within the text (Vethamani 2003). Therefore, this approach motivates and encourages students to read by making a connection between the themes of the texts studied and their personal life experiences (Rosli 1995).

4.4 Types of Literary Texts

The types of literary texts that are used in 16 research articles from national and international in enhancing EFL students' critical reading skills are shown in Table 4.

Table 4 Types of Literary Texts

Types of Literary Texts	Indah (2012)	Hakim et al. (2021)	Bobkina & Stefanova (2016)	Tanapinikarn (2015)	Kennedy (2019)	Almedee (2021)	Houda (2021)	Kaoviwattanakul (2021)	Mokhtari (2014)	Rattanaseang (2011)	Tabrizi & Rideout (2017)	Niazi (2020)	Bunsom et al. (2011)	Srisembhok (2018)	Rahman et al. (2017)	Huong (2019)	Frequency	Percentage	Rank
Novels	/			/				/					/				4	22.23	2
Short Stories	/			/		/	/	/					/				6	33.34	1
Graphic Novels				/													1	5.55	4
Picture Books							/										1	5.55	4
Poetry								/									1	5.55	4
Poems		/						/					/				3	16.68	3
Drama				/													1	5.55	4
Movies				/													1	5.55	4
Plays																	-	-	-
Songs																	-	-	-
Total																	18	100.00	

As shown in Table 4, it could be explained that ten types of literary texts have been used in many types of research. The result also informs that the highest type of literary texts was the short stories (f=6, 33.34%), followed by novels (f=4, 22.23%), poems (f=3, 16.68%), and graphic novels, picture books, drama, and movies are in the same level (f=1, 5.55%). However, plays and songs were not found.

It can be seen that literary texts are used as a tool in teaching literature were frequently studied. As shown in Table 4, there were short stories, novels, and poems. Short stories are the most commonly used literary texts in teaching literature. It is a powerful and motivating tool for teaching critical reading (Oster, 1989). According to Collie and Slater (1991), short stories are beneficial because of their short length; their clarity and simplicity; their different tastes and interests; and their wide-ranging themes. Most students are fascinated to read short stories for their enjoyment and language learning (Pardede, 2010). Therefore, educators and teachers must select short stories which can be interesting for students to be more engaged in the lesson (Spack 1985).

5. Discussion

Based on the study of the document of academic textbooks and related research, it has been found that the components of the literary texts to enhance EFL students' critical reading skills were similar and different in detail. The researcher was able to synthesize some items only. There are 4 components of literary texts to enhance EFL students' critical reading skills are as follows:

5.1 Critical Thinking Approaches

Critical thinking approaches are a very significant concept in developing students' critical thinking skills. Students will become better thinkers by learning the critical thinking approach. The goal is for the most important learning principle of critical thinking adapting from the 6 levels

of Bloom's taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation in line with Indah (2012); Houda (2021); Kaowiwattanakul (2021); Tabrizi & Rideout (2017); Niazi (2020); Bunsom et al. (2011); Rahman et al. (2017); and Huong (2019).

5.2 Critical Reading Strategies

Critical reading strategies are also a very essential strategies in teaching students to read beyond the line, understand the meaning of the story, and evaluate the text. According to Rohmani Nur Indah (2012), there are seven steps of critical reading: previewing, contextualizing, questioning to understand and remember, reflecting on challenges to reader's beliefs and values, overview and summary, evaluating an argument, and comparing and contrasting related readings in line with Indah (2012), Hakim et al. (2021), Tangpinijkarn (2015), Kennedy (2019), Almedee (2021), Houda (2021), Kaowiwattanakul (2021), Bunsom et al. (2011), Srisermbhok (2018), and Rahman et al. (2017).

5.3 Literature-Based Instruction

Literature-based instruction has many approaches in teaching English to students through literature. Teaching literature promotes reading development and achievement (Galda & Cullinan, 2003). One of the most common approaches used is the language-based approach. This approach focuses on giving students a better understanding of reading literary texts. The benefits of teaching literature using a language-based approach have been explored in line with Indah (2012), Hakim et al. (2021), Bobkina & Stefanova (2016), Tangpinijkarn (2015), Kennedy (2019), Almedee (2021), Houda (2021), Kaowiwattanakul (2021), Mokhtari (2014), Rattanasaeng (2011), Niazi (2020), Bunsom et al. (2011), Srisermbhok (2018), and Rahman et al. (2017).

5.4 Types of Literary Texts

The literary texts' primary function is to engage the reader by using creative language and imagery. According to Khan & Alasmari (2018), literary texts play a vital role in learning the English language, especially enhancing communication competence, raising cultural awareness, and reading motivation among students. Palmer & Burroughs (2002) also states that literature can be used as materials to develop language competence and enhance critical reading. Short stories are one of the most frequently used literary texts in the research articles in line with Indah (2012), Tangpinijkarn (2015), Houda (2021), Kaowiwattanakul (2021), Rattanasaeng (2011), and Bunsom et al. (2011).

6. Conclusion

According to the studies of documents and related research, data can be synthesized with frequency analysis tables in the areas that educators and researchers agree on as a critical component. As for literary texts to enhance EFL students' critical reading skills to be successful,

resulting in efficiency and effectiveness, it consists of 4 main components: critical thinking approaches, critical reading strategies, literature-based instructions, and types of literary texts.

To achieve the highest benefit from using literary texts to enhance EFL students' critical reading skills, educators and teachers must choose the right and suitable approaches, strategies, teaching instructions, and literary texts. This study gives an overview of the critical thinking framework, critical reading strategies, literature-based instruction, and types of literary texts.

7. Recommendations

There are many issues that researchers and teachers will need to consider in using literary texts as a tool in teaching to develop students' critical reading skills. It is hoped that this study will provide insights that will help educators and teachers decide which of those issues are important for them to incorporate into their critical reading classroom. The finding revealed interesting issues related to teaching literature to enhance EFL students' critical reading skills along these lines: critical thinking approaches, critical reading strategies, literature-based instructions, and types of literary texts should be concerned.

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Building Students' Global Competency in English Language Classrooms
at Undergraduate Level in Myanmar

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Abstract

The purposes of this study are to investigate the teachers' views on building students' global competency, to examine students' views on traits of global citizenship set, and to explore students' views on cultivation of engaged and active learners in the study of global citizenship education. The data were collected by using mixed-method with questionnaire survey, and an interview form was also developed by the researcher as the data collection tool. The participants comprise of 59 teachers and 436 undergraduate students from different universities in Myanmar. According to the findings, the teachers considered with moderately effective towards using forms on building global competency in their language classrooms at undergraduate level B.A English course. Moreover, the students perceived that they are just ready to be trained and changed with traits of global citizenship set after taking the course. However, students are cultivated by the teachers so that they just prepared to be engaged and active learners in the study of Global Citizenship Education.

Keywords : Global Competency, English Language Classrooms, B.A. English Course

Implementation of Teaching Practices with Respect to the Integration of Global Citizenship: ELT Context

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Abstract

The aim of this study is to explore the perceptions of English language teachers regarding integrating global citizenship education into ELT courses. The data were collected using questionnaire survey, and a semi-structured interview form was also used as the data collection tool. The participants were selected on the basis of easily accessible, and convenience sampling method, which is one of the purposeful sampling methods, was used in the research. The participants comprise of 122 English teachers who have worked at higher education institutions in the states and regions in the academic year 2019-2020. In implementing the global citizenship education, positive attitudes of teachers can change in today's society through empowering and engaging the youths in the field of English Language Teaching (ELT). As a result, it was concluded that English language teachers have insufficient levels of knowledge, skills, attitude and action related with global citizenship education. Findings revealed that while most of the participants stated that they partially understood the roles and responsibilities of Global Citizenship Education and they involved only partial implementation in specific teaching practices in their classes to educate students as global citizens addressing global issues in the courses and role modelling was partially implemented by few teachers to promote global citizenship.

Keywords : Global Citizenship, Global Education, Global Issues in ELT

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Abstract

In western Shan State of Myanmar, there is a picturesque lake, famous for its floating villages and gardens and the unique way of life of the local Intha people, with their living communities based entirely on the water. The present survey research was aimed at identifying the ICT facilities, skills, usage, and the problems faced by the high school teachers of basic education while using ICT. The population of the study comprised the teachers of 17 Inle villages. Instrument was developed by the first author. About 102 state high school teachers were selected from three government high schools. Descriptive statistics were used to analyze the data. The findings revealed that only some of the teachers have computers and Internet facilities at home and school. They are expert at simple skills like Searching and Browsing at Internet (Mean=1.63), Social Networking (Mean=1.43) and MS Word (Mean=1.42) but are less skilled or poor on other skills like using MS Access (Mean=1.11), discussion forums/Blogs (Mean=1.12) and Windows & file management (Mean=1.13). Teachers spend more time on computers for academic and other purposes than for recreational purpose. They believe that the use of ICT supports their learning (Mean=4.18). Lack of technical support (Mean=1.71) at home and (Mean=1.48) at school, load shedding (Mean=1.70) at home and (Mean=1.69) at school and signal problem in Internet (Mean=1.68) at home and (Mean=1.42) are the problems faced by most of the teachers. Thus, the government high schools should invest more on improving the infrastructure to address the ICT related problems of teachers at the schools.

Keywords : ICT Facilities, Skills, Usage, Problems, High School Teachers, Myanmar

The 21st Century Learning Needs of University Students: Teachers' Perception

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Abstract

Students can only begin to understand the importance of these 21st century competencies once they have been given an opportunity to practice them. Teachers and administrators who want to incorporate these competencies into their curriculum need to do so in a strategic and holistic way. Regardless of the subject or the course, teachers can find ways to include competency development into their lesson plans. For example, teachers can create groups of students who will work together on a project. Each student in the group can be assigned a role, such as a manager, writer, or art coordinator. They may be put into a role that they would not usually choose to encourage them to explore outside of their comfort zone. This forces students to work on an individual task while focusing on the common goal. This research explores the integration of learning such competencies into the higher education in Myanmar. It aims to identify teachers' perception on the essential 21st century competencies for students in implementing 21st century learning. Teachers play the main role in determining the outcomes of students' 21st century learning. These broad categories are cognitive competencies, interpersonal competencies, and intrapersonal competencies (Acedo & Hughes, 2014). Teachers' perception and understanding towards an innovation in education influence their action, decision, and practice in the classroom. Teachers are the main factor that contributes to students' performance in mastering 21st century competencies. This research was conducted by using questionnaire and interview as research instruments. A total of 101 teachers involved in this survey. The sample was chosen randomly. In a 21st century world where students will need mastery of both core subjects and applied skills, the purpose of this qualitative study was to explore the 21st century learning needs of university students in selected Myanmar universities. According to the data, the teachers consider that the students should have a wide coverage and reasonable balance among the differing skill sets subsumed under the general heading of 21st century competencies. It has been also found that cognitive competencies are more relevant to Myanmar higher education contexts than others. Cognitive competencies include critical thinking and creativity, both of which were identified by global organizations as fundamental in a transnational economy to help students become socially engaged, career equipped, lifelong learners. In fact, all the competencies in this research involve higher-level thinking of some kinds.

Keywords : Teachers' Perception, 21st Century Competencies, Myanmar

University Students' Perceptions on 21st Century Learning Skills: Myanmar Context

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Abstract

The 21st Century skills are more important to students now than ever before. They not only provide a framework for successful learning in the classroom but ensure students can thrive in a world where change is constant and learning never stops. And they are also tremendously important for our nation's wellbeing. A 21st Century learner is focused on authenticity in the learning environment and is adept at incorporating a variety of skills including critical thinking, problem solving and collaborative work. This has placed a lot of demand on the skills and abilities of the teachers which has therefore, increased their occupational roles. This is because the needs of the 21st Century are different from needs of the 19th and 20th Century. This study, therefore, aims at investigating the types of learning which students play in the 21st Century and the areas of students' roles affected by the 21st Century environment. This research investigates the university students' awareness of 21st Century learning in the context of Myanmar. Two research objectives guided the study. The population of study comprised of 113 university students. Instrument used was the questionnaire and personal interviews designed by the researchers using a modified Likert scale of five points. Findings reveal that students' level of awareness of 21st century learning is just moderate and not very encouraging. The results showed that students' perception towards 21st Century Skills is at the moderate level. Based on the findings, it was recommended that most universities are in the early stages of their journeys. Nevertheless, the next step was to get a wide view of how universities in general are going to support 21st Century Student Learning.

Keywords : University Students, 21st Century Learning Skills, Myanmar

Uses and Limitations of Questionnaires in Social Science Research

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Abstract

This research aims to identify and explain some of the advantages and disadvantages of questionnaires in social science research. Questionnaires are often used by researchers in doing research as they are understood to be very useful to collect large amounts of data from a large sample of people. However, questionnaires are not without some limitations. It is, therefore, important for researchers to examine the advantages and disadvantages of questionnaires before deciding whether they should use this instrument in their research or not. In every field of research, the best way to collect all the information is through surveys. Surveys can be conducted in various ways like telephone interviews, personal interviews, mail surveys, email surveys, internet surveys, computer direct interviews or questionnaires. Each method has its own advantages and disadvantages and much depends on the target audience. The advantages and disadvantages of using questionnaire have been explored in this research. A total of 160 volunteer teachers who are doing social science research at university participated in the research. According to the data, respondents reported positive opinions in relation to the statement "Questionnaires are quick and easy to collect results within online and mobile tools (Mean=2.96)" followed by questionnaires allow to gather information from a large audience. However, many advantageous has been found in using questionnaires for social science research also.

Keywords : Uses and Limitations, Questionnaires, Social Science Research

Foreign Language Anxiety and Test Anxiety of University Students
: Myanmar Context

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Abstract

Anxiety is gaining widespread attention among the researchers because it can affect negatively students' learning process. Students who are studying at higher education institutions face many challenges in their learning due to anxiety. Therefore, this study aims to discover foreign language anxiety and test anxiety and to investigate their reasons, effects, and results on foreign language learning of university students in Myanmar. In this research, Foreign Language Classroom Anxiety Scale and Test Anxiety Scale (TAS) were employed to collect data. This study surveyed 103 students of English as a foreign language at selected universities in Myanmar. In the context of Myanmar university students learning English as a foreign language, they suffered from moderate foreign language anxiety and moderate test anxiety. The findings reveal that anxiety can negatively affect foreign language learning and test-taking. Based on the results of the study, foreign language anxiety was caused by communication apprehension (especially speaking anxiety) and fear of negative evaluation. Test anxiety was caused by the pressure of time limits and fear of failure. To allay language anxiety and test anxiety, these suggestions could be made as follows. As for language anxiety, we could use interesting pedagogic approaches, Bloom's taxonomy and setting that help students reduce their anxiety and develop more confidence during learning progress. Regarding test anxiety, we should inform the students about the aims of the test, test techniques and strategies, language proficiency, exam format, and instructions as well as the type of rating system before the administration.

Keywords : Foreign Language Anxiety, Test Anxiety, Myanmar, University Students

Foreign Language Classroom Anxiety and Reading Anxiety
of EFL Students in Myanmar

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Abstract

This study is aimed at measuring the levels of anxiety of Myanmar students in English as a Foreign Language (EFL) classes, using two scales: Foreign Language Classroom Anxiety scale (FLCAS) and foreign language reading anxiety scale (FLRAS). This study surveyed 133 students from selected universities. It employed two anxiety scales, the Foreign Language Classroom Anxiety Scale (FLCAS) and Foreign Language Reading Anxiety Scale (FLRAS) to collect data. The results indicate that the respondents in this study suffered from both moderate foreign language classroom anxiety (Average mean=2.95) and moderate foreign language reading anxiety (Average mean=2.65). In comparing the results as measured by the two scales, foreign language classroom anxiety was more common than foreign language reading anxiety. The general mean score of FLCAS was slightly higher than that of FLRAS. On the foreign language classroom anxiety scale, the anxiety of the English classes was the main cause of participants' anxiety, (Average mean=3.10), followed by fear of negative evaluation, (Average mean= 3.08), test anxiety (Average mean =2.90), and communication anxiety (Average mean = 2.72). Reading anxiety was caused by the less satisfaction with their reading ability. Therefore, anxiety is a significant factor that can interfere with students' learning processes and reading comprehension processes.

Keywords : Foreign Language Classroom Anxiety (FLCA), Foreign Language Reading Anxiety (FLRA), EFL Students, Myanmar

An Error Analysis of Thai into English Translation
of Second-Year English Majors

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Abstract

This research is on the topic of error analysis of Thai to English translation. It was mixed-method research. The objectives were 1) to analyze the error of translating Thai into English sentences of the second-year students of English majors, 2) to investigate the causes of errors found in their translation works of the second-year students of English majors. The samples of this study were 20 second-year English majors. They were selected by purposive sampling. The research instruments were 25 Thai sentences adapted from Laisatthukai (2018). The frequency and percentage were applied to analyze the quantitative data, and the content analysis was applied to analyze the qualitative data.

The research results revealed that the samples' mistakes were in the total frequency of 336 with a percentage of 22.9. When considered in the detail, it was found that the errors in translation of the serial verb construction were high frequency (77) with a percentage of 22.9, followed by the errors in translation of the misuses of tense with the high frequency (71, 21.1%), and the relative pronoun the frequency (69, 20.5%), respectively. The causes of the errors were the lack of grammatical knowledge and the difference in the sentence structure of the two languages.

Keywords : Causes of Errors, Translation, Error Analysis

1. Introduction

The English language has become a very important language for daily life in the present. It is an official language for many countries such as Australia, Canada, etc. It is also a second language for Asian countries such as Singapore, Malaysia, etc. People who are smart in English, especially macro skills; speaking, listening, reading, and writing can travel around the world and they have the opportunity to find a good job than those who do not have these abilities. In addition, it is not only macro skills that are important but micro-skills as literature,

linguistics, and translation are also important. So that some skill of English language is important for Thai people and Thai learners especially translation skill. The learners who have the ability in language skills can translate well. They have to practice more and more in translating to improve themselves.

The translation is both a science and an art. Translation is the art, translators have experience, and they learn to practice more time. They make the translation work better based on their own experience. The translation is the science, the translators think that the process of translation can be studied, analyzed, and applied to the other theory. They believe that the theory from other areas can be applied to support the translation works of Nida (1964), Saibau (2010). Translating means the person who has a certain ability in one language and other one language attempts to produce the original text of the first language into the equivalent text of the second language. The translation can be defined as reproducing by replacement of the receptor language whit the source-language text. It has the closest natural equivalent meaning of both languages, Nida and Taber (1974), Eppert (1976), Hatmann and Stork (1972). To replace one language with another language is not absolutely in all aspects, because one language has different from the other in rules of grammar, the structure of sentences, and the culture of the people who use the language. So that, it makes many problems for the translators, Laisatthukai (2018).

According to the problems of translation, the problems mean all kinds of obstacles that make translation difficult. They can be the problem of the unclear of the resources text or the translators themselves. Intakosum (2000), he had said that the problems of translation can be divided into two types as the problems of the understanding of original content and conveying the meaning. The translators don't understand the original content caused by the text is unclear. It may be unclear in the word level or the sentence level. The text can be understood with more than one way of meaning. This makes the ambiguous sentence. So, translators confuse the source text and they make the wrong translation. It accords to Supon (1998), Pokasomrit (2006) she divided the translation problem into three types. They consist of cultural translation problems, structural translation problems, and problems of translation meaning of words.

It is concordant with Hatim and Mason (1990). They explain the problem of the translator which affects translating texts. It causes by the translators' lack of understanding of the source language texts and they don't know how to find the correct meaning of words and the grammatical meaning. The translators also lack the interpretation skill to analyze the source texts. So, it causes to make mistakes in translation works. Vimonchalaow (2000) said that the errors of translation are caused by the influence of the mother tongue on the translation of learners who learn English as a second or foreign language. This is the main type of making the mistake of Thai learners. Mullikamas (2013), the differences in the sentence structure of the two languages are also problems. For example;

Sentence:	พ่อ **นั่ง** **อ่าน** หนังสือพิมพ์ **อยู่**
Translation:	Father sits and reads the newspaper.
Sentence:	น้อง **เดิน** **ไป** **กิน** น้ำในตู้เย็น
Translation:	Sister walks and goes to drink water in the refrigerator.

From this example, the translated versions are word-by-word translations. They seem to be corrected but these two sentences are not smooth. So, they should be proved by the reader how smart in English or the teachers. These sentences are translated by using Thai content directly. The translator uses English words instead of Thai words directly. So, the mother language can interfere to the second language as English.

In the present, translation from Thai to the English language is always a problem for the learners because they often translate slowly to prevent mistakes. They are always correct in the writing style of language. The structures of words, phrases, and sentences of Thai and English are different. When the learners translate Thai into English context, they can translate easily in the simple structures that are nearly the same in Thai and English. But in complex structures such as compound and complex sentences, the learners quite make mistakes. In complex structures, the learners cannot understand them clearly. So, it is easy to interfere with their mother language because they don't know how to use the word in English instead of the word in Thai. This intervention can cause by the learners being dominated by the use of words and grammatical structure of the native language. It means that they bring the words and structure of the original language and replace them directly to the other language. As a result, translation became unnatural meaning and it may be changed or distorted the meaning. Even the meanings did not convey any meaning. Therefore, errors caused by the interference of the mother-tongue language arise from learners who learn English as a second language, Saibua (1993).

English major students who have learned the subject of basic translation, and academic translation still have problems in translation from Thai into the English language. When they write or translate the texts, they face problems with grammar skills. They always make mistakes. According to Som-In (2018), he claims that is found that the skills that the students face were grammar skills which means the students always make mistakes in grammar such as word order, structural mistakes, and word choice. Therefore, the research has intended to study the errors in students' translation to find the correct way to solve the problem in translation and improve the translation ability of students. The result of this study will help the teachers to find ways to teach the students and will develop students' academic achievement.

2. Research Objectives

1. To identify the types of translation Thai into English sentences of the second-year students of English majors

2. To investigate the cause of errors found in their translation works of the second-year students of English majors

3. Research Methodology

3.1 Research Scope

1. The population included 64 second-year students of English majors in Humanities and Social Sciences, Buriram Rajabhat University who applied to learn in the first semester of the academic year 2020.

2. The samples of this study were 20 second-year students of English majors who applied to learn the subject of academic translation (2032401) in the first semester of the academic year 2020 at Buriram Rajabhat University. They were selected by a purposive sampling design.

3. The researcher defined the tests with 25 items in this research. These tests consist of the translation of tense, the choices in the inappropriate word to the content, the translation in the passive voice, the translation of relative pronoun, and the translation serial verb construction.

3.2 Research Instruments

The research instruments consisted of the tests of translating Thai sentences into English. These tests consist of 25 items which were adapted from the concept of Laisatthukai (2018), Pinmanee (2012). They were determined by trying it out with 20 non-samples who were second-year students of English majors. The difficulty of the obtained scores was also analyzed. The results showed that the test difficulty index was between 0.22-0.63, and the discrimination was between 0.25-0.63, for the calculation of the test reliability showed the result at 0.75. The contents validity of the tests was examined by three experts and had an IOC of 1.00. The comments given by the experts were taken into account in order to develop suitable tests. The statistics used in this study were percentage, frequency, and percentage which were used to analyze the quantitative data. And the content analysis was used to analyze the qualitative method.

3.3 Data Collection

Data collection used in this research consisted of four steps as follow;

1. The researcher prepared the tests of translation of Thai sentences into English which consisted of 25 items.

2. The samples were given the translation tests after they have learned with the course of the academic translation. And then, they completed the tests within two hours.

3. The quantitative data of errors of translations were calculated by a computer software program as frequency, and the percentage. The qualitative data of error translation causes were

analyzed by using content analysis. The data had explained the characteristics of the error of translation.

3.4 Data Analysis

1. The analysis of the errors of translation of Thai into English sentences of the second-year students of English majors focused on an error in meaning and the use of language. The analysis of the errors of the translation was adapted from the concept of Saibau (2010).

2. Error coding

The researchers checked all students' translation tests for errors and marked the errors in every piece of work. Error classification table for error analysis in this research was adapted from the concept of Saibau (2010).

3. Error classification

After checking and recording errors, the researchers classified and coded the errors into the following categories: the translation of the use of tense, choosing the inappropriate word to the content, translation in the passive voice, an error in translation of the relative pronoun, and translation of the serial verb construction. Error counting and error recording were done in the designed table. The statistics i.e., frequency and percentage were used to calculate the errors found in the students' translation works.

4. Record of causes of error making

The causes of error making were analyzed and coded using the table which was adapted from the concept of Richard (1971). The coding results were supervised by the experts and corrected in accordance with their feedback. The causes of error making in this research were recorded in the table.

5. Identification of causes of error making

The researchers checked, coded, and counted the causes of making errors, then recorded all errors in the table categorized as referred in item 3. The statistics i.e., frequency and percentage were used to calculate the causes of errors made in the students' translation works.

4. Research Results

The results were presented according to the research objectives as follows:

1. The errors from translation Thai to English sentences of the second-year students of English majors

The information was shown in table 1:

Table 1: The types of errors in translation of the second-year English major students

No.	Types of error in translation	frequency	percentage
1	An error in translation of the use of tense	71	21.1
2	An error in choosing the inappropriate word to the content	63	18.8
3	An error in translation in the passive voice	56	16.7
4	An error in translation of the relative pronoun	69	20.5
5	An error in translation of the serial verb construction	77	22.9
	Total	**336**	**100%**

Table 1 Showed that the samples' mistakes were in the total frequency of 336. It could be explained that the errors in translation of the serial verb construction were high frequency (77) with a percentage of 22.9, followed by the error in translation of using tense was the frequency (71) with the percentage of 21.1 And the error in translation of the relative pronoun was the frequency (69) with the percentage of 20.5, respectively.

Table 2: An error in translation of serial verb construction (two or more verbs used in one sentence)

This type of error in translation referred to the mistakes of the use of two or more verbs that occurred in one sentence.

Source Language	Target Language (Student's translation)	Frequency	Percentage
1. ฉันช่วยแม่ทำกับข้าว	I help my mother cook rice.	10	13.0
2. พ่อนั่งอ่านหนังสือพิมพ์ในห้องนั่งเล่น	Father sits and reads the newspaper in the living room.	15	19.5
3. เขาเดินไปขึ้นรถที่ป้ายรถเมล์	He walks and goes to rise the bus.	17	22.1
4. ผมจะปิดไฟนอนแล้วนะ	I will switch off the light and sleep.	17	22.1
5. ฉันหิวมากเลยต้มมาม่ากิน	I am very hungry and boil the Mama and eat it.	18	23.4
	Total	**77**	**100%**

Table 2 was shown that the samples' mistakes in translation of serial verb construction were in the total frequency of (77). When considered in the detail, it was found that sentence number 5 was a high frequency at 18 with a percentage of 23.4, followed by sentences number 3 and 4 had the same frequency at 17 with a percentage of 22.1. And sentence number 2 was the frequency at 69 with a percentage of 19.5, respectively.

Table 3: An error in translation of the use of the wrong tense

This type of error in translation referred to the mistakes of the use of the wrong tense. Students translated past tense in Thai by using present tense in English and translated present tense in Thai by using past tense in English.

Source Language	Target Language (Student's translation)	Frequency	Percentage
1. เมื่อคืนงานเลี้ยงสนุกไหม	When the party last night is fun?	11	15.5
2.เธออยู่ที่นี้มาตลอด คอยลูกชาย อยู่เป็นเวลาเกือบสองชั่วโมงแล้ว	She is always been here all along, waiting for her son for nearly two hours.	16	22.5
3. เมื่อฉันไปถึงที่ทำงาน การ ประชุมเพิ่งจะเริ่มพอดี	When I arrived at the workplace, the meeting had started.	17	23.9
4. ผู้คนได้ออกมาลงคะแนนให้ผู้นำ ของตนเอง	People have come out and voted for their leaders.	13	18.3
5. ทำรายงานเสร็จแล้วหรือยัง	Do you finish your work?	14	19.7
total		71	100%

Table 3 Showed that the samples' mistakes in the use of tense were in the total frequency of 71. When considering the detail, it was found that the sentence with high frequency was sentence number 3. The frequency of the error was 17 with a percentage of 23.9, followed by sentence number 2. The frequency of the error was 16 with a percentage of 22.5. And sentence number 5. The frequency was 14 with a percentage of 19.7, respectively.

2. The cause of errors in translation Thai into English sentences

The information was shown the cause of the errors in translation of the second-year English major students. There were two causes in errors translation of the students. Those are mother tongue interference and using in the wrong tense.

2.1 The error caused by mother tongue interference

According to the mistakes of the use of two or more verbs that occurred in one sentence from table 2, it was shown that the samples made mistakes by using both two verbs as the main verbs in English with a high frequency at 18, and a percentage of 23.4. This mistake was caused by mother tongue interference. Before being translated, the samples had thought about their own language and translated it into the English language by using the Thai language

form of verbs. For example, Thai sentence was "ฉันหิวมากเลยต้มมาม่ากิน". This sentence consisted of more than two verb words. It could be analyzed the verb words as follow;

ฉัน	**หิว**	มากเลย	**ต้ม**	มาม่า	**กิน**
I	hungry	very	boil	noodles	eat

From this sentence, there were three verb words as the words in bold. These words could be replaced with English words such as hungry, boil, and eat respectively. The problem was that the samples translated this sentence into English with their own language based on the Thai structure. Some of the samples translated this sentence as followed;

Translation 1: I am very hungry and boil the Mama and eat it.
Translation 2: I am very hungry So, I boil the Mama and I eat it.

These two sentences seemed to correct because they consisted of grammatical rules and meaningful sentences. But they were nearly non-sensible in English sentences. In English, it couldn't be used many verbs with the same form in one sentence. It should be one main verb and the other should be a helping verb or infinitive. Sometimes, the verb can be left out when it was translated into the English language. This sentence should be translated as followed;

I am very hungry, So I eat instant noodles.

2.2 The error caused by using the different components of Thai and English tense
According to table 3, it was shown that the samples' mistakes in the use of tense were in the total frequency of 71. The number 3 was made mistakes from translation work with the frequency of 17, and 23.9%. This mistake was caused by the samples' lack of knowledge about language. Moreover, the components of Thai and

English tenses were different. In the Thai language, there were no words that could be clearly indicated with the tense like the sentence "เมื่อฉันไปถึงที่ทำงาน การประชุมเพิ่งจะเริ่มพอดี". The verb in the sentence did not indicate these because the Thai language did focus on tense, the people should predict the tense from the context. They had to guess what the speaker took about. It could be analyzed the verb words as follow;

Sentence : เมื่อ	ฉัน	**ไปถึง**	ที่ทำงาน	การประชุม	เพิ่งจะ	**เริ่ม**พอดี
When	I	arrive	office	meeting	just	start

Each verb in English could be the main verb or the model verb and all of the represent the tense. But, the verbs in the Thai language didn't represent the tense they didn't change with the form of tense or subject so it made the learners confuse when they translated Thai into English sentences. From the example above, there were two situations. The first was "เมื่อฉันไปถึงที่ทำงาน", and the word "ไปถึง" was a verb. The second one was "การประชุมเพิ่งจะเริ่มพอดี", and the word "เริ่ม" was a verb. These verbs didn't change their form with tense. They didn't refer to present tense or past tense. The learners should guess from the context. In this sentence, the learner guessed from the word "เพิ่งจะ" which referred to present tense. The example of the students' translation was as follow;

Translation 1: When I arrived at the workplace, the meeting will start.
Translation 2: While I went to the office, the meeting will begin.

From these two sentences, the students used past tense and future tense in English sentences because they thought the first situation was the completed action. So, they used past tense. In the second situation, they confused the word "จะ" which referred to the future action. So, they used the future tense in the second situation. Students ignored the difference between Thai and English tenses. This sentence should be translated as followed;

When I arrive at the office, the meeting has just started.

5. Discussion

The following points based on the research objectives were discussed as follow:

1. To identify the types of translation Thai into English sentences of the second-year students of English majors.

1.1 The first type of mistake that the samples make is serial verb construction with the frequency of (77, 22.9%). This might be because of the following reasons. The samples translated Thai into the English language instead of English words into Thai directly. They don't take into account the difference between Thai and English sentence structure. The result is similar to Prima (2016), the result revealed that serial verb construction in the Thai language was a big problem to the translator because this structure didn't appear in English structure.

1.2 The second type of mistake that the samples make is the translation of the use of tense with the frequency of (71, 21.1%). This might be because of the following reasons. It means that the translators lack knowledge about the use of tense which is the grammar of English. Because the Thai language doesn't have clear words that presented the tense. The translators have to guess by themselves. Therefore, there is a chance that the translators might choose the

wrong tense. This result is similar to Mamoon (2019), the result showed that the sample group made mistakes in grammar rules. After the teacher corrected and explained the rule of grammar, they could translate correctly. But they still had problems with the use of tenses.

1.3 The third type of mistake that the samples make is an error in the translation of the relative pronoun. It means that the samples made mistakes in translating complex sentences with the frequency of (69, 20.5%). This might be because of the following reasons. The complex sentence was a complicated structure. The Thai and English sentence structures were different. The result of this research accorded to Termjai (2021) result showed that the most types of errors were used in the non-defining clause, and it was made mistakes of relative pronouns "that". The position of the most misused relative clause was min-sentence.

2. To investigate the cause of errors found in their translation works of the second-year students of English majors

According to the mistakes of the use of two or more verbs that occurs in one sentence from table 2, it is shown that the samples make mistakes by using both two verbs as the main verbs in English with a high frequency at 18, and a percentage of 23.4. This mistake is caused by mother tongue interference. In accordance with the research result of Chanaroke (2021), the study revealed that the most frequent and salient grammatical errors found in the students' translation test were the suffix omission, in plurality, and in the past tense verb. The data showed that Thai linguistic features caused by mother tongue transfer influenced the English sentence writing of Thai undergraduate EFL learners.

According to table 3, it shows that the samples' mistakes in the use of tense were in the total frequency of 71. The number 3 is the mistakes from translation work with the frequency of 17, and 23.9%. This mistake is caused by the samples' lack of knowledge about language. Moreover, the components of Thai and English tenses are different. It consists of the research of Laongpol (2019), The results revealed that the most frequent errors were found in translating the headlines using present simple and past participle together. The causes of these errors were the students' limited background knowledge about language, inadequate grammatical and vocabulary skills, substantive adherence to the source language, and carelessness.

6. Recommendations

The followings are some recommendations based on the research results:

1. Teachers can utilize the results of this research as a guideline to improve their teaching because the results revealed the types and causes of errors found in students' translation works.

2. For further study, researchers should include the study of complications that can possibly cause mistakes in students' translation works as well as the development of tools or innovations to help solve the problems arising from their translation works.

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Beliefs of University Teachers: Personal Skills of Teacher Leaders

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Abstract

In this age of high accountability, teacher quality is receiving more attention than ever before. Research that investigates ways to increase teacher quality is much needed, making this study a timely addition to the literature. Although increases in student achievement related to teacher quality have yet to be adequately documented, the research is promising. This research highlights the university teachers' perceptions of characteristics and conditions of teacher leaders as well as current practice and future inquiry about teacher leadership as it matters for the profession and individuals. The Teacher Leadership Inventory was administered in selected universities to 200 teachers; 95 teachers completed the questionnaire survey. In this research, teacher participants suggest on characteristics and conditions that opportunities for leadership in the university context have been shown highest mean (mean=2.77) for the development of teacher leaders. Teacher participants' current practice about teacher leadership includes offering assistance in teaching (mean=2.47), making decisions about activities (mean=2.46) and asking one another for assistance (mean=2.33). According to them, teacher leaders are successful leaders who are good at working with team (mean=2.40) and openness also plays a vital role in university reform (mean=2.14). They also suggest that teaching related skills are important which are personal skills for the leaders (mean=2.04). Findings indicate the teachers' belief on requisite personal skills of teacher leaders that might be necessary to fill the role of a teacher leader in the context of Myanmar.

Keywords : University Teachers, Personal Skills, Teacher Leaders

Student Perception on Traditional English Language Testing in a Myanmar Context

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Abstract

7tfc Testing is a part of learning, and lets students show what they know and what they can do. Tests results show student strengths. Testing in education is an attempt to measure a person's knowledge, intelligence, or other characteristics in a systematic way. The impacts of testing on educational systems can also be seen in English language education in the countries of South-East Asia like Myanmar. In the present situation of Myanmar where traditional testing exists, it is unavoidable for students to take a test as a requirement of their education at the end of a predetermined period of instruction (for example, mid-term and final). Traditional testing takes the form of paper-and-pencil tests which are typically used for the assessment of separate components of language (grammar, vocabulary) and receptive understanding (listening & reading comprehension). Test items in such tests or even in standardized tests are often in fixed response format or one-answer questions (e.g., multiple choice and true/false). Students are rated in relation to how many right answers are given. In this study, the participants comprised of 100 students from selected universities in Myanmar in the academic year 2019-2020. This research examines by using mixed-methods with questionnaire survey and semi-structured interview forms. The findings revealed that students have been exposed to and familiar with this form of traditional English tests since they entered an educational system. Considering how to increase test fairness, the most frequently reported comment is to certainly test what students have learnt in English courses. This is commented by the participants that students deem an exam unfair when there are questions on content which is not covered in lectures or in courses (Mean=1.61). The ideas of fairness of the test and test content validity seem to overlap to some extent. In order to improve our learning, the tests must be formative, summative and constructive one. Results are crucial in learning if the tests are authentic and worthwhile.

Keywords : Student, Traditional English Language Testing, Myanmar Context

Teachers' Perceptions on the Effectiveness of Group Work and Pair Work towards CLT in ELT Classrooms

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Abstract

This study aims to investigate EFL teachers' attitudes on the effectiveness of group work and pair work in ELT classrooms, find out the teachers' attitudes on group work and pair work activities, and explore the effectiveness of group work and pair work activities. In this paper, 30 teachers were selected to collect the data from different universities in Myanmar. In this study, the mixed approach was applied. The data for the paper was gathered by a questionnaire survey, and the researcher produced it through a semi-structured interview. Teachers' opinions of the communicative language approach were shown to have a favorable attitude toward pair and group work activities. Group and pair work are most effective when they are utilized in conjunction with other tactics rather than as the exclusive mode of engagement in the classroom.

Keywords : Teachers' Perceptions, Group Work and Pair Work, ELT Classrooms

Professional Development Needs of Myanmar University Teachers of English

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Abstract

A small-scale survey was conducted in Myanmar to investigate the professional development (PD) needs of EFL teachers. The study was to shed light on the current situation and the challenges related to English language education. The participants of the study were asked to select three PD needs that interested them from a list of ten need areas. The ten need areas are the PD needs as identified by Igawa (2008). Some qualitative data is used to supplement and interpret the results of this study. The results show that the teachers need to take part of the responsibility for their professional development (Mean=4.92). According to them, ongoing professional development is essential in today's world (Mean=4.85). Teachers' belief in themselves and in what they are doing make them confident (Mean=4.77). According to the interview data, Myanmar teachers' preferred PD areas are Teaching Skills and Methods, Understanding Students, and Attending Conferences, Seminars and Workshops.

Keywords : Professional Development, Myanmar, English Teachers

Culture Learning in Myanmar EFL Context

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Abstract

In this era of information and technology explosion, peoples in the world encounter one another more often and more easily than ever before. The need for mastering a foreign or second language besides one's own seems to dramatically grow. More people are learning languages for their personal and professional needs. Specifically, cultural features of the language being learned must be taught concurrently with the linguistic parts, which have traditionally been underlined. To that end, this paper efforts to partially shed some light on this issue. Researchers have been exploring how all learners grow and learn in culturally defined ways in culturally defined contexts. An important aspect of learning any foreign language is learning its culture. However, many teachers still seem to undervalue this key component in language teaching. Consequently, the present study sought to shed some light on the place of culture in EFL classrooms at educational context in general, and the main goals of teaching culture, major means of teaching culture and the main obstacles facing teachers in teaching culture. To do so, questionnaires were distributed among EFL teachers from different universities and responses were then collected. The findings revealed a gap between the teachers' perceptions and practices in dealing with culture. The data were collected through a Likert type questionnaire in which 52 Myanmar teachers of English and 86 Myanmar university learners were asked questions to respond with the purpose of finding the importance of cultural aspects in learning the target language. Finally, data analyzed showed that the teachers and learners had positive attitude towards the culture and culture learning. They all preferred to the intercultural communicative competence. And the teachers and learners are actively involved in cultural activities in language classrooms and had the positive attitudes to the cultural activities.

Keywords : Culture Learning, EFL Context, Myanmar

Assessment Practice of English Language Teachers in Myanmar

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Abstract

Good assessment practices benefit both students and teachers in several ways: They give information to help teachers determine the appropriateness of content and the pace of the lesson. They also help teachers monitor student learning throughout the course. "Assessment" of foreign languages is an important area of examination because it is considered as an essential process influencing both the teaching and the learning practices and beliefs (Cohen, 1994). Moreover, it seems that perceptions that teachers have on assessment are likely to influence their assessment practices. This research is set up to explore teachers' perceptions of assessment in order to determine their beliefs, attitudes and views that affect their assessment practices. It also seeks to determine whether there are significant differences in teachers' perceptions of assessment by gender. Data were collected from a questionnaire survey with 130 teachers. Teachers' perceptions of assessment were measured through a calculation of the percentage, mean and standard deviation. The findings revealed that university teachers who participated in the research reported favorable and positive perceptions of assessment (Average Mean=1.59). Participants considered the ultimate goal of assessment is to evaluate students' learning progress (Mean=1.79) followed by to make decisions on teaching and learning (Mean=1.76). Most of the teachers also perceived that the basic role of assessment is to raise students' learning and teaching practices (Mean=1.76). Furthermore, role-play is the most favored type of activities used for conducting assessment by English language teachers (Mean=1.50) and teacher assessment (Mean=1.78) was maintained by a large proportion of the participants.

Keywords : Assessment, Perceptions of University Teachers, Assessment Practices, Gender Differences.

Confucian Conception of Critical Thinking in Teaching English as a Foreign Language in Myanmar

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Abstract

The Confucian-Western dichotomy often interprets as Eastern and Western learning. In the framework of lifelong learning, the Confucian philosophy hypothesizes learning as a lifelong progression through which learners of any age learn to become an honorable person and to lead a morally outstanding life. This research has been done to find out whether the Confucian conception of critical thinking possesses is like harmonizing mechanisms to those of the Western conception of critical thinking. This research discovers the comparison of Confucian conception of critical thinking and the Western conception of critical thinking through literature review and text analysis. Reflection on interview survey, questionnaire survey and classroom observation show that Confucian "enlightening approach" works efficiently in today's effort in critical thinking cultivation in English teaching. The study suggests detailed research in building the theoretical framework for the Confucian conception of critical thinking, examination of other approaches to develop critical thinking abilities in addition the "enlightening approach," and in-depth studies of present practical research on critical thinking in TEFL in Myanmar to see how they can be useful in materializing Confucian conception of critical thinking.

Keywords : Confucian Conception, Western Conception, Critical Thinking, TEFL, Bloom's Taxonomy

Challenges in Academic Research Experienced by Postgraduate Students in Myanmar Higher Education Context

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Abstract

Academic research is a careful and systematic investigation in some field of knowledge, started to establish facts or principles. Postgraduate students come across some range of challenges when conducting research. The study observed challenges that postgraduate students face in doing academic research in Myanmar universities. The research makes use of descriptive surveys, focus group discussions and text analysis. While purposive sampling shall be employed for focus group discussions, random sampling shall be used for descriptive surveys, which shall be conducted in selected Myanmar universities. Data were collected from 124 Master's students and 42 supervisors through questionnaire. Research data were analyzed and interpreted thematically. The study came up with three categories of challenges that postgraduate students experience in their conduct of research. They contained supervisor-related, student-related, and institute-related challenges. The result of this research is to decide which challenges are the main influence to students and supervisors implementing good research. The most significant problems are too little practical help given, too few meetings with students and lack of research experience in the categories of supervisor-related challenges. Another category is concerned with student-related challenges, lack of money, lack of library resources, lack of commitment and motivation and family problems or commitments. Institution-related challenges (lack of internet facilities, lack of research-related courses, lack of library resources, and lack of computer literacy and lack of workshops) negatively impacted on the students' capacities to conduct research. The researchers also drew some conclusions from the findings. Firstly, the challenges that concerned with three categories were mutually exclusive to each other. All the institution-related challenges were on the high side in terms of how they were experienced by postgraduate students who were undertaking research. The major recommendations for the Myanmar universities students to be research-minded ones is to create to get exposure of both supervisors and students with research skills, to have internet access in line with computer knowledge and research materials.

Keywords : Challenges, Academic Research, Postgraduate Students, Myanmar Higher Education Context

1. Introduction

At Myanmar Universities, a research project is a precondition for the achievement of a Master's degree program to increase in knowledge or understanding of the subject under study in all the abilities. This research seeks to cross-examine the challenges being experienced by postgraduate students in conducting research in Myanmar. Myanmar postgraduate students occasionally face challenges in conducting research. Some supervisors conclude to continue researching shortly after graduating. Challenges are interferences or problems that negatively impact on supervisors' abilities to supervise students' research development. Some students distress carrying out research (Pearce, 2005). Students at the Universities are committed to a single supervisor. Some of these supervisors have variable research exposures and experiences. The quality of the research product because of the supervision processes seems to be one of the challenges that the Departments at Myanmar universities faces between other competing challenges. This research examines findings of challenges that influence the value of academic research at Myanmar universities. Not all supervisors in universities get the chance to present conference papers, join research workshops and get involved in conducting base line studies (Bell, 2000). It is in contrast to this background that the researchers were driven to explore challenges that students in Myanmar universities experience in carrying out research. The study sought answers for these research questions:

(i) What challenges do postgraduate students experience in conducting research in Myanmar?

(ii) How do these challenges affect the quality of the students' research projects at Myanmar universities?

(iii) How can these challenges be overcome in a bid to raise the standards of research supervision and quality of research supervision and quality of research products at Myanmar universities?

Research projects undertaken at master's degree level are crystal pointers of the quality of academic work going on at universities. Supervisors and students who are challenged during research supervision may compromise the quality of research work at universities. The study intentionally expected to collect data on the challenges that postgraduate students face in conducting research. Also, the research students' effort on research challenges they face would contribute to policy formulation and evaluation of Myanmar universities' present supervisory practices.

1.1 Supervisor-Related Challenges in the Supervision of Research Projects (Source: Pearce, 2005)

Postgraduate students encounter with challenges in conducting research. Research-challenged students experience problems in coming up with research products of high quality.

There are three categories of challenges that influences on the way students complete their research projects. These are supervisor-related, student-related and institution-related. Research scholars in the mould of Pearce (2005) highlight some of the supervisor-related challenges in the supervision of students' research projects: too few meetings with students, no interest with students; no interest in the topic; too little practical help given; too little direction; failure to return work promptly; absence from work (Department) leaving no co-supervisor; lack of research experience; lack of relevant research skills and or knowledge.

1.2 Student-Related Challenges in the Supervision of Research Projects (Source: Bell (2000) and Pearce, 2005)

Research authorities in the likes of Bell (2000) and Pearce (2005) expressed the following as some of the student-related challenges in the supervision of their research projects: lack of time; lack of money; lack of library resources; lack of commitment and motivation to do the research; lack of adequate theory in the area being researched on; students' failure to meet regularly with the supervisor; and family problems/commitments produced by both the supervisor and student.

1.3 Institution-Related Challenges (Source: Pearce, 2005)

Apart from student and supervisor-related challenges cited above, Pearce (2005) concur that students' capacities to conduct research are controlled by institution-related challenges such as: lack of exposure of supervisors to research skills, lack of internet services, lack of exposure to computers, lack of workshops and lack of research materials. Thondhlana, Mawere and Weda (2011) add another dimension of supervisor-related challenges by demonstrating that the practice of impressive research topics on the students affects against students' success in research work. It was in the light of such findings that the conduct of this study became a possibility to discover how well institution-related challenges other than student and supervisor-related challenges were impacting on the postgraduate students' research products in Myanmar with a specific focus on the master's program.

2. Methodology

The population of the present study contained 69 registered Arts and Science research students at Myanmar universities. A questionnaire with both closed and open-ended sections was circulated to a random sample of 124 research students. Also, a total of 42 supervisors was participated in this research. Data were analyzed and interpreted thematically. Focus group discussions with the supervisor were also conducted. Focus group discussions were noted and sent to supervisor participants for corroboration, before being analyzed using the stranded theory.

Table 1 Demographic characteristics of postgraduate participants

Sr No	Department	Student participants			Supervisors		
		Male	Female	Total	Male	Female	Total
1	Science	5	23	28	3	5	8
2	Arts	9	30	39	1	8	9
3	Law	7	27	34	4	9	13
4	Languages	4	19	23	3	9	12
Total		25	99	124	11	31	42
		124			42		

25 of the participant individuals in the sample were male and 99 were female while 11 in the sample were male supervisors and 31 were female. The distribution of the individuals in the sample by department was as follows: 28 science students and 8 science teachers; 39 social studies students and 9 teachers; 34 Law students and 13 teachers; 23 language students and 12 teachers.
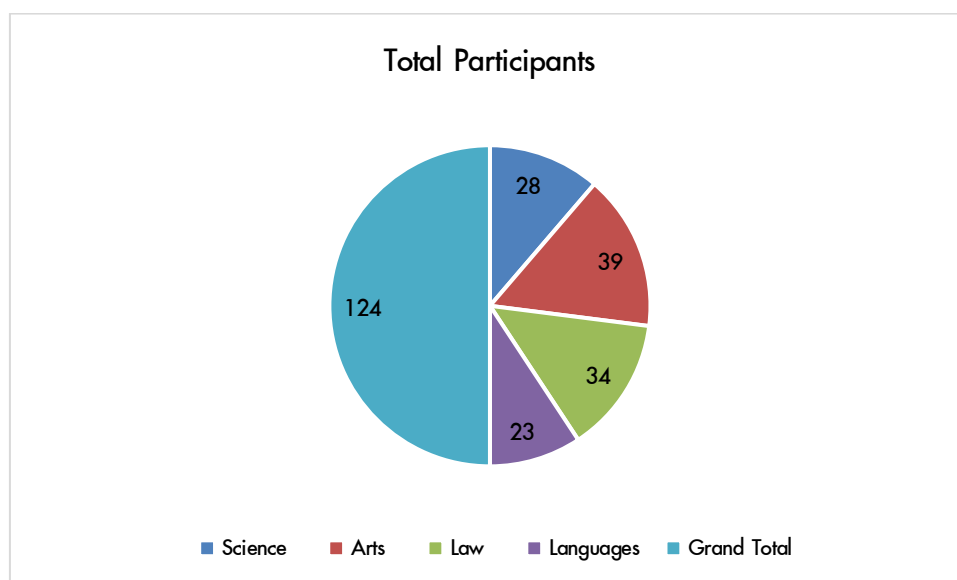
Figure 1 Total Participants of the postgraduate students
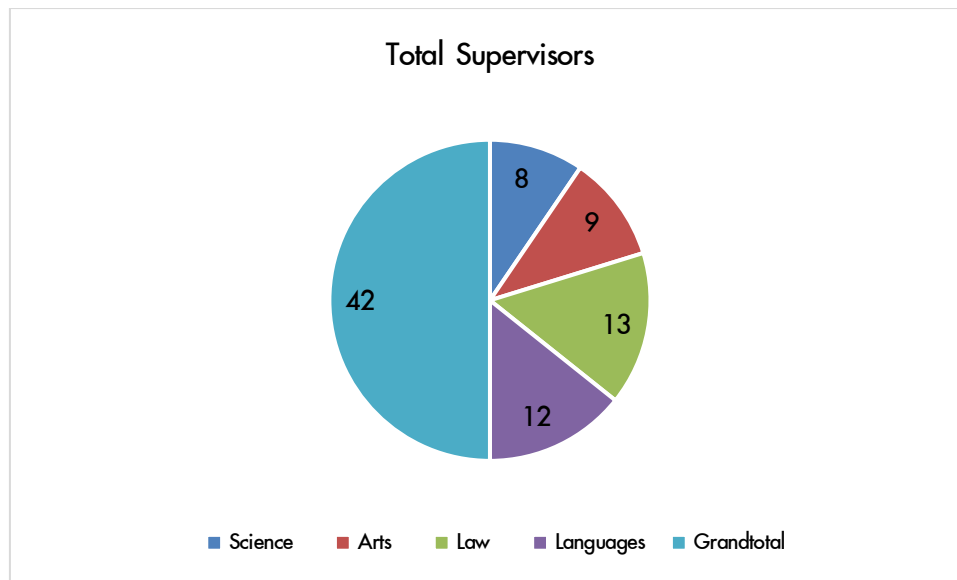
Figure 2 Total participants of the Supervisors

3. Findings

Research activity becomes a vital characteristic of Higher Education in Myanmar, specifically for teachers and students. This study was shown to the perspectives of the Master's students while they are doing their researches. Findings from this study have provided deep awareness into the challenges encountered by postgraduate students in Myanmar Higher Education Context.

3.1 Challenges in the Supervision of Research Projects

There are three categories of challenges that impacts on the way students carry out their research projects. These are supervisor-related, student-related and institution-related. Research scholars in the mould of Pearce (2005) highlight some of the Supervisor-related challenges in the supervision of students' research projects. A questionnaire survey was conducted in 20 different universities in Myanmar. A total of 124 postgraduate students, 42 supervisors participated in the study. Purposive sample technique was used. Two pretested semi-structured questionnaires were used (one for students and one for supervisors) to collect data.

Table 2 Perceptions of the master's students towards supervisor-related challenges in the supervision of research projects

SN	Supervisor-related challenges	Responses			Calculation		Interpretation
		Disagree	Not Sure	Agree	Mean	SD	
1	Too few meetings with students	29%	3%	68%	2.39	0.90	Considered of unsupportive

Table 2 (Continue)

SN	Supervisor-related challenges	Responses			Calculation		Interpretation
		Disagree	Not Sure	Agree	Mean	SD	
2	No interest with students	41%	8%	51%	2.10	0.95	Considered of partly supportive
3	No interest in the topic	38%	6%	56%	2.18	0.95	Considered of partly supportive
4	Too little practical help given	19%	7%	74%	2.55	0.79	Considered of unsupportive
5	Too little direction	48%	3%	49%	2.01	0.98	Considered of partly supportive
6	Failure to return work promptly	35%	2%	63%	2.28	0.95	Considered of partly supportive
7	Absence from work (Department) leaving no co-supervisor	42%	7%	51%	2.09	0.96	Considered of partly supportive
8	Lack of research experience	32%	8%	60%	2.29	0.92	Considered of partly supportive
9	Lack of relevant research skills and or knowledge	38%	11%	51%	2.13	0.93	Considered of partly supportive
	Average	35.78%	6.11%	58.11%	2.22	0.94	**Considered of partly supportive**

Note: 1.00 - 1.70 = Considered of completely supportive

                1.71 - 2.30 = Considered of partly supportive

                2.31 - 3.00 = Considered of unsupportive

Too little practical help given (Mean=2.55), too few meetings with students (Mean=2.39) and lack of research experience (Mean=2.29) are supervisor-related factors that can affect the most unsupportive on the quality of research supervision although too little direction (Mean=2.01) is given partly supportive. Most of the abilities of the supervisors in the supervision of research projects are considered of unsupportive challenges in Myanmar Higher Education Context.

3.2 Student-Related Challenges in the Supervision of Research Projects

Research authorities in the likes of Bell (2000), Pearce (2005), Sidhu (2001), Anderson (2006) and Aspland (1999) expressed the following as some of the student-related challenges in the supervision of their research projects: Lack of time; lack of money; lack of library resources; lack of commitment and motivation to do the research; lack of adequate theory in the area being

researched on; students' failure to meet regularly with the supervisor; and family problems/commitments.

Table 3 Perceptions of the Master's students towards student-related challenges in the supervision of research projects

SN	Student-related challenges	Responses			Calculation		Interpretation
		Disagree	Not Sure	Agree	Mean	SD	
1	Lack of time	66%	3%	31%	1.65	0.92	A small challenge
2	Lack of money	77%	9%	14%	1.37	0.72	A small challenge
3	Lack of using library resources	31%	7%	62%	2.31	0.91	A large challenge
4	Lack of commitment and motivation to do the research	25%	2%	73%	2.48	0.87	A large challenge
5	Lack of adequate theory in the area being researched on	47%	11%	42%	1.95	0.94	A moderate challenge
6	Students' failure to meet regularly with the supervisor	27%	9%	64%	2.37	0.88	A large challenge
7	Family problems/commitments	85%	11%	4%	1.19	0.48	A small challenge
	Average	51.1%	7.4%	41.4%	1.90	0.96	A moderate challenge

Note: 1.00 - 1.70 = A small challenge

1.71 - 2.30 = A moderate challenge

2.31 - 3.00 = A large challenge

Lack of time (Mean=1.65), students' failure to meet regularly with the supervisor (Mean=2.37) and lack of using library resources (Mean=2.31), lack of commitment and motivation (Mean=2.48) are student-related factors that can affect the quality of research supervision and work. The ability to handle both supervisor-related and student-related challenges in research supervision is a pre-condition to the quality of research projects formed by both the supervisor and student.

3.3 Institution-Related Challenges

Apart from student and supervisor-related challenges mentioned above, (Mouton, 2001; Shumba, 2004, Nyawararnda, 2005; Pearce, 2005) students' capacities to conduct research are

forced by institution-related challenges such as: lack of exposure of supervisors to research skills, lack of internet services, lack of exposure to computers and lack of research material.

Table 4 Perceptions of the Master's students towards institution-related challenges in the supervision of research projects (Source: Pearce, 2005)

SN	Institution-related challenges	Responses			Calculation		Interpretation
		Disagree	Not Sure	Agree	Mean	SD	
1	Lack of exposure of supervisors to research skills	18%	8%	74%	2.56	0.78	Considered of unsupportive
2	Lack of internet services	10%	3%	87%	2.77	0.61	Considered of unsupportive
3	Lack of exposure to computers	30%	4%	66%	2.36	0.91	Considered of unsupportive
4	Lack of research materials	26%	4%	70%	2.44	0.88	Considered of unsupportive
5	Lack of workshops	27%	13%	60%	2.33	0.87	Considered of unsupportive
Average		22.2%	6.4%	71.4%	2.49	0.83	**Considered of unsupportive**

Note: 1.00 - 1.70 = Considered of completely supportive
1.71 - 2.30 = Considered of partly supportive
2.31 - 3.00 = Considered of unsupportive

Lack of exposure of supervisors to research skills (Mean=2.56), lack of internet services (Mean=2.77) and lack of research materials (Mean=2.44) are institution-related factors that can disturb the quality of research supervision and work. It was in the light of such findings that the comportment of this study turns into an opportunity so as to find out how well institution-related challenges other than student and supervisor-related challenges were impacting on the postgraduate students' research outcomes in Myanmar with a particular focus on the Master's program.

4. Discussion

The conduct of this study was constructed on a triangulated method. It employed the survey research project completed by the case study research design as well as document analysis. Use of survey research design was chosen as it is the most proper design where participants' opinions are required (Punch, 2004). The population of the current study comprised all registered Master's research students at Myanmar universities. A questionnaire with both closed and open-

ended sections was dispersed to a random sample of 96 research students. Data were analyzed and interpreted thematically. Focus group discussions were also conducted; these consisted of 31 students and 19 supervisors. Analysis of data of the present study specified that diverse supervisor and student-related challenges in the supervision of research projects could influence against the quality of research work submitted by master's students at Myanmar universities.

Analysis of data of the current study indicated that varied supervisor and student related challenges in the supervision of research projects could influence in contradiction of the quality of research work submitted by students at Myanmar universities.

Perceptions of the master's students towards supervisor-related challenges in the supervision of research projects (Source: Pearce, 2005)

- 35.78%
- 6.11%
- 58.11%

■ Disagree ■ Not Sure ■ Agree
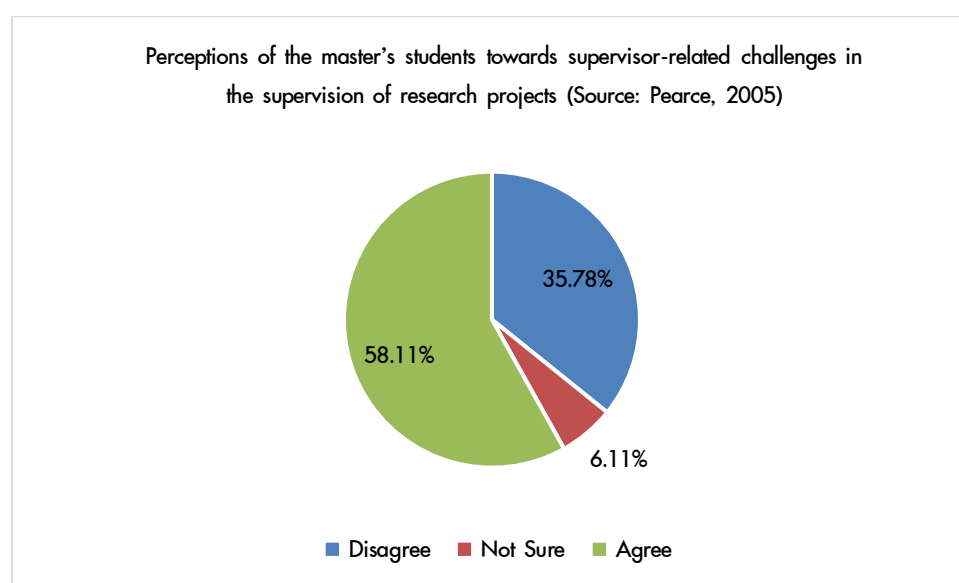
Figure 3 Perceptions of the Master's students towards supervisor-related challenges in the supervision of research projects (Source: Pearce, 2005)

Figure 3 shows supervisor-related challenges being faced by postgraduate students in doing research. Too little practical help given ranked first with (74%) followed by too few meetings with the students (68%), failure to return work promptly (63%) ranked lowest. All students in the questionnaire interviews and focused groups indicated that supervisor-related challenges: too little practical help given, too few meetings with students, failure to return work promptly, and no interest in the topic as ineffective challenges in their conduct of research. It can be claimed that not all supervisor-related challenges in Figure 1 are being experienced by postgraduate students in the studied universities. However, most supervisors were devoted to their work, although some students were challenged by some strict supervisors. As a result of strict supervision some less confident students are afraid of carrying out research (Pearce, 2005).
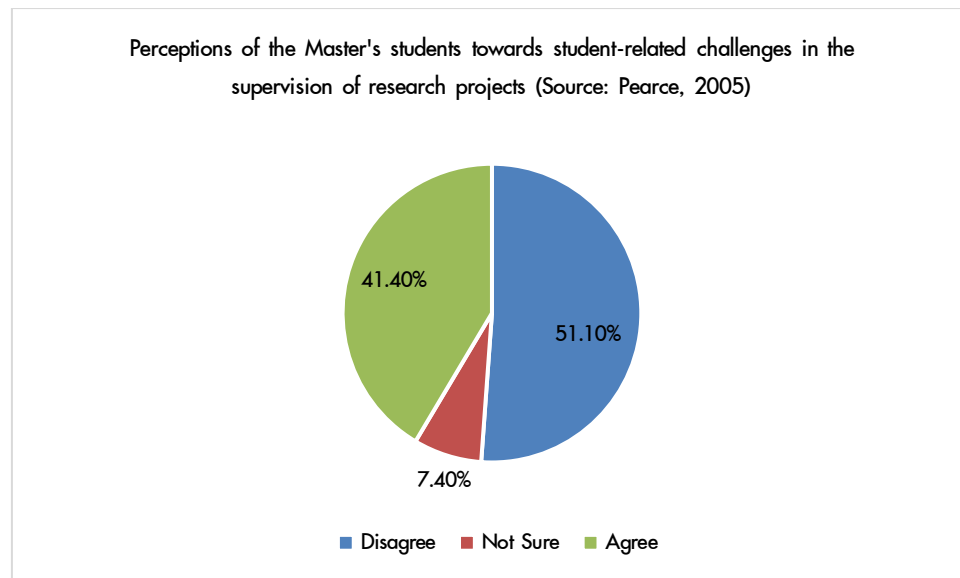
Figure 4 Perceptions of the Master's students towards student-related challenges in the supervision of research projects

Figure 4 shows student-related challenges being experienced by postgraduate students in conducting research. Most of the students specified that lack of commitment and motivation to do the research (73%), students' failure to meet regularly with the supervisor (64%), and lack of library resources (62%) as challenges of great anxiety that the postgraduate students experienced in conducting their research works. On that note, they agreed with Anderson et al (2006) who pointed out that time was a very limited resource for students carrying out research. Consequent upon these findings, the quality of research supervision and research projects might be cooperated. Research students had to strike a balance between funding their education as well as looking after their families. These students had to buy and provide basic needs (food, shelter, and clothes) for their families. These obligations contended with their need to successfully complete their research projects. To emphasize this situation, one research member indicated that lack of commitment and motivation to do the research was relatively excessive in the conduct of one's study as one could fail to register for the research project that extents over two semesters. All postgraduate students at Myanmar universities agreed with Pearson and Kayrooz's (2004) observation that lack of commitment and motivation to do research is one challenge that students face. It is common knowledge that students choose research topics in their areas of interest, expertise and experience. They also reflect problems of resources to enable them successfully to carry out their research projects.

Figure 5 Perceptions of the master's students towards institution-related challenges in the supervision of research projects.

The situation in Figure 5 describes that most of the postgraduate students supposed: lack of internet facilities (87%), lack of exposure of supervisors to research skills (74%), lack of research materials (70%), lack of exposure to computers (66%), and lack of workshops (60%) as some of the most distinct institution-related challenges that postgraduate students in Myanmar universities experience. It has been also found that students' capacities to conduct research are controlled by institution-related challenges such as: lack of exposure of supervisors to research skills, lack of internet services, lack of exposure to computers and lack of research materials. They however tend to miss an opportunity of the practice of impressive research topics on the students that militate against students' success in research work.

The following table shows the comparative perceptions of the master's students towards challenges in the supervision of research projects.

Table 5 Comparative Perceptions of the master's students towards challenges in the supervision of research projects

SN	Challenges in the supervision of research projects	Responses			Calculation		Interpretation
		Disagree	Not Sure	Agree	Mean	SD	
1	Supervisor-related challenges	35.78%	6.11%	58.11%	2.22	0.94	Considered of partly supportive
2	Students-related challenges	51.1%	7.4%	41.4%	1.90	0.96	A moderate challenge
3	Institution-related challenges	22.2%	6.4%	71.4%	2.49	0.83	Considered of unsupportive

According to the table (5), perceptions of the Master's Students' towards institution-related challenges (Mean=2.49) are the highest challenge in Myanmar while the supervisor-related challenges (Mean=2.22) are considered to be partly supportive. However most of the students emphasized in their academic research (Mean=1.90). Therefore, institution-related challenges are impacting the most on the postgraduate students' research outcomes in Myanmar Higher Education Context.

5. Conclusion

The present study wanted to explore the challenges being experienced by postgraduate students in conducting research at Myanmar universities. We distributed questionnaire to 96 supervisors at selected universities. The results confirmed existing results in connection with supervisor-related challenges such as: too little practical help given and too few meetings with students; student-related challenges; lack of commitment and motivation to do the research, students' failure to meet regularly with the supervisor; and institution-related challenges; lack of internet facilities, lack of library resources, lack of computer literacy, and lack of workshops as some of the over aching challenges that the studied postgraduate students experience in conducting their research. Thus, it can be concluded that students needed to work with sensitive supervisors who commit themselves to the improvement and achievement of their students. Supervisors ought to be students' models in the conduct of research projects. Lack of library resources was regarded as one of the greatest let downs to effective research supervision and writing. Supervisors could be more resourceful by retrieving and providing students with appropriate reading materials. Students needed to be trained how to balance their time to enable them to carry out their research well. In order to perfect the art of research supervisors need regular research workshops because not all supervisors get the opportunity to present conference papers, attend research workshops and get involved in conducting base line studies. Workshops are avenues to drive candidates towards the main path to successful research work. Commonwealth of Learning (2001) speaks highly of research-related workshops which has the capacity to improve students' abilities to scale to dizzy heights. The study also concluded that no one set of challenges that research participants experienced in the conduct of their studies absolutely impacted on the quality of their research projects. The three categories were mutually exclusive to each other. Ignoring the three categories of challenges mentioned above militates against the quality of research projects undertaken by postgraduate students.

6. Recommendations

In a deliberate drive towards the enhancement of the quality research projects submitted at Myanmar universities, the recommendations are presented. The university needs to mount regular

workshops for research supervision and writing for both supervisors and students to be conscious of each other's strengths, weaknesses, threats, opportunities, and challenges in the conduct of academic research projects. Moreover, we need to encourage to rise regular students' research workshops in which students could present their works to peers and supervisors for some criticizing in building confidence in the students as they get diverse opinions from peers and supervisors. Furthermore, we should provide prospects for supervisors and students to carry out cooperative research works to improve their research skills, expertise, experiences, and submission of their research articles to refereed journals. To motivate supervisors and students to present conference papers at local and international conferences is also necessary. It is in such conferences that supervisors and students can polish their research experiences and skills. In doing so, Myanmar University students will be able to do applicable research when they can face supervisors-related, students-related and institution-related challenges.

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Effects of Virtual Classrooms on English Language Skills and Learning Aspects : Review of Recent Cases under COVID-19 Pandemic

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Abstract

Computer technology has played important roles in English language teaching for recent years. It comes in many forms and is used to teach various skills of the language. Virtual classrooms use computer-mediated technology to facilitate learning, teaching, and communication processes. The COVID-19 pandemic emerging in 2019 has activated the greater use of online virtual classrooms throughout the world. This integrative literature review study analyses and synthesizes research studies, especially conducted between 2019 and 2021, to visualize a picture of the virtual classroom use in place of traditional classrooms to keep the English class on. Thus, 15 research studies were selected for analysis. The results of the review showed that distant virtual classrooms stimulated students' English language skills which later built better language learners and online learners. This type of classrooms also constructed students' positive attitudes towards virtual classrooms, students' engagement, lecturer-student interaction, peer interaction, and motivation to study English. The findings also showed that virtual classrooms created challenges due to the internet connection problems and students' access to computer or smart phones. On the other hand, they contributed to the teachers' digital literacy skills. For further use of virtual classrooms, this paper suggests that instructors should incorporate communicative activities that are suitable for virtual classrooms into their lessons. Research on total virtual classroom use in all language skills is recommended.

Keywords : Virtual Classrooms, English Language Skills, COVID-19 Pandemic, English Language
                Teaching, English as a Foreign Language

1. Introduction

Many modern technological applications are used by students in high schools, colleges and universities at different levels of their social and academic lives. Different modern smart tools

are used by those students through networking, text messaging, blogging, content sharing, online learning and much more. In recent research, many computer applications and platforms have been found to be used by learners and teachers in most facets of their lives, especially Facebook, Wiki, YouTube, Bulletin Board, LinkedIn and Twitter. The attention of experts, teachers, educators, and curriculum designers is drawn by people's wide use of social media to allow those people to use these modern technological and smart audio-visual aids in the field of education, particularly in teaching methods in both traditional and distance-learning environments.

The recent COVID-19 pandemic since 2019 has not only been harming health, but also temporarily transforming ways of life. Lockdowns have been practiced to prevent people's contacts. This measure directly impacted the educational sector in that classroom teaching has been substituted by online platforms. The teaching and learning of English shared the problems caused by the pandemic. One advantage that most language teachers and learners gained during this period of uncertainty is that the online virtual classroom of English was already practiced prior to the Covid-19 outbreak. Some English language teachers and learners have become accustomed to this online English lesson mode in (Atmojo & Nugroho, 2020). With the advances in technology, English language teaching and learning evolved considerably, which paved the way for virtual classrooms. English language teaching (ELT) is inevitably adopting the distant mode of learning, allowing teachers to give lessons and learners to perform tasks. A virtual classroom or a web-based classroom where teachers and students can access via personal computers or mobile devices is a great alternative of distant learning to replace the face-to-face teaching (Rosanna, 2013).

Building upon research findings based on the challenges faced, solutions to problems, the advantages or disadvantages of virtual classrooms, the general picture of English language teaching requires a comprehensive study based on an integrative literature review. When the literature is reviewed, it is seen that there is a critical gap in terms of an integrative literature review study reviewing and synthesizing studies in the existing literature for this critical period. The Covid-19 pandemic taking language teaching and learning within emergency online education is significant for some reasons. Initially, it is critical for the researchers, academics, English language teachers, students and the related stakeholders to understand the global impact of the pandemic specifically on English language education. Next, learning from the weaknesses and strengths of virtual classrooms from a global perspective may guide the program designers, teachers, students, families and school administrators in increasing the effectiveness and efficiency of language teaching during such critical periods. From the research perspective, drawing generalizable conclusions is possible through integrative review studies. Thus, a review study illuminating the world's experience of emergency online teaching of English language the Covid-19 pandemic may provide critical insights into the pedagogical and technological pedagogical aspects. The

importance of this mini-integrative literature review paper is that it is a springboard for future use of virtual classrooms to benefit English language teaching, especially speaking skill and other teaching strategies. The scope of the review covered only recent research cases mainly conducted between 2019-2021 which was considered as a pre-phase and a middle-phase of the COVID-19 Pandemic. In this paper, the results from those reviewed research articles are presented. It then synthesizes those findings and makes conclusions. Also, pedagogical implications and recommendations for further studies are presented.

2. Research Objectives

The main objective of this study was to review and synthesize recent research on effects of virtual classrooms on English language skills and learning aspects under the COVID-19 Pandemic.

3. Research Questions

Based on the main research objective, this integrative literature review article attempted to answer to the following research questions:

3.1 What were the commonalities of virtual classroom studies regarding their focus, participants, education segment and country?

3.2 What were effects of virtual classrooms on English language skills and learning aspects on a global scale?

3.3 What were language teachers and students' attitudes and motivations towards virtual classrooms?

4. Research Methodology

4.1 Design

The primary objective of this study was to review and synthesize recent research on effects of virtual classrooms on English language skills and learning aspects under the COVID-19 Pandemic. This study was therefore designed as a descriptive study making use of the qualitative approach based on a systematic integrative literature review. Integrative literature review as a distinctive research method aims at creating new knowledge by reviewing, synthesizing, evaluating, and setting new frameworks making use of the representative literature on a specific topic. In this integrative literature review study, document analysis was used to collect the necessary data. The document analysis is a procedure for reviewing or evaluating documents which is then used for interpreting and eliciting the meaning to gain an understanding and develop empirical knowledge (Bowen, 2009), At the same time, the integrative literature review aims at synthesizing

the existing research knowledge by identifying gaps in the current research, answering new questions, and determining the direction of research tendencies in future studies (Russell, 2005).

4.2 Data Collection

From the emergence of Covid-19 until the present, many studies have been conducted and published in various countries regarding English language teaching and learning. The data used in this study comes from those studies conducted within the first phase of the pandemic. In selecting the documents, online databases were checked to find new research documents. While searching for research papers, the studies that were conducted during the pandemic based on English language teaching were selected. In this process, peer-reviewed and data-driven research studies in various indexed journals were utilized. The search for research studies as the documents to be used for the analysis in this study was conducted online with a number of keyword combinations. While searching for the documents, "research + virtual classrooms", "articles + virtual classrooms", "Covid-19 + English language teaching", "Covid-19 + English language learning", "lockdown + English language learning/teaching", "virtual classrooms + learning aspects", "EFL", "ELF" and "ESL" key word combinations were used interchangeably and separately in each search. The studies found were carefully checked based on the inclusion criteria. Following the search for documents in the form of research studies focusing on effects of virtual classrooms on English language skills and learning aspects during the pandemic, several studies were excluded as not fitting into the scope of the research. Finally, a total of 15 research studies carried out in different countries around the world were selected for analysis, as shown in Table 1 below.

Table 1 Research studies or articles analyzed as the documents of this study

Study focus	Authors	N
Effects of virtual classrooms on English language skills and learning aspects	Hossain (2021)	15
	Alshumaimeri & Alhumud (2021)	
	Ta'amneh (2021)	
	Rossydi & Masita (2021)	
	Omer (2021)	
	Manegre (2020)	
	Fitria (2020)	
	Kaisar & Chowdhury (2020)	
	Alahmadi & Alraddadi (2020)	
	Asmara (2020)	
	Ulla & Perales (2020)	
	Al-Qahtani (2019)	
	Alhawiti (2017)	
	Herrera (2017)	
	Castañeda & Arcila (2012)	

4.3 Data Collection

The selected studies shown in Table 1 were analyzed in terms of the use of virtual classrooms for English language teaching and learning under the Covid-19 pandemic. In the analysis of the data based on which research questions were formulated, recurrent themes and sub-themes were identified and tabulated using a six-step iterative and reflective thematic analysis for reliability; Step 1 familiarization with data, Step 2 generating initial codes, Step 3 searching for themes, Step 4 reviewing themes, Step 5 defining and naming themes, and Step 6 producing the report (Nowell et al., 2017).

In the thematic analysis, the documents as the research articles utilized in this study were initially grouped by the reviewer and based on their findings they were coded in terms of their focus. The reviewer individually created themes and categories. While doing so, the recurring themes were grouped for categories and reviewed by more focused re-reading. In case of disagreement in terms of selecting the recurrent themes and categories, the reviewer worked on the themes from the beginning and tried to reach agreement through discussing the classification of the data. The final themes of the reviewer were compiled then, and the final version following the constant comparison was tabulated.

5. Research Findings

This section presents the summary of findings of the reviewed research studies.

Hossain (2021) studied English language teaching through virtual classrooms during the COVID-19 lockdown in Bangladesh. This study addressed challenges and propositions in the use of virtual classrooms. It was found that virtual classrooms yielded fruitful results to EFL speaking. It supported students' participation in the lessons, and allowed teachers and students to make satisfactory interaction.

Alshumaimeri & Alhumud (2021) examined students' perceptions of the effectiveness of virtual classrooms in enhancing their communication skills. It was found that the students identified lack of confidence, anxiety surrounding making mistakes, and lack of vocabulary as their greatest challenges when communicating in English. The questionnaire also revealed that students held positive attitudes towards the effectiveness of virtual classrooms in enhancing their oral communication skills. The observation data revealed that virtual classrooms can play a significant role in enhancing students' communication skills. However, despite their positive views of virtual classrooms, students agreed that the lack of face-to-face communication was a major obstacle in online learning.

Alhawiti (2017) examined the effectiveness of virtual classes on student English proficiency at Tabuk Community College for the first semester of academic year 2016–2017. The study concluded that the students in the experimental group advanced significantly higher on the

English achievement test, and the results of the two groups on the post-test were statistically significant for every component of English language.

Ta'amneh (2021) investigated the first-year students' attitudes towards virtual classes in learning English courses. It also aimed to identify the obstacles that encounter them while using this kind of learning. Results revealed that students' attitudes towards the use of the online learning were positive. Students considered this kind of learning as the best strategy during COVID-19 pandemic. The results also showed that the students faced some pedagogical, technical and personnel obstacles while attending virtual classes.

Rossydi & Masita (2021) did a qualitative case study, observation and interviews to explore the implementation and investigate the students' perception of a virtual classroom in English for Aviation. An interactive model of data analysis was done for the observation sheet and interviewed data. The main findings were implementing a virtual classroom could build a relationship, increase engagement between teachers and students, and students' participation in the classroom.

Omer (2021) investigated the effectiveness of teaching English online course through virtual class (blackboard) on developing students' English language speaking fluency. The result of the pre and posttests was significantly different in favor of the post test. The levels of students were developed dramatically. The study recommends, the need of effective speaking program for developing students' English-speaking fluency through different online learning programs or any other effective communicative learning methods.

Herrera (2017) identified the impact of implementing a virtual learning environment (VLE) in EFL courses at a public university in Colombia. The study showed that students feel enthusiastic and motivated towards the use of VLEs, and they suggested that all teachers should indeed include them in their lessons. Students also realized that even though they are part of a digital age in which the use of personal digital devices is commonplace, it is sometimes challenging for them to deal with some types of educational technology. On the other hand, findings suggest that the capacity of laboratories and computers, as well as Internet connectivity, continue to be the main threats to implementing VLE. Nevertheless, when those hindrances were overcome, the experience of technology-based learning turned out to be satisfactory for those EFL students.

Al-Qahtani (2019) investigated teachers' and students' perceptions of English as a foreign language (EFL) virtual classes. Moreover, it also aimed to highlight the effect of this kind of class on enhancing communication skills. The results showed that the majority of the students and teachers possess positive attitudes toward teaching and learning through EFL virtual classes. Moreover, they also agree with the significant role of virtual courses in enhancing communication

skills. Thus, implementing EFL virtual classes can be recommended as beneficial. This study states some recommendations in light of its findings.

Ulla & Perales (2020) investigated the adoption of Facebook as a virtual class whiteboard in promoting EFL students' engagement in language tasks. They found that Facebook as a virtual class whiteboard promoted English as a foreign language (EFL) students' engagement in language tasks. This has been shown to be effective in both in-class and out-of-class speaking (roleplays), reading comprehension, and conversation-like writing practices in the Thai university classroom context. That study has had pedagogical implications for teachers and students in different EFL classroom contexts. However, it has also its limitations. For instance, it may be impossible for students to practice in-class long essay writing because the time is short and the phone's text and keypad may be too small to use. Long essays can be done at home when students have more time to write. Alternatively, short writing practices of 100 words may be conducted in the classroom through FBG.

Castañeda & Arcila (2012) made an inquiry on EFL teachers' viewpoints regarding the promotion of autonomous, collaborative, and meaningful learning through the use of virtual classrooms in the teaching of English as a foreign language. Findings show that they show awareness of the importance of being open to the range of learning opportunities virtual classrooms might offer as a complement to what they regularly do in their physical classrooms.

Manegre (2020) studied online English language learning using virtual classrooms and knowledge building forums. It investigated an area of CALL, specifically FLA in virtual classroom systems. The findings reported that these systems were effective not only for language learning but virtual classroom systems can be used to replace traditional classroom teaching and learning for other subjects.

Fitria (2020) investigated the English lecturers' opinion in using online learning system, the kind and the most dominant kind of online learning system used, and the type of task or quiz in online learning system used by English lecturers in Indonesian colleges/universities. The results suggested that the online learning system had the potential to help the lecturers and students in the teaching and learning process.

Kaisar & Chowdhury (2020) investigated whether the virtual classroom situation created anything new in Foreign Language Anxiety or healed the learners from anxiety experienced in the physical classroom. The findings revealed that teachers must have the innovation to make virtual language class more interactive. Teachers should care for them more so that they might not feel isolated and bored. The class should add pair work, group work, and other interactive activities and take regular feedback. Teachers may consult the students who have techno-phobia to remove technology provoked anxiety. The study was seen to be much promising in Foreign Language

Education research, which is expected to contribute to the up-gradation of Virtual language classroom Anxiety.

Asmara (2020) conducted research to know some challenges of teaching English in a virtual classroom using WhatsApp during the Covid-19 pandemic. It investigated fourteen students and did an interview with the lecturer of Classroom WhatsApp group of Language in Society class. The findings displayed that the challenges were 1) students' attendance checking, 2) students' English language skills, and 3) internet connection.

Alahmadi & Alraddadi (2020) investigated the impact of the virtual classroom on second/foreign language (L2) interaction. The study revealed that there was a good degree of communication and interaction among Saudi students specifically in virtual classes. Also, participants showed a positive attitude towards using online classes for L2 learning. Thus, implementing virtual classes for language learning and teaching is highly recommend not only in this particular Saudi learning environment, but also across other EFL contexts.

Table 2 Summary of findings on effects of virtual classrooms on English language skills

Theme	Theme 1			
	Effects of Virtual Classrooms on English Language Skills			
Sub-themes	Listening	Speaking	Reading	Writing
Hossain (2021)	√	√		
Alshumaimeri & Alhumud (2021)	√	√		
Alhawiti (2017)	√	√		
Ta'amneh (2021)				
Rossydi & Masita (2021)				
Omer (2021)	√	√		
Herrera (2017)				
Al-Qahtani (2019)	√	√		
Ulla & Perales (2020)	√	√	√	√
Castañeda & Arcila (2012)				
Manegre (2020)		√	√	√
Fitria (2020)				
Kaisar & Chowdhury (2020)				
Asmara (2020)		√		√
Alahmadi & Alraddadi (2020)				

Table 3 Summary of findings on effects of learning Aspects

Theme	Theme 2 Effects of Virtual Classrooms on Learning Aspects					
Sub-themes (1) Positive attitudes towards virtual classrooms (2) Students' engagement (3) Lecturer-student interaction (4) Peer interaction (5) Motivation (6) Autonomous learning	1	2	3	4	5	6
Hossain (2021)		√	√			
Alshumaimeri & Alhumud (2021)	√	√	√	√		
Alhawiti (2017)	√		√	√	√	
Ta'amneh (2021)	√	√		√	√	
Rossydi & Masita (2021)		√	√	√		
Omer (2021)		√	√	√		
Herrera (2017)	√	√	√		√	
Al-Qahtani (2019)	√	√	√	√	√	
Ulla & Perales (2020)						
Castañeda & Arcila (2012)		√	√			√
Manegre (2020)		√	√			
Fitria (2020)	√	√	√			
Kaisar & Chowdhury (2020)	√	√	√	√		
Asmara (2020)		√	√	√		
Alahmadi & Alraddadi (2020)	√	√	√	√	√	

6. Discussions

In this section, the main research questions are discussed with the findings of the research studies or articles selected as the documents of this study.

The analysis of the papers revealed that the focus of those studies utilized as the documents in this study was grouped under two major themes along with their sub-themes. The major focus of the studies was related to the effects of virtual classrooms on English language skills which included four different sub-themes. Also, the second recurrent theme was effects of virtual classrooms on learning aspects It should be noted here that some studies included a focus

in other categories. However, this categorization was made considering the main objective of the studies and their research questions.

6.1 What were the commonalities of virtual classroom studies regarding their focus (effects on English Language Skills or learning aspects?

In an overview, this selection of research studies or articles met all the two themes and sub-themes. In theme 1, virtual classrooms had effects on the four main skills of English; listening, speaking, reading, and writing. The most commonalities in theme 1 can be arranged in a descending order as speaking, listening, reading, and writing. This might be due to some reasons. Characteristics of virtual classrooms rather support listening and speaking activities. These two skills are the most basic for communication in virtual classrooms. Therefore, researchers tend to conducted studies related to speaking and listening. For this reason, virtual classrooms are found more effective for these skills than reading and writing.

In theme 2, the selected studies showed that virtual classrooms had positive effects on learning aspects; positive attitudes towards virtual classrooms, students' engagement, lecturer-student interaction, peer interaction, motivation, and autonomous learning. The most commonalities in theme 2 can be arranged in a descending order as students' engagement, lecturer-student interaction, peer interaction, positive attitudes towards virtual classrooms, motivation, and autonomous learning. The most two commonalities are students' engagement and lecturer-student interaction. This finding might be due to some reasons. The main distinction between virtual and physical classrooms is that the online classrooms provide an equal opportunity for class members to interact with one another. With this opportunity, the teacher and students enter a barrier-free environment. They are socially close, but physically far. For social aspects, virtual classrooms build a one-on-one relationship which is limited in the physical classrooms. Thus, virtual classrooms had greater effects on students' engagement and lecturer-student interaction than the other commonalities.

6.2 What were effects of virtual classrooms on English language skills on a global scale?

In Theme 1, the most common sub-themes include speaking skills and listening skills respectively. This indicates that the research studies paid greater attention to these to skills. They then focused on these two skills most. Finally, they found that virtual classrooms yield positive effects on English speaking and listening skills.

These findings on the use of virtual classrooms having positive effects on English speaking and listening skills might be due to some reasons. In a virtual classroom, students basically pay attention to the teacher. When they are required to speak, they just speak directly to the teacher. This kind of setting encourages them to speak out spontaneously. They can speak or respond to the teacher on their own without help from peers. When they have to rely on their

own, they will finally be able to produce speeches. This skill is gradually improved when individuals are encouraged to speak. As for listening skills, students had to focus on the teacher's speaking. With a concentrated mind in a virtual environment, students can comprehend better than sitting beside a peer who can distract their focus anytime in a physical classroom.

6.3 What were effects of virtual classrooms on learning aspects on a global scale?

In Theme 2, the most common sub-themes were students' engagement and lecturer-student interaction. These two sub-themes were found the most common among the selected studies. This indicates that virtual classrooms had greater effects on students' engagement and lecturer-student interaction.

These findings on the positive effects of virtual classrooms on students' engagement and lecturer-student interaction might be due to some reasons. In a virtual classroom, students had to pay attention to the teacher. The teacher can focus on the class as a whole as on individual students. This helps create one-on-one interaction and communication. In a virtual environment, the class members have close interaction even though they are physically far. The distance between the teacher and each student is equal. They are separated only by the computer monitors. This is totally different in the physical classroom where each student is differently far from the teacher. The teacher cannot focus on all the students with a balanced quality. Also, in a virtual classroom where students study alone without disturbance, the teacher and students have fewer barriers to concentrate on the lesson and interact with one another. Thus, the majority of the selected studies reported positive effects of virtual classrooms on students' engagement and lecturer-student interaction.

7. Conclusion

This mini review paper has found that virtual classrooms play a significant role in enhancing EFL students' English language skills and virtual classrooms is a viable option. Therefore, virtual classrooms can be a valuable tool for practicing English skills. This can be interpreted as a willingness to participate, as evidenced by students' questions and responses to the lecturer and classmates. Most students responded quickly to the lecturer's questions, which can indicate that virtual classrooms offer a more relaxed environment. This aligns with students' opinions that virtual classrooms are more comfortable.

In addition, this mini review paper can conclude that students felt more comfortable speaking in online classrooms. Asking questions was the most frequently used technique to initiate conversations between the lecturer and students during the sessions. Asking questions can be an effective way to encourage students to speak and practice their oral communication skills. The question-and-answer technique is an effective way to enhance communication in virtual classrooms. The questions should vary from short answers to those that encourage further

expression. Various strategies can enhance oral communication skills in virtual classrooms. These strategies were effective in the virtual classroom because they gave students more opportunities to speak and communicate with their peers. This type of classrooms can create students' positive attitudes towards virtual classrooms, students' engagement, lecturer-student interaction, peer interaction, and motivation to study English.

It should be noted that teachers' and students' roles must be clearly defined in virtual classrooms. The teacher should act as a facilitator, encouraging students to practice their English skills and promoting their engagement in virtual classes. Furthermore, the lack of face-to-face interaction, body language and eye contact can affect communication. Therefore, it is the lecturer's responsibility to provide opportunities suitable to the virtual environment for EFL students to practice their language skills. This paper observed a few technical issues during the sessions. This is a common issue in online learning. Unexpected technical issues in synchronous virtual classrooms can affect students' performance.

8. Pedagogical Implications

In light of the review of those recent papers, some implications are presented below.

8.1 English language instructors should incorporate communicative activities that are suitable for virtual classrooms into their lessons.

8.2 Teachers should be aware of the importance of asking questions in encouraging students to express themselves and develop their English language skills.

8.3 As there are no time or place limitations in virtual classrooms, language instructors can use this as a tool for further communication practice.

8.4 Teachers should motivate students to be educated more about the utilities of the EFL virtual classes and keep them updated with new changes by means of training sessions.

8.5 It is advisable for the teachers to explore the individual differences of the students, stimulate and motivate them to use the EFL virtual classes by means of extra marks and other incentive tools.

8.6 Homework and assignments can be assigned electronically so that students surf the internet (educational platforms), download and upload their data.

8.7 Integration of other university subjects can be an effective tool. ICT teachers can inform and integrate other university subjects with theirs by means of electronic projects and materials.

8.8 Forums and video conferences have to be activated so that students exchange ideas and hold open discussion.

9. Recommendations for Further Research

   9.1 More specific research on virtual classrooms used with different English teaching methods is recommended.

   9.2 Designs of virtual classrooms make online learning more attractive and purposeful. Thus, future studies should look at how to design virtual classrooms to affect students' English learning.

   9.3 Next research can focus on how teachers' computer literacy deals with the effectiveness of virtual classrooms.

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Quality Enhancement of Master's Supervision in Chemistry Specialization at Selected Universities in Myanmar

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Abstract

Department of Chemistry was established since 1920 in Yangon University and 1925 in Mandalay University. Currently, the departments offer BSc and BSc (Hons.) degrees in Chemistry, master's degrees, and mater of research degrees in two main branches, Chemistry and Biochemistry, and PhD Degree in Chemistry. Research and development is increasingly becoming the mainstay of higher education (Waghid & Le Grange, 2003). Academic research is of fundamental importance to our society. Furthermore, the Myanmar higher education tends to be biased towards research. Research discovers, elucidates, and evaluates new knowledge as well as ideas and society benefit from quality research and should rally to support and defend it. Research is an opportunity to make a difference and it is open to everyone and thrives on a diversity of approaches and perspectives. The study was concerned with the academic support that supervisors gave to their students. Thus, this research tries to investigate the research procedures used by master's students at the selected universities in 2018-2019 academic years. Not only the observation on M.Sc. theses of Chemistry specialization but also a questionnaire survey design was also used to assess the supervision experiences of the supervisors. The results indicate that issues relating to ethics and evaluation of the research procedures were not always handled according to established methodological standards. The variability in research processes that were employed partly implied the levels of knowledge of research supervisors differed. The quality of theses partly depends on the academic support provided by research supervisors who have expertise in their specific domain. Thus, it is recommended that in the absence of any formal training, research supervisors may improve their academic support to students through sharing their knowledge and expertise in each context among themselves. In that regard, the key assumption was that people might gain knowledge from their experiences and their peers' expertise. People's ability to learn from one another's experiences and then to apply that knowledge to address life situations is one of the steps towards the acquisition of wisdom.

Keywords : Quality of Research, Performance of Research Supervisors, Myanmar Universities

Successful Studying in Doctoral Education of Myanmar : Botany Specialization

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Abstract

The Botany Department is one of the largest and strongest plant-focused departments in Myanmar with roots extending back to the founding of Rangoon University in 1920 and Mandalay University in 1925. Currently, Botany departmental community of more than 2000 full-time faculty members, numerous graduate students, post-doctoral fellows and research associates, laboratory technicians, and a support staff of secretarial, equipment and greenhouse personnel. Previous studies on the doctoral experience suggest that doctoral students face a variety of difficulties during their studies. Successful studying in doctoral education is a complex matter. This research aims to explore the doctoral candidates' perceptions to supervision practices and scholarly community in Myanmar context. Thus, this research explores the Doctoral candidates' perceptions towards the supervisory-support scale so that problems that Doctoral candidates face during their doctoral studies in relation to their studying engagement have been presented. Altogether 91 doctoral students from the Botany specialization responded to the survey. Current research has shown that supervisors are *partly* supportive so that participants benefit from having the opportunity to use several and varying sources of supervisory support (Average Mean=2.20). The participants agree that they are treated with respect by their supervisors (Mean=2.43), followed by having negotiation about central choices regarding their dissertation with supervisors (Mean=2.35) and their supervisors also treat them in a fair way (Mean=2.33). Moreover, understanding the available researcher community and a doctoral student's unique experiences are not highly embedded in the institutional contexts (Average mean=2.04). Some Myanmar doctoral students have the destructive frictions overall with the support received from their supervisors and peers, so that many students did not feel support fit (Mean=1.84). The highest frequency in the destructive frictions reported were highly related to the candidates who have to learn to hide their viewpoints that differ from those of supervisors and dissertation that reflects the choices of supervisors rather than student's own choices and student's viewpoints that differ from those of supervisors.

Keywords : Successful Studying, Doctoral Education, Myanmar

The Effects of Captioned Videos on Vocabulary Learning : A Meta-analysis

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Abstract

As a common multimedia teaching tool, language teachers frequently use audiovisual materials in their language classrooms. Many researchers supposed that audiovisual materials with captions are powerful pedagogical tools that are meant to help improve foreign/second language skills (Borras & Lafayette, 1994; Danan, 2004; Garza, 1991; Markham & Peter, 2003). This study reports on a meta-analysis of the effectiveness of captioned videos for vocabulary learning. It also provides a quantitative measure of the overall effect of captions on vocabulary acquisition, as well as an investigation into the relationship between the effectiveness of captioned videos on two moderators: language context and proficiency level. Twelve papers were reviewed and then the effectiveness of captioned videos was investigated. The findings indicate that captioning is more effective in vocabulary acquisition than no captioning. Second language context is found to have a greater effect on vocabulary acquisition than foreign language context. In relation to language proficiency, beginner to lower-intermediate level learners acquire more words from captioned videos than intermediate level learners and upper-intermediate to advanced level learners. Finally, this study concludes with a contextualized discussion of the results, a number of pedagogical implications, an overview of the limitations as well.

Keywords : Captioned Videos, Vocabulary Learning, Meta-analysis

Teaching Professionals' Opinions and Views on Experiences of Attending Academic Conferences

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Abstract

Attending a conference is a professionally gratifying experience. In addition to socializing with colleagues from other institutions and a trip to a possibly interesting locale, the two main reasons to attend a conference are to hear presentations and to converse with other researchers. The researchers can know about the future research trends from the invited talks and keynote addresses. For some universities it is a must to publish paper in conferences. The conference proceedings give the researchers a big repository of research papers and researchers. Borg (2015) sums up the potential benefits of conferences by saying 'there is perhaps no single experience with more potential for educating and refreshing a professional than an international conference'. There are countless great reasons to attend a conference. This research explores the Myanmar university teachers' views on experiences of attending conferences. Evidence of what exactly those benefits are, though, scarce, and this research reports a study seeking to identify, from own perspectives, the impact that attending conferences has. Overall, the evidence presented here is positive, highlighting a range of benefits that representatives report because of conferences. Ways in which the impact of attending conferences can be even further improved are also identified and discussed in this research. Ur (2012) asserts that through attending conferences, teachers can update their knowledge on the latest research and new issues in the field, learn new techniques and methods applied in the field, familiarize themselves with the most recently released teaching materials and establish professional networks in local and international arena. In the recent study, a total of 117 teaching professionals' opinions about the impact of conferences on their professional development were investigated. The data collected through questionnaires and interviews revealed that most of the participating professionals developed positive feelings after attending conferences. As for the post-conference feelings and the activities the participants are involved, more than half of the participants feel 'confident' as they return home relatively more knowledgeable after conferences. Most of the respondents stated that they feel motivated to go to conferences and feel more confident.

Keywords : Teaching Professionals, Opinions and Views, Experiences of Attending Conferences

Successful Leadership and Student Outcomes at Universities in Myanmar

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Abstract

Successful leadership influences university achievement. It exerts indirect effect on student success through other people or features within the organization. To influence student learning, university leaders should primarily pay attention to teachers, along with the university's mission and goals and university culture, while providing teachers an opportunity to participate in decision making and building relationships with parents and the wider community. The purpose of this research is to examine the effects of leadership dimensions on student outcomes at university context of Myanmar. The methodology involved an analysis of questionnaire data of the relationship between leadership and student outcomes. Empirical data were drawn from interview data that explored 21 university administrative officials and over 100 key teaching staff's perceptions on practices of leadership in different ways to improve students' outcomes. The research is hoped to provide new empirical evidence of how university leaders directly and indirectly achieve and sustain improvement over time through combining both transformational and instructional leadership strategies. The findings show that university abilities to improve and sustain effectiveness over the long term are not primarily the result of the university leaders' leadership style but of their understanding and diagnosis of the university's needs and their application of clearly articulated, organizationally shared educational values through multiple combinations. The analysis reveals strong average effects for the leadership dimension involving redesigning the organization (Average Mean=4.30) followed by setting direction (Average Mean=4.23) and developing people (Average Mean=3.96). The comparisons suggested that the more leaders focus redesigning the organization, and setting their direction, the greater their influence on developing people and student outcomes. Such alignment could increase the impact of university leadership on student outcomes even further.

Keywords : Impact of Leadership Dimensions, Student Outcomes, University Context, Myanmar

Study of Flipped Classroom Teaching Method together with Cyberspace Learning to Promote Chinese Contemporary Literature History Achievement of University Students

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Abstract

The research aimed to explore the application of flipped classroom teaching method together with cyberspace learning, and discuss its feasibility in today's teaching practice and even enlighten educational innovation and development. Thus, two research objectives were proposed: 1) to compare the course achievement before and after receiving the flipped classroom teaching mode based on cyberspace learning, 2) to compare the course achievement with the determined criteria at 70 percent. It selected 30 freshmen randomly as a sample, majoring in Chinese Language and Literature, and took the course Chinese Contemporary Literature History. The experimental design was one group pretest posttest design which was to determine a new teaching mode by integrating flipped classroom teaching method together with cyberspace learning in order to promote Chinese contemporary literature history achievement of university students. The instrument was achievement test with the validity at 1.00, inter-rater reliability at 0.72, item difficulty (p) 0.20-0.45 and item discrimination (r) between 0.2-.07. The collected data were analyzed by computer software. The statistics of analysis were mean scores, standard deviation, t-test. The results showed that 1) students that immersing into the flipped classroom teaching method together with cyberspace learning got a higher score in the post-test than they achieved in pre-test without such teaching method at .05 level of statistical significance (t_{29} = -9.043, $p < .05$) 2) post-test mean scores of students' Chinese Contemporary Literature History achievement after learning through flipped classroom teaching mode based on cyberspace learning was statistically higher than the criterion of 70% at .05 level of statistical significance (t_{29} = 26.837, $p < .05$)

Keywords : Chinese Contemporary Literature History Achievement, Flipped Classroom Teaching Method, Cyberspace learning

1. Introduction

With the continuous development of information technology, Internet has developed greatly and integrated into many fields, esp. education. Moreover, it has emerged various forms of educational resources and autonomous learning platforms, such as MOOCs, micro-lectures, or APPs, and more advanced information technologies have been used to assist learners in academic study in different disciplines. Because of the innovation in teaching concepts, teaching methods and objectives, etc., a new teaching idea – flipped classroom was first emerged and discussed in United States (Baker, 2000; Bergmann & Sams, 2012), and a new teaching mode came into being, i.e. the flipped classroom teaching, which has been accepted and promoted gradually by world-wide educators and scholars, as well as front-line teachers (Yang, 2015).

There are several reasons for the prevailing application of the flipped classroom teaching. First, there is the need to promote the in-depth development of education informatization. The government documentary — *Ten-Year Development Plan for Education Informatization (2011-2020)*, proposes that China should explore the deep integration of information technology and Education, and innovate educational concept and educational model by informatization, in order to give full play to the supporting and leading role of educational informatization in educational reform and development. Second, there is the need of education reform and innovation. Third, there is the need for the construction and development of cyberspace learning. And the cyberspace learning complies with the needs of educational reform and development in the era of "Internet+". According to the thirteenth Five-Year Plan (2016), it is the trend for the construction of online teaching and learning with the development of education informatization.

As an instructional strategy and a type of blended learning, flipped classroom reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It is the reallocation of in-class and after-class activities based on learners' characteristics and teaching needs, and also the realignment of time in and out of the classroom, so that students can make decisions and gain autonomy in learning (Yang, 2015).

Learning space refers to a space or platform that provides help and resources for learners. It is consisted of two features: one is supportive for learners, and the other is extensive in learning resources. It is a virtual or physical place or environment that can be designed and planned for learning (Fabregas, Farias, Dormido-Canto, Dormido, & Esquembre, 2011). And the concept of cyberspace learning is based on that of learning space, which is a specially designed virtual space that uses modern information technology and computer networks to support learning (He & Xue, 2013). Cyberspace learning is a kind of learning environment which integrates management, resources, evaluation, service and interaction. It provides a whole new learning environment, whose biggest advantage is that it can be designed and realized according to the characteristics of different subjects (Mulholland, 2012). Domestic scholars in China believe that

cyberspace learning is a virtual interactive autonomous learning space that combines information technology with Internet technology and provides massive information for learning through discipline design optimization (Zhong, et al., 2008; Xie, 2017; Li, et al., 2017).

In the study, the flipped classroom teaching method is defined as: through information technology means, combined with the teaching content, the original classroom teaching model for students and teacher-only approach is transformed into a new teaching mode characterized with the student-centered teaching idea, rich learning methods and means (online teaching and learning plus offline centralized tutoring) and bilateral interaction (Gerstein, 2012; Lorenzetti, 2015).

Talking to the traditional teaching approach, several problems are often discussed. First, it emphasizes teachers' leading role in class, neglects to motivate students' interest and inquiry motivation towards self-learning. Usually, teachers talk more, while students passively listen, almost no effective teacher-student communication. Second, no enough time for teacher-student interaction in class, and little chance for students to think deep and discuss thoroughly with teachers or other peers. Third, most teachers did not make full use of modern advanced equipment in traditional class. Forth, students cannot make good use of online learning resources in traditional class, because it forbids students from using smart phones or other mobile devices in classroom. But they'd like to surf online to study anytime anywhere in the fragmented self-learning. As a result, the traditional teaching approach is unsuitable for today' education innovation and cannot satisfy students' needs, who would like to learn independently in the diversified way, not just in-class learning only.

Compared with traditional teaching approach, the flipped classroom teaching method together with cyberspace learning has several advantages and characteristics. First, the leading role will be changed from teachers to students. Teachers are not the lecturer any more but the guide for learners' self-growth in academic study and critical thinking. Second, the learning environment generated by the flipped classroom teaching becomes more comfortable and friendly to students' physical and mental growth. Third, more time and opportunities for students to discuss and cooperate with classmates in project learning, and both teacher-student and student-student interaction become frequent and available in flipped classroom.

Therefore, both teachers and students need to change their roles and their ideas towards the application of internet learning resource and platforms. And teachers should reconsider the critical influence of education informatization upon their teaching design, and value both physical and psychological development of students to cultivate their deep understanding.

This study takes an experimental approach to investigate the design and application of flipped classroom teaching method together with cyberspace learning, aiming to offer a new teaching model for higher education reform and innovation. With the emergence and development of flipped classroom teaching mode, as well as the popular application and convenance of

cyberspace learning, teachers can break the traditional classroom teaching structure through this teaching mode. Students can carry out preview task, topic discussion, and learn the new content first through the cyberspace, and then improve the learning efficiency through in-class explanation and presentation. The flipped classroom teaching method together with cyberspace learning can better improve the teaching efficiency and teaching quality, and can better shorten the relationship between teachers and students; it can also help cultivate learners' understanding.

2. Research Objectives

2.1 To compare Chinese Contemporary Literature History achievement before and after receiving flipped classroom teaching mode based on cyberspace learning.

2.2 To compare Chinese Contemporary Literature History achievement with the determined criteria at 70 percent.

3. Research Methodology

3.1 Samples

The samples were composed of 30 freshmen enrolled in September 2020, majoring in Chinese Language and Literature in the School of Chinese Language and Literature of Zhoukou Normal University. They were randomly chosen from around 200 undergraduates in 8 classes.

3.2 Experimental Design

This study employed an experimental design with one group pretest-posttest design shown in the figure below. Pretest-posttest were used to investigate students' achievements in learning the history of modern and contemporary Chinese literature before and after learning through flipped classroom teaching method together with Cyberspace learning. The experimental design was shown in the table below.

Table 1 Experimental design employed in this study

Group	Pretest	Treatment	Posttest
Experimental group	O_1	X	O_2

O_1: was the study of students' achievements in learning the history of modern and contemporary Chinese literature before learning through flipped classroom teaching method together with Cyberspace learning.

X: It was the treatment of learning through flipped classroom teaching method together with Cyberspace learning.

O_2: was the result of students' learning of Chinese modern and contemporary literary history after learning through flipped classroom teaching method together with Cyberspace learning

3.3 Research Instruments

According to the research methodology, the research instruments mainly included 1) the instrument for experiment was lesson plans which were designed based on flipped classroom teaching method together with cyberspace learning space and 2) the instrument for data collection was achievement test of Chinese Contemporary Literature History with validity at 1.00, inter-rater reliability at 0.72, item difficulty (p) 0.20-0.45 and item discrimination (r) between 0.2-.07.

3.4 Data Collection

The data was mainly collected through Superstar Erya network platform, which constituted the basic requirements of cyberspace learning for students' online learning, and then was analyzed by SPSS. The pre-test was first carried out to gain a general idea of students' learning circumstance towards the course, and other issues were also investigated, like teaching objectives, specific learning contents, teaching keys and difficulties, etc., all of which were supposed to be considered in the teaching design of the course.

As to the application of flipped classroom teaching method based on cyberspace learning, both online learning resource and related tasks or tests were specially designed to check the feasibility of the new teaching method. The implementation of new teaching method took 12 hours with four topics including 1) MAO Dun's novel creation, 2) *Midnight*, Chinese modern full-length novel written by MAO Dun, 3) Lao She's creative path, 4) *Rickshaw Boy*, Chinese modern full-length novel written by LAO She. At the end of experiment, the samples received from the posttest by the same test used in the pretest. Both pretest and posttest were arranged with a unified online test upon Superstar Erya network platform, which composed the cyberspace for both online teaching and online learning. As to the questions and score distribution, there are three types of questions — the first is a multiple-choice with 5 items, the subtotal is 15 scores; the second is a brief-answer with 2 items, the subtotal is 10 scores, and the third one is an essay question with only 1 item, the subtotal is 15 scores. The test scores in pretest and posttest were made a comparison to reveal the advantage of enhancing academic achievement, as well as teaching and learning effects by the flipped classroom teaching method based on cyberspace learning.

3.5 Data Analysis

The quantitative analysis of pretest and posttest analyses included both descriptive statistics and inferential statistics as follow.

3.5.1 The pretest and posttest analyses by descriptive statistics, like mean scores ($\overline{X}$), standard deviation (S.D.)

3.5.2 The pretest and posttest analyses by inferential statistics to illustrate the significant difference of achievement in the course test. According to the research objectives, statistical procedures were used to analyze the data;

1) comparing Chinese contemporary literature history achievement before and after completing instructed by flipped classroom teaching method together with cyberspace learning through t-test for dependent sample.

2) comparing Chinese contemporary literature history achievement of posttest with the determined criteria at 70 percent (28 scores) through t-test for one sample.

4. Research Results

The findings of this research were analyzed through descriptive statistics and t- test by using statistical package program to answer the progress of participants after its implementation. The findings were described as follows.

4. 1 The result of comparing the different scores of Chinese contemporary literature history achievement before and after learning through flipped classroom teaching method together with cyberspace learning was illustrated in Table 2.

Table 2 Research result for the first objective

Group	Population	Pretest		Posttest		t	p
		$\bar{x}$	S.D.	$\bar{x}$	S.D.		
Experimental Group	30	28.73	6.44	38.70	2.18	-9.034	0.000

Table 2 illustrated that the pretest mean score of students' Chinese contemporary literature history achievement was 28.73 (SD = 6.44), while in the posttest, the mean score was 38.70 (SD = 2.18). The result of the table showed that after learning through flipped classroom teaching based on cyberspace learning, the posttest scores of students' Chinese contemporary literature history achievement was greater than pretest scores at .05 level of statistical significance ($t_{29} = -9.043$, $p < .05$). The average scores of the study developed increasingly higher than pretest.

4. 2 The result of comparing the different scores of Chinese contemporary literature history achievement after learning through flipped classroom teaching mode based on cyberspace learning with the criteria set at 70%. The below table showed descriptive statistics and t- test as the qualitative analysis by statistical package program. This table aimed to answer the research objective whether flipped classroom teaching method together with cyberspace learning was able to enhance Chinese contemporary literature history achievement

Table 3 The Result of Posttest Score

Group	N	Full score	Criteria score	$\bar{x}$	S.D.	t	p
Experimental group	30	40	28	38.70	2.18	26.837	.000

As presented in table 3, the mean scores of students' Chinese contemporary literature history achievement after learning through flipped classroom teaching mode based on cyberspace learning was 38.70 from a possible full mark of 40 and the standard deviation was 2.18 which was statistically higher than the criterion of 70% at .05 level of statistical significance (t_{29} = 26.837, $p < .05$).

5. Discussion

The study aimed to examine the effectiveness of the flipped classroom teaching method together with cyberspace learning to cultivate Chinese contemporary literature history. In this study was shown that the flipped classroom teaching method and cyberspace learning were an effective pedagogy in Chinese contemporary literature history. As mentioned above, the results revealed that academic achievement of Chinese contemporary literature history for students immersed in the flipped classroom teaching method together with cyberspace learning is better than that before learning.

This result can be explained that the new teaching method was learner-centered instruction that provides an opportunity for students to gain first exposure prior to class or out of class. Students developed their understanding of course content with rich learning resources, and they reified that information in some way, and teachers used various information technology to convey that reified information to students by out-of-class tasks, as these class activities were designed to help students construct deeper understanding of content by making them complete tasks *during class, which* would make main contents understood by individuals or by assistance of others (The Faculty Innovation Center, 2022).

With the new teaching method in the course teaching, no matter out-class activities online or in-class participatory learning, students have been gradually emphasizing independent inquiry, and they were immersed in the sense of achievement gained by their own efforts. It was generally believed that this teaching method would improve their independent learning ability, and they hoped to learn online and participate into learning tasks thoroughly. Students tended to use learning materials that were demonstrable and shared in class and provided direct assistance to their own learning. And before teaching in class, the learning resources or tasks provided by teachers were mostly used and previewed by students, such as video materials, lectures or PPT, which are all transmitted onto the online learning space. In addition, some popular online chatting APP, like QQ, WeChat, are often used to clarify out-of-class teaching.

As discussed above, cyberspace learning was a space or platform that provides resources for learners, which is characterized with extensive content and also supportive to learners. It should be the effective product of the combination of the virtual and the reality. And it is a whole new learning environment integrating various aspects, like the management of resources, service, evaluation, and interaction (Fabregas et al., 2011). On the basis of the original theoretical framework of learning space, cyberspace learning will provide users more resources and information through convenient online services (Mulholland, 2012). And since 2020, because of the epidemic of COVID-19, various universities and colleges were required to establish online teaching resources and construct online learning space, and front-line teachers were asked to make full use of network or information technology to set up their own online micro-lectures. Thus, the flipped classroom teaching method and cyberspace learning indeed played an important role in improving teaching effects and quality, and enhancing learning efficiency and interest of students in their independent online learning, who were adjusted well to such relatively relaxed and free learning environment, and might maximize their learning potential.

Therefore, because the concept of flipped classroom has been advocated around the world for many years, and popularizing across Chinese universities to enhance student-centered teaching idea, therefore, it was reasonable and feasible to combine the idea of flipped classroom with cyberspace learning in the course teaching. As both teaching resources and learning record can be traced and analyzed on the cyberspace, which is established upon the superstar network teaching platform, thus teachers can deal with the problems and feedback timely, adjust teaching contents and schedules, and communicate more effectively with students to make them learn actively and independently, consequently, obtain their recognition and active cooperation.

The results of this study were consistent with the previous studies or research showing that the construction of Cyberspace learning could help transform learning mode and change learning environment, and students' autonomous online learning was greatly benefited from the construction of Cyberspace learning. And with the application of information technology and the construction of cyberspace, teachers could set up online teaching and offline teaching, and activate students' center roles in participatory learning, consequently, teachers would flip class teaching and embed cyberspace learning into flipped classroom. Meanwhile, many scholars and educators argued that flipped classroom teaching method together with Cyberspace learning could significantly enhance both teaching and learning effect, and optimize the learning process, as well as improve learners' attitude toward self-study, and such method was approved by most students in today's colleges and universities (Zhong, et al., 2008; He & Xue, 2013; Li, et al., 2017; Liu, 2017; Zhao & Zhang, 2019).

Consequently, the combination of flipped classroom method and cyberspace learning of this study revealed that students have learnt in both flipped classroom teaching method based

on cyberspace learning. They could manage their time reasonable in dealing with their self-learning in cyberspace, and think deeply and communicate freely without much anxiety in the virtual cyberspace learning. However, the comparison of academic achievement of the course Chinese contemporary literature history was much significant between before and after learning the flipped classroom teaching mode based on cyberspace learning. Therefore, the flipped classroom teaching based on cyberspace learning was proved to be advantageous in enhancing teaching and learning effects, as well as stimulating students' learning interest and participation in teaching activities, no matter in-class group work or out-class preview or assignment.

6. Conclusion

The flipped classroom teaching method together with cyberspace learning is integrated of flipped classroom and online learning due to the development of information technology and networking, and it plays a critical role in the teaching practice and innovation, and it also makes active influence upon teaching effects and learning effects, encouraging students to diversify their learning methods and manage to deal with time reasonably in their autonomous learning. Compared with traditional teaching approach, the flipped classroom teaching method can strengthen teacher-student interaction, and enhance students' interest and participation in various learning tasks, no matter in-class activities or out-class assignments, and it could enforcement the student-centered teaching idea in future reform of higher education.

7. Recommendations

7.1 Recommendation for Implication

7.1.1 The design and application of flipped classroom teaching could be a good example for the higher education reform and innovation. The young teachers are supposed to learn new pedagogical theories to refresh their teaching idea and guide their teaching practice, to adjust teaching design to meet the cultivation of the talents with discipline theories and professional competence needed by social and economic development.

7.1.2 As a teacher, it is apparent that flipped classroom teaching method together with cyberspace learning should be an integrated aspect of education. Investigations from the repeated implementation to use it in the classroom show that it transformed students from passive to active learners and also change the progression in academic achievement.

7.2 Recommendation for Further Research

7.2.1 The further study should make further analysis on the complexity of flipped classroom teaching method together with cyberspace learning. The flipped classroom teaching mode concentrates on reversing the teaching procedures, and extending learning space for students, but the concrete implements is a bit out of control, because the idea of learning first

probably does not get students' enough attention, and teachers' administration may be not timely and effective. Besides, the construction of the flipped new teaching method together with cyberspace learning is a bit sophisticated; it should be revised in the future study.

7.2.2 Time duration for the observation and data collection is a bit limited, more time is needed for the further study, and discuss the close relationship between flipped classroom teaching method together with cyberspace learning.

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The Effect of Learning Management Using Cooperative Learning together with Superstar Mobile Library Application to Enhance the Searching for Information Ability of University students
Reviewer Regina

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Abstract

The purposes of this study were 1) to compare students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application. 2) to compare students' searching for information skills after learning through cooperative learning together with the Superstar mobile library application with the established 70% criterion. The experimental design was one group pretest posttest design which was to determine a new teaching method in order to enhance searching for information skills. The samples included in this study were 51 freshmen of the school of arts at Zhoukou Normal University obtained by the cluster random sampling method. The instrument was searching for information skills evaluation form with the validity at 1.00, reliability at 0.71. The lesson plans were another instrument which were examined the quality through group of experts. The results revealed that 1) after learning through cooperative learning together with the Superstar mobile library application in the classroom, posttest scores of students' searching for information skills was greater than pretest scores at .05 level of statistical significance $(t34 = 15.19, p < .05)$. The average scores of the study developed increasingly higher than pretest. 2) mean scores of students' searching for information skills after learning through cooperative learning together with the Superstar mobile library application was statistically higher than the criterion of 70% at .05 level of statistical significance $(t34 = 47.21, p < .05)$.

Keywords : Cooperative Learning, Superstar Mobile Library Application, Searching for Information Ability

1. Introduction

With the increasing popularity and wide spread of information network technology, the service of university library must be integrated into the computer network application environment. According to the needs of university library technology, data query service and information retrieval, how to build an information library is the key to the construction of network information service in university libraries, and it has become a brand-new topic facing the majority of library managers. (Smith, 2010)

With the development of information technology, the computer technology system has been widely promoted in the library, which not only realizes the automation of library material management, but also improves the service quality of the library to meet the reading needs of readers. Under the background of informationization,modern libraries attach more importance to the exchange, transmission and application of information, and enhance the rapidity, timeliness and richness of information. In order to promote the application of information technology in the library and improve the quality of library management service. As an important place for cultural inheritance and knowledge dissemination, library plays an important role in improving the quality of the whole people. Today, with the development of information technology, the library should keep pace with the Times, reform the management mode and service mode, provide convenient service mode for readers, meet the reading needs of contemporary readers, and then strengthen the management mode of the library. Under the background of informationization, the realization of informationization management mode and service mode is the need of library's future development.

The purpose of library information technology course is to learn advanced scientific and technological knowledge and use it to spread it to students, so that students can acquire knowledge to facilitate the application in daily life. Mainly in the classroom teaching to pass the library information technology to students, so that students can master this technology, and use it to help and improve their learning efficiency, academic performance.

From previous teaching experience, usually in the classroom also reflected the problem of students' searching for information skills or retrieval skills, such as students' individual learning and understanding ability are not the same, some strong, some weak. The ability to understand strong grasp of search is strong, so the search efficiency is very high, and some students search ability is slower. This is not only related to the individual performance of students, but also to the teacher's teaching methods. That is to say, an excellent student can not be separated from their own efforts and talents, but also can not be separated from the teacher's instruction.

Cooperative learning is one of various teaching method to help or cultivate students' outcome. Students are active participants in cooperative learning and are required to engage fully in group work. Group skills for listening, discussing, and compromising are required if cooperative

learning groups are to be successful. Cooperative learning is a structured, systematic learning strategy, composed of 2 to 6 students of different abilities in a group, in cooperation and mutual assistance to engage in learning activities, to jointly complete the group learning objectives, on the premise of promoting everyone's learning level, improve the overall performance, to obtain group rewards. Moreover, Cooperative learning theory asserts that students learn best when they work together, when they encourage and tutor each other, and when they are held individually accountable for their work. As opposed to models that are more teacher-centered and that require teachers to expend a great deal of time keeping students motivated and in their seats, teachers in cooperative learning encourage students to move about and interact with each other. Research from both the cognitive and neurosciences supports this type of active involvement. (Arends, and Kilcher, 2010)

Super Star Mobile Library application is one of the significant tools for learning to solve the problem students' searching for information skill or students' retrieval practice ability mentioned above. It is very important for students to learn about book and literature retrieval and solve problems together with the Super Star Mobile Library application in their learning life. There are the following points of importance: (Century Super Star Information Technology Development, 2022)

1) More effectively save the students to find books and materials of the time, improve the efficiency.

2) More effectively improve the accuracy of students to find books and materials, reduce the error rate.

3) Exercise and improve the students learn to find books and materials methods and skills, improve the academic performance.

4) More time is saved to a large extent, and students can make full use of this time to study, can increase more effective learning time.

To give a very simple example, in the classroom can let students use the traditional basic search method and the use of basic search methods at the same time combined with the superstar mobile library APP collaboration method, let students personally go to such a practical operation, students will have different feelings. Students can think independently about what is different between using basic search methods and having a collaborative search with APP. Students can think through practice what the advantages are, whether it improves the efficiency of search and so on. This is a good learning process, through practice to form thinking, and then make a final summary. This learning process is very important throughout the classroom.

For the reasons mentioned above, researcher is interested in and has realized the necessity of application and innovation of library information technology development in the course of teaching through the implementation of cooperative techniques together with super star mobile

library application in order to cultivate searching for information skill. The finding of this study will be the guideline for teaching in library information technology course.

2. Research Objectives

1) To compare students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application.

2) To compare students' searching for information skills after learning through cooperative learning together with the Superstar mobile library application with the established 70% criterion.

3. Research Methodology

3.1) Population and samples

The population in this study were 110 first-year students of the school of arts at Zhoukou Normal University in the second semester of academic year 2021.

The samples in this study were 51 freshmen of the school of arts at Zhoukou Normal University obtained by the cluster random sampling method.

3.2) Research Instruments

There were 2 instruments for this study which consisted of 1) the searching for information skill evaluation form and 2) Lesson plans

3.2.1) The searching for information skill evaluation form

The purpose of using the searching for information skill evaluation form was to collect data regarding the students' skill involve retrieval or searching for information. This evaluation form was the five-point rating scale ranged from never, rarely, sometimes, mostly, and always. The draft of evaluation form was presented to thesis advisors for their advice on the appropriateness, precision, accuracy, ambiguity and wording. Then, the draft of evaluation form and the validated form were offered to the three experts for the validity determination and suggestions such as the alignment between the each item and operational definition, wording appropriateness. The quality of the searching for information skill evaluation form in term of validity was found that validity was at 1.00. Then, the draft of evaluation form was preliminary study or pilot study and explored the reliability, it was found that this draft of evaluation form had a reliability at 0.71 that means the evaluation form had the quality and can be used to collect data.

3.2.2) Lesson plans

Lesson plan were designed based on cooperative techniques together with superstar mobile library application. There were altogether 12 hours. The draft lesson plans mentioned earlier were assessed by 3 experts regarding an appropriateness in terms of learning objectives,

content, learning activity, materials, and assessment. Then, experts recommendations were used to revise the lesson plans.

3.3) Experimental design

This study employed pre design with one group pretest-posttest design shown in the figure below. Pretest-posttest were used to investigate the searching for information skill before and after learning through cooperative techniques together with super star mobile library application. (Ary, Jacobs, and Sorenson, 2010)

Group	Pretest	Treatment	Posttest
Experimental group	O_1	X	O_2

O_1 was measurement of the searching for information skill before an experiment

X was a treatment of cooperative techniques together with super star mobile library application

O_2 was measurement of the searching for information skill after an experiment

3.4) Data Collection

The procedures of data collection were as follows:

1. The samples were given the pretest by measuring the searching for information skill with constructed evaluation form.

2. The samples were taught by using cooperative techniques together with Super star mobile library application

3. After finishing the instruction, the samples received the posttest by using the same evaluation form which were used in the pretest.

3.5) Data Analysis

In this study, data were analyzed through using the statistical package program according to the research objectives: 1) compare the searching for information skill before and after learning through cooperative techniques together with superstar mobile library application by using t-test for dependent sample. 2) compare the searching for information skill with the determined criteria set at 70 percent by using t-test for one sample.

4. Research Results

The findings of this research were analyzed through descriptive statistics and t-test by using statistical package program to answer the progress of participants after its implementation. The findings were described as follows.

4.1 The results of the first research objective

The result of comparing the different scores of students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application. The below table showed descriptive statistics and t-test as analyzed by statistical package program. This table aimed to answer the research objective about whether cooperative Learning together with the Superstar mobile library application was able to enhance students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application.

Table 1 The result of comparing the different scores of students' searching for information skills before and after learning through cooperative learning together with the Superstar mobile library application.

Group	N	Pretest scores		Posttest scores		t	p
			S.D.		S.D.		
Experimental group	35	83.54	3.06	94.43	3.06	15.19	0.000

As presented in Table 1 the mean scores of pretest of students' searching for information skills was 83.54 (SD = 3.06) and posttest of students' students' searching for information skills was 94.43, (SD = 3.06).

Moreover, it aimed to examine the different scores of before-and-after using cooperative learning together with the Superstar mobile library application to enhance students' searching for information skills. The result of this table showed that after learning through cooperative learning together with the Superstar mobile library application in the classroom, posttest scores of students' searching for information skills was greater than pretest scores at .05 level of statistical significance ($t34$= 15.19, p < .05). The average scores of the study developed increasingly higher than pretest.

4.2 The results of the second research objective

The result of comparing the different scores of students' searching for information skills after learning through cooperative Learning together with the Superstar mobile library application with the criteria set at 70 percent. The below table showed descriptive statistics and t-test as analyzed by statistical package program. This table aimed to answer the research objective about whether cooperative Learning together with the Superstar mobile library application was able to enhance students' searching for information skills

Table 2 The result of comparing the different scores of students' searching for information skills after learning through cooperative Learning together with the Superstar mobile library application with the criteria set at 70 percent

Group	N	Full score	Criteria score		S.D.	t	p
Experimental group	35	100	70	94.43	3.06	47.21	0.000

As presented in Table 2, the mean scores of students' searching for information skills after learning through cooperative learning together with the Superstar mobile library application was 94.43 from a possible full marks of 100 and the standard deviation was 3.06 which was statistically higher than the criterion of 70% at .05 level of statistical significance (t_{df} = 47.21, p < .05).

5. Discussion

Students can enhance their searching for information or retrieval skills by collaborating with the Superstar Mobile Library application.

First of all, super star mobile library application is dedicated to professional mobile platform, the user can on the mobile devices such as mobile phone, pad self-service complete personal collection consult, the latest for lending and advisory browsing, have more than million copies of electronic books at the same time, huge amounts of newspaper articles, and metadata for users to choose Chinese and foreign literature, to provide users with a convenient mobile reading service. This shows that there are many rich book resources on this APP, which can fully meet the needs of students. In this way, students can exclusively search and read on this APP, with a clearer and more accurate query target.

Secondly, super Star mobile library application is like a handheld mobile APP. As long as the mobile phone is connected to the Internet, students can use this APP to find and read the books they need anytime and anywhere. This is a very convenient and efficient mobile library application. This is a new technology product created based on the performance of students' demand for library and the development and innovation of library's own service. The purpose is to use for the school teachers and students of the library enquiries lending services. Combined with the service of this APP, the efficiency of book inquiry and borrowing has been greatly improved, which has brought benefits to teachers and students and won a good reputation from them. In this way, students can carry their mobile phones to query book information, and do not need to go to the library to manually query information, which saves the retrieval time, greatly increases the retrieval efficiency, and thus improves the retrieval skills of students. (Talja, 2002)

Thirdly, the teaching stage of collaboration technology combined with superstar mobile library APP mainly adopts the idea of combining theory and practice. The idea is that the first is

the theory, which believes that the superstar mobile library application teaching can be divided into three stages: "before class, during class and after class". In the "pre-class" stage, teachers mainly complete the preparation of curriculum resources and the guidance of students' independent learning. In the "in-class" stage, students have discussion, exploration, cooperation, practice and other learning activities, teachers give active guidance. In the "after class" stage, students mainly consolidate knowledge and improve practical operation searching for information skills. The second is the practical stage in real life, mainly to study whether students' personal book searching for information skills is really improved and whether it is more efficient after using superstar mobile Library APP. What are the differences between before and after the combination. In the classroom teaching stage, the main emphasis is on the "pre-class" stage of resource preparation and effective teaching design. In this study, the online combined superstar library application needs to be designed in detail in the "pre-class" stage, so the teaching mode of pre-class design course PPT needs to be adopted to highlight the preparation and design of online learning space. (Sun, et al., 2012)

In order to fully understand the research status of the practical ability of library literature retrieval and determine the rationality of this paper's topic selection, through the CNKI, with "book literature retrieval" as the key word, the attention to this study was statistically analyzed. The results show that universities and local libraries pay more attention to book and document retrieval (51.5% of all research fields), which is consistent with the characteristics of library education and document retrieval courses and interactive links. In this paper, the research on literature retrieval methods in university libraries accounts for 5.0% of the total research results. Combined with the research of superstar mobile library application, we can see its own good effect, is very suitable for the development of university libraries. (Wu and Qiu, 2012)

6. Conclusion

Teachers can serve as guidelines to develop students' searching for information skills. Students can apply searching information skills to their studies in any subject. The significance of this study is to change the innovative mode of books and literature retrieval course to combine modern computer information technology and Superstar mobile library application for teaching, effectively improve students' practical ability of books and literature retrieval, and help students improve their learning efficiency and performance. Moreover, As opposed to models that are more teacher-centered and that require teachers to expend a great deal of time keeping students motivated and in their seats, cooperative learning can enhance students learn best when they work together, when they encourage and tutor each other, and when they are held individually accountable for their work. And also in this investigation, we can constantly discover and innovate teaching methods, so that the whole teaching process and results are more effective.

7. Recommendation

Based on the research results, the following suggestions are put forward:

This study can change the innovative model of book and document retrieval course, combine modern computer information technology with Superstar mobile library application for teaching, effectively improve students' practical ability of book and document retrieval, and help students improve their learning efficiency and performance. In the process of research, we can constantly discover and innovate teaching methods, so that the whole teaching process and results can be more effective.

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A Synthesis Study of Metacognitive Strategies Employed
in the Researches on Teaching Reading

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Abstract

Reading is an active process which increase the capacity of human knowledge, give form to their thoughts and beliefs, brings them in personality. Reading plays an important role in learning activities in EFL classes in Thailand. There were many researches on reading approaches have been conducted by researchers. The purpose of this research was to present a synthesis based on the previous studies published on reading approaches employed in the English teaching classroom. The studies synthesized were during 2014 to 2021 with a total number of fourteen studies. The instrument of this research was a frequency distribution synthesis table. This research was conducted by studying the research articles on the literature review on the reading approaches before being synthesized by using the frequency distribution synthesis table. The research results revealed that there were four main reading strategies employed in the research as follows: cognitive approach, metacognitive approach, bottom- up approach and top-down approach. The results also indicated that metacognitive approach was found as the foremost employed approaches in most studies.

Keywords : Synthesis Study, Metacognitive Reading Strategies, Teaching Reading

1. Introduction

Reading is one of the vital language skills that many instructors around the globe focus on when teaching because it contributes to the overall academic success of their students (Anderson, 2002). The fundamental purpose of reading in the content areas is not to be able to sound out words on the printed page; rather it is an active process in which the reader calls upon experience, language, concepts, and schemata to anticipate and understand the author's thoughts, concepts, and language. Piyanukool (2001) pointed out that the most common academic goals of reading in the content areas is constructing the meaning of the text that in some way corresponds

to the author's intended meaning. In order to do this, students must be able to bring some meaning and interpretation to the text, so that they will be able to see the similarities between what they know or understand and what they read in the text; this process is called reading comprehension.

Reading comprehension is one of the most important study skills in higher education. One of the vital factor s in the process of learning English language is reading comprehension. Researchers have indicated that the process of reading comprehension is quite complex and students often struggle in constructing the meaning and comprehension of the text. (Grabe &Stoller,2002). Theoretically, reading comprehension is an interactive process of deriving meanings from a text(Rumelhart,1981).

Research indicates that using effective reading strategies works effectively towards enhancing reading comprehension by using metacognitive strategies (Trabass, Boucharad,2000). Pressley (2000) suggests that proficient readers use appropriate comprehension techniques.

Flavell (1976) who introduced the concept of metacognition in education, defined metacognition as individual's knowledge about his/her own cognitive process. Metacognition is referred to the knowledge people about their own thinking which is considered as an important key to learning and learning performance (Brunning, Schraw, & Ronning, 1995). By definition, metacognitive strategies surround the learning activity and are often triggered by the success or the failure of a learner's selected or habitual strategies (Roberts & Erdos, 1993).

Metacognition clearly involves more executive components such as setting goals, selecting strategies and monitoring their effectiveness in the accomplishment of learning tasks. Basically, metacognitive strategies are effective tools which help learners to be consciously aware of what they have learned and recognize situations in which it would be useful. Alderson (2000) explains the connection between metacognition and reading comprehension regarding the ability to use metacognitive skills effectively and to monitor reading is an important component of skilled reading. Readers who are metacognitively aware know what to do when they do not understand because they have strategies to find out what they need to do. The use of metacognitive strategies ignites one's thinking and leads to more profound learning as well as improved performance. As for the benefits of metacognitive strategy use, teachers can help increase students' reading comprehension when reading a story by modeling different types of planning, monitoring, and evaluation strategies and these types are what most teachers recognize as before-, during-, and after-reading processes (Pressley & Afflerbach, 1995). Israel (2007) strongly agrees that metacognitive strategies increase readers' meaning construction, monitoring of text and reading comprehension, and their ability to evaluate the text they are reading. Metacognitively skilled readers are aware of knowledge, procedures, and controls of the reading process. They use this knowledge during the reading

process to improve reading and comprehension ability. Obviously, promoting metacognitive awareness among EFL readers have been conducted in many studies. Rasekh and Ranjbary (2003) investigated the effect of metacognitive strategy training through the use of explicit strategy instruction on the development of lexical knowledge of EFL students and the result of the study showed that explicit metacognitive strategy training has a significant positive effect on the vocabulary learning of EFL students. Similarly, Cubukcu (2008) taught metacognitive strategies for reading in a five week program. The purpose of the study was to determine the effectiveness of systematic direct instruction of multiple metacognitive strategies designed to assist students in comprehending text. Specifically, the reading comprehension and vocabulary achievement of 130 third year university students has been investigated to determine whether instruction incorporating metacognitive strategies has led to an increase in the reading comprehension of expository texts. The results showed that the experimental group out performed the control group.

Likewise, Akkakoson & Setobol (2009) investigated the effects of metacognitive strategies instruction on Thai students' English reading comprehension. The findings revealed that the high and moderate reading proficiency subjects used more metacognitive strategies when reading texts than before. The mean scores of the post-test gained by the subjects of the high, moderate and low reading proficiency groups were significantly higher than those of the pre-test at the statistical level of .05. In addition, Fan (2009) explored how metacognitive strategies can be implemented most effectively in Taiwanese universities to improve EFL students' reading comprehension. One hundred forty three first-year students at the Lung Hwa University were recruited as subjects in the study. A 2-by-2 ANCOVA measure was employed to assess whether metacognitive strategy training can bring significant outcomes on the EFL reading comprehension. Erskine (2010) conducted a study to assess first-year university students' metacognitive awareness and usage. Four of the six classes were trained in metacognitive skills and strategies using the Metacognitive Skill Instruction. Two of these four classes were prompted to specifically reflect on their use of metacognitive skills and strategies. The other classes were not prompted about their use of metacognition. Students' metacognitive performance was assessed at the end of the semester using the Metacognitive Awareness Inventory. The results showed there was no initial difference between groups yet a significant difference between posttest and retrospective pretest scores was found for all three groups at the end of the term.

Therefore, Sarah (2009) linked the use of metacognitive strategies such as summarizing, interrogating, creating mental models analyzing text structure and inferring to better comprehension as they provide better monitoring and evaluation framework for the reading process. In addition, teaching students' good comprehension strategies can have great benefits for comprehension of

self-directed learning (Duke & Pearson, 2005). However, old methods of evaluating comprehensions such as non-incisive questioning, use of structured workbooks and directed reading fail to encourage the creation of a good self-evaluation process (Block & Israel, 2005). Therefore, it is necessary for instructors to adopt methods that emphasize on the improvement of the comprehension checking process.

Nevertheless, as everyone knows, in Thailand, where English is taught as a compulsory foreign language, previous research has disclosed that the overall reading proficiency in English of Thai students is below the National English Test Criteria (Wongsuwan. 1992) even though most students begin to study English at grade 4. Students performed poorly because they were unable to comprehend the contents of texts, understand the details of the texts, identify the gist, and they lacked the critical skill in interpreting English written texts (Thanbanjerdsuk. 1983; Wirunhayan. 1987; Torut. 1994). Aksaranukraw (1989) reported that the unsatisfactory result of the students' performance in reading English is primarily due to the fact that teachers focus on the product of the language learning, and they usually neglect the emphasis on the learning process. To clarify, teachers usually judge the students' answers as right or wrong, and do not emphasize the thinking processes of the students or how an assigned task must be accomplished. This problem has remained even though there have been numerous attempts to resolve this problem by revolutionizing the curriculum and instruction, promoting research in language learning, etc.Reading plays an important role in learning activities in EFL classes in Thailand. Students need reading skills in both academic and occupational setting (Torut. 1994; Tiamsuwan. 1996; Piyanukool. 2001). Though reading has been accepted as important skill in teaching English, Thai learners still have difficulty in comprehension English texts, especially those students who are at the beginning level of learning such as in secondary schools (Piyanukool. 2001; La-ongthong, 2002; Chuamklang. 2010; Pookcharoen. 2011). Unfortunately, the bulk of research in EFL in Thailand basically has taken only on dimension in trying to overcome the problem. To clarify, most researchers have paid attention to placing the focus on verifying the effectiveness of using different teaching methods believed to promote critical thinking skill, problem-solving skill, cooperative learning, etc., and then suggest new strategies in teaching reading.

Reading Approach is very crucial. Reading is an interactive process combining top-down and bottom-up processing (Barnett, 1989); as a result.it is very important for the students to use appropriate reading approaches. In other words, reading comprehension requires the integration and application of multiple approach or skills. Those approach involve memory, cognitive, metacognitive, compensation, metacognitive, affective, social, test-taking approach (Zhang, 1993; Oxford, 1990; Caverly, 1997). There are several reading approaches presented in this study. The characteristics of each reading approach were as follows:

1) Cognitive Approach

According to Chamot and Kupper (1989), cognitive strategies are approaches" in which learners work with and manipulate the task material themselves, moving towards task completion". Winstead (2004) defined the cognitive strategy as, a learner-centered approach that takes into consideration the environment or situational context in which learned learns, the learner's knowledge base, intrinsic motivation, in addition to improving the learners' ability to process information via cognitive and metacognitive approaches. Example of cognitive approach include the skills of predicting based on prior knowledge, analyzing text notes by writing down the main idea or specific points, translating, inferencing, and transferring (Chamot, 1989; Oxford 1990).

2) Metacognitive Approach

Weinstein and Mayer (1986) regard all metacognitive activities as partly the monitoring of comprehension where students check their understanding against some self-set goals. Monitoring activities include tracking of attention while reading a text, understanding, etc (Pintrich, 1999).

Some researchers have been interested in conducting their studies on the reading approach such as Baharuddin, Elihami (2017) the results of the present study demonstrate that students generally increased their frequent use of reading strategies, especially using metacognitive strategies for managing and overcoming deficiency in English reading, and they further obtained more improvement in comprehension after strategy. Significance showed that the most frequent use of reading approach was found to be metacognitive approach, followed by the cognitive approach. Lisa M. Vallin(2019) conducted a study on a pedagogical approach to improve students' use of Metacognitive strategies. Kay Hong-Nam (2014) conducted on ELL High School Students' Metacognitive Awareness of Reading Strategy Use and Reading Proficiency. The current study explored high school English language learners' metacognitive awareness and reading strategy use when reading academic materials. The study also examined the relationship between participants' strategy use and their reading proficiency as measured by a state test and self-rated proficiency. Results indicate that in the context of overall strategy use, students used medium to high-level reading strategies.

3) Bottom-up Approach

According to Gough (1972), the emphasis of this model is on print itself. Readers start reading by recognizing the letters, word identification, and they gradually progress toward larger linguistic chunks to sentences, and eventually ending in meaning. The whole reading process is basically word-based and readers construct the meaning of a reading passage by decoding each word. Since this model emphasizes individual words in isolation, rapid word recognition is

vital to the bottom-up approach (van Duzer, 1999). This reading model believes that students who master this process quickly become proficient readers.

4) Top-down Approach

Unlike the bottom-up model, the top-down model is a "concept" driven model where the readers' background knowledge and expectations guide them to construct meaning from a reading text. As Eskey (2005) proposes, the top-down model emphasizes that the whole reading process is basically "from brain to text" (p. 564). That is to say, a reader starts with certain expectations about the reading text derived from his or her background knowledge and then uses his or her vocabulary knowledge they possess in decoding words to confirm and modify previous expectations (Aebersold & Field. 1997). In other words, a reading text itself has no meaning in the top-down reading model. It is the reader who constructs the meaning of the text by fitting it into his or her prior knowledge. According to Goodman (1967), who develops the top-down model, reading is a "psycholinguistic guessing game" and readers use their background knowledge to guess meaning. Smith (2004), who is also in favor of the top-down model, claims that a reader plays a very active role in the process of translating print into meaning by using knowledge of a relevant language, knowledge of the subject matter, and knowledge of how to read to confirm or reject his or her hypotheses. The process of the top-down model is also called "sampling of the text" (Cohen, 1990). Describing the sampling process, Cohen (1990) maintains that a reader does not read all of the words and sentences in the text, but rather chooses certain words and phrases to comprehend the meaning of the text. Therefore, the top-down model focuses on reading skills like making predictions and inference as well as guessing from context. The top-down model influences both L1 and L2 reading instruction in promoting the importance of prediction, guessing from context, and getting the gist of a text's meaning.

2. Research Objective

To synthesize the reading approaches employed in the research articles of reading skill.

3. Research Method

3.1 Data Source

The study is a research analysis and related theory (Documentary Research), in the reading approaches applied in the research articles of reading skill. The researcher studied of 14 relevant research papers and theory during 2014-2021.

3.2 Data Analysis

Data was analyzed by content analysis method that categorize the important issues according to the academic scope. After that the data were brought together by using the frequency distribution synthetic table.

4. Results

4.1 Reading Approaches Employed in Research Articles

According to the studying of reading approaches employed in the research, the result shows that there are four reading approaches as shown in Table 1 below.

Table 1 Reading Approaches Used in Research

Reading Approaches / Author & Year	Lukes 2021	Wimonporn 2020	Naihean et al. 2020	Frenkel 2020	Dajito 2019	Vallin 2019	Peteranetz 2018	Richardson 2018	Jareel et al. 2016	Menialdo 2015	Habibian 2015	Ismael 2015	Sarta 2014	Nam 2014	Frequency	Percentage	Rank
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14			
1 Metacognitive approach	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	12	80.00	1
2 Bottom up, top down approach				✓											1	6.67	2
3 Cognitive approach				✓											1	6.67	2
4 Top down approach								✓							1	6.67	2
Total															15	100.00	

As shown in Table 1, the results shown that there were four main reading approaches found in the researches. The most frequently found reading approaches were metacognitive approach (f=12, 80.00%), followed by bottom-up, top-down approach (f=1, 6.67%), cognitive approach (f=1, 6.67%), and top- down approach (f=1, 6.67%), respectively.

4.2 The Results of Employing Reading Approaches in Researches

4.2.1 Process Reading Approach Employed in the Researches

Summary of previous studies related in employing reading approaches in English teaching class in total of fourteen previous studies were identified using four different approaches highlighted. Some researchers employed process reading approach in the researches. Kay Hong-Nam (2014), Gamze Sarta (2014), Ismael (2015),Habibian (2015) Menialdo (2015) Jareel, Premachandran.P (2516) Matthew Lyle Richardson (2018), Markeya S. Peteranetz (2018), Lisa M. Vallin (2019),Hanandyo Dajito (2019), Naihean HUO1, Yooncheong CHO2 (2020), Wimonporn (2020),Mary Lukes (2021) employed the reading process in their studies and they found that the reading process approach can help students improve their reading abilities.

4.2.2 Cognitive Approach Employed in the Researches

Summary of previous study related in employing reading approaches in English teaching class in total of four teen previous studies related were identified using four different approaches highlighted. Some researchers employed cognitive approach in the researches. Charlotte Frenkel(2020) employed cognitive approach to improve reading comprehension.

4.2.3 Bottom-up, Top-down approach employed in the research

Summary of past related studies in employing reading approaches in English teaching class in total of four teen past related studies were identified using four different approaches highlighted. Some researchers employed Bottom-up, Top-down approach in the researches. Charlotte Frenkel (2020) employed Bottom-up, Top-down approach to improve reading process.

4.2.4 Top-down approach employed in the research

Summary of past related studies in employing reading approaches in English teaching class in total of four teen past related studies were identified using four different approaches highlighted. One of the researchers employed Top-down approach in the research. Matthew   Lyle Richardson (2018) employed Top-down approach to improve reading process.

According to the studying of the scope of academic work and synthesis the content with the frequency distribution synthetic table the result shows that four reading approaches as following: Bottom-up, Top-down, Cognitive and Metacognitive. And the researchers focused on metacognitive reading approaches to develop reading comprehension. According to Halpern (1998), "Metacognition is the executive or 'boss' function that guides how adults use different learning strategies and make decisions about the allocation of limited cognitive resources" (p. 454).

The researchers above-mentioned effectiveness of metacognitive strategy training or instruction proves to have significant gains in performance, and many researchers strongly agreed that students need to receive more effective instructional practice so as to enhance their reading achievement. Readers can become skilled readers and learners of whole text if they are given instruction in effective strategies and taught to monitor and check their comprehension while reading (Cubukcu, 2008). Based on these reasons, the researcher felt very interested in teaching students these effective comprehension strategies to enhance the awareness of their own learning when they are reading texts. It can be said that the course using metacognitive strategies can improve reading comprehension. The finding in this study make contribution to the body of knowledge that clear and effective of metacognitive strategies in the process of reading and also support that metacognitive strategies will enhance learners' reading ability. From the mention above can be found that metacognitive can improve reading skill for learners' abilities.

5. Discussion

According to the research results, it shows that there are many reading approaches to improve reading comprehension researches, namely, metacognitive, cognitive approach, Bottom up approach and top-down approach. Interestingly, the results indicated that metacognitive reading approach found as the foremost employed approach in most studies.

Reading research has also shed light on metacognitive awareness of reading strategies, perception of strategies, and strategy training and use in reading comprehension. Huang (1999) indicates that more proficient readers use more complex metacognitive processing strategies in reading more challenging texts to monitor their reading (cited by Huang, Chern, & Lin, 2009). Metacognition helps students to be aware of what they have read and learned so that they succeed in text comprehension. According to O'Malley, Chamot, Stewner-Mazanares, Russo and Kupper (1985) if a learner does not use metacognitive approaches, they might get lost on the way to understanding reading or might not re-evaluate their own progress, achievements and potential direction. O'Malley et al. (1985) say that learners who lack metacognitive approaches are those who have no direction or opportunity to reassess their progress, achievements and potential direction. Paris, Cross and Lipson (1984) believe that readers will not adopt and use actions as reading strategies if they do not understand the value or reason for doing so.

As mentioned in the previous sections, there is a positive relationship between metacognitive reading strategies awareness and reading comprehension. Accordingly, Flavell (1976) stated that the theoretical framework that supports this study is metacognitive reading strategy awareness theory (Flavell, 1976), it believes that self-monitoring and regulation is the main important factor in reading comprehension. These strategies not only promote reading comprehension but also motivate readers to read more and understand better the written message/messages. Metacognitive reading strategy awareness in reading comprehension processes relates to the knowledge that we recognize ourselves as readers, the reading assignment that we encounter, and the reading strategies that we utilize so as to solve the tasks (Baker & Brown, 1984; Singhal, 2001).

In general, metacognitive reading strategy awareness in reading is defined as the reader-performed actions such as planning, monitoring, or evaluating the success of a particular learning task (O'Malley & Chamot, 1994). Metacognitive reading strategy awareness includes the awareness of whether or not comprehension is happening, and the conscious willing of one or more strategies to monitor the reading comprehension. Koda (2005) elaborated that several investigations (Cohen, 2003; Tang & Moore, 1992) indicated that metacognitive reading strategy awareness has a strong correlation with reading comprehension. In fact, proficient readers utilize various metacognitive reading strategies while reading. In contrast, less proficient or poor readers do not use these strategies while reading so, they cannot improve in their reading comprehension. For instance, Devine (1983) and Shinghal (2001) investigated on second language students' conceptualizations of their second language reading processes through interviews. The results explored that proficient readers emphasize on reading as a meaning-making process rather than a decoding process. Meanwhile, the less proficient readers indicated to do the opposite. Additionally, Barnett (1988) conducted a study of second language reading with French language

students, and the result showed that the proficient readers indicated more awareness of their use of metacognitive reading strategies in reading comprehension than less proficient readers. Furthermore, (Chern, 1993) also explored that there is a positive relationship between readers' metacognitive reading strategy awareness and their reading comprehension process in EFL/ESL learners. Sheorey and Mokhtari (2001) explained that the correlation between learners' reading comprehension ability and metacognitive reading strategy is vital and important for reading procedure. And also in a study in U.S. college student groups, skilled readers indicated a higher level of awareness and strategy use than poor-ability readers. However, recent research comparing the effectiveness of cognitive and metacognitive reading strategy training reveals that explicit teaching of cognitive strategies yields small, short-term developments in reading performance, whereas training on metacognitive strategy results in more stable, long-term comprehension gains (Cohen, 2003; Koda, 2005; Tang & Moore, 1992; Zhicheng, 1992).

Moreover, metacognition, commonly understood as "thinking about thinking", refers to the knowledge and control people have over their thinking process and is described as a crucial part of SRL (Flavell, 1979). To improve critical thinking, noted researchers (Fink, 2013; Halpern, 1998; Hattie, Gurung, & Landrum, 2015; Schraw, Crippen, & Hartley, 2006) have suggested focusing on developing students' metacognitive skills and abilities.

One of research findings suggest that metacognitive pedagogy can have a positive effect on students' regulation of cognition but little if any effect on students' knowledge of cognition. Findings based on the review of the literature along with analysis of the data are of great significance and can be advantageous to improve EFL learners' metacognitive reading comprehension skill. Metacognitive reading comprehension skill has a positive effect on learning a second language and learners can gain the skills they need for effective communication in English.

6. Conclusion

The purpose of this paper was to present a synthesis based on the previous studies published on reading strategies employed in the English teaching classroom. The studies synthesized were during 2012 to 2021 with a total number of fifteen studies. The instrument of this research was a frequency distribution synthesis table. This research was conducted by studying the research articles on the literature review on the reading strategies before being synthesized by using the frequency distribution synthesis table. The research results revealed that metacognitive strategies were employed in reading comprehension and speaking skill. The results also indicated that two main reading strategies were always found to use in reading studies. Because metacognition is an essential component of critical thinking, focusing instruction on teaching about

metacognition then can provide an entry to explicitly teaching about important parts of critical thinking.

Because of the globalization, the researchers and educators focus to develop 21st century learners, there is a new commitment to teach about critical thinking and how to apply critical thinking to content-learning to better prepare students for life beyond the classroom. "Critical thinking skills are vital in educational settings because they allow individuals to go beyond simply retaining information, to actually gaining a more complex understanding of the information being presented to them" (Dwyer, Hogan, & Stewart, 2014). Because metacognition is an essential component of critical thinking, focusing instruction on teaching about metacognition then can provide an entry to explicitly teaching about important parts of critical thinking.

Reading comprehension can be one of the most important parts for a language learner to master and one of the least favorite topics for teachers to address in the classroom. But most of the students have difficulty with constructing meaning from the written texts. So, as researchers conducted studies in the field of metacognitive reading strategy awareness, they found that metacognitive reading strategy is one of the main important factors to facilitate students' reading comprehension. It can be concluded that universities and schools need to be actively improve metacognitive reading strategies among all students. Research indicates that metacognitive reading strategy awareness promotes both performance and understanding of one's reading comprehension. Research further supports the claim that metacognitive strategies facilitate students' reading comprehension. This study corroborates the view that explicit instruction of metacognitive reading strategies is a feasible tool to enhance students' reading comprehension and benefited most from explicit reading instruction supplemented by practice in metacognitive reading strategy activities. However, it may be challenging for instructors to practice metacognitive strategy in the conventional way, it is worthwhile because this form of metacognitive strategy was the most effective. Above all, it is important to say that after a relatively short time of reading comprehension instruction, students become self-regulated readers and they can be a proficient reader after finishing this strategy instruction learning. So, then they know when and how to utilize strategy while reading.

Finally, metacognition—thinking about thinking—is key to reading comprehension. Based on Flavell's (1979) model, this paper has explored the role of metacognitive reading strategies for EFL/ESL learners. Students would do well to acquire not only declarative knowledge (knowing what strategies are) but also procedural knowledge (knowing how to use the strategies) and conditional knowledge (knowing when, where, and why to use the strategies and evaluating their use). For EFL/ESL teachers, it is essential to teach metacognitive strategies explicitly, provide diverse methods, and facilitate students' learning to help them become independent practitioners.

Exploring the role that both first and second languages play in developing students' metacognitive strategies remains a fertile ground for further research.

Reading comprehension can be one of the most important parts for a language learner to master and one of the least favorite topics for teachers to address in the classroom. But most of the students have difficulty with constructing meaning from the written texts. So, as researchers conducted studies in the field of metacognitive reading strategy awareness, they found that metacognitive reading strategy is one of the main important factors to facilitate students' reading comprehension. It can be concluded that universities and schools need to be actively improve metacognitive reading strategies among all students. Research indicates that metacognitive reading strategy awareness promotes both performance and understanding of one's reading comprehension. Research further supports the claim that metacognitive strategies facilitate students' reading comprehension. This study corroborates the view that explicit instruction of metacognitive reading strategies is a feasible tool to enhance students' reading comprehension and benefited most from explicit reading instruction supplemented by practice in metacognitive reading strategy activities. However, it may be challenging for instructors to practice metacognitive strategy in the conventional way, it is worthwhile because this form of metacognitive strategy was the most effective. Above all, it is important to say that after a relatively short time of reading comprehension instruction, students become self-regulated readers and they can be a proficient reader after finishing this strategy instruction learning. So, then they know when and how to utilize strategy while reading. The general results of this study can be summarized as: 1) Less proficient readers do not use metacognitive reading strategies but proficient readers utilize metacognitive reading strategy while reading texts. www.ccsenet.org/elt English Language Teaching Vol. 6, No. 10; 2013 242 2) Readers who use metacognitive reading strategy in their reading comprehension are more successful than other readers who do not utilize this strategy in reading comprehension process. 3) In both good and poor readers, there is a positive significant correlation between the use of cognitive and metacognitive strategies; in other words, the more cognitive strategies, the more metacognitive and vice versa. 4) No matter good or poor readers, all the readers take care of skimming and scanning strategies, which are included in the comprehension sub-skills of cognitive strategies but good readers think more deeply to recognize and comprehend the texts adequately (Using metacognitive strategies).

7. Recommendation

7.1 Metacognitive activities that ask students to reflect on what they know, care about, and are able to do not learners to develop the awareness of themselves, but also give valuable information for their instruction.

7.2 Teachers should know the individual differences in the level of meta cognitive awareness in the classroom and should be given the teaching by taking into consideration their individual differences so that by the effective instruction in the classrooms their metacognitive ability may enhance well.

7.3 Metacognitive ability should be developed among school students Then only they can reflect on their learning methods, their performance in the classroom activities and in prove the academic achievements accordingly

7.4 For further studies, it might provide valuable information to compare reading achievements of ELT students who use different levels of metacognitive reading strategies. Similarly, researchers can carry out an experimental study in which experimental group receives a metacognitive reading strategy course but control group does not; then the effectiveness of the course can be checked through pre and post reading achievement tests.

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The Effect of Aided-study Class Teaching Mode on Mathematics Achievement of Grade 4 Students in Primary Schools

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Abstract

The objectives of this research were 1) Compare the mathematics achievement of grader 4 students before and after using "Aided-study Class Teaching Mode". 2) Compare the mathematics achievement of grader 4 students after using "Aided-study Class Teaching Mode", with a set criterion of 70 percent of the full marks. The samples used in this study was 30 grade 4 students from Primary School in Bayi Road, Zhoukou City, Henan Province. They were selected by random sampling. The research instruments were 5 lesson plans using "Aided-study Class Teaching Mode" on the topics of decimals, fraction, average number, parallelogram. The instrument was achievement test with the validity at 1.00, inter-rater reliability at 0.71, item difficulty (p) 0.68-0.80 and item discrimination (r) between 0.32-.40. The collected data were analyzed by computer software. The statistics of analysis were mean scores, standard deviation, t-test. The results of the study were as follows 1) Mathematics achievement of grade 4 students after using "Aided-study Class Teaching Mode" was higher than before at a statistically significant level of 0.05. 2) The mathematics achievement of grade 4 students after using "Aided-study Class Teaching Mode" were higher than the standard of 70% at the 0.05 statistical significance level ($\bar{X}$= 35.43 S.D. =2.62).

Keywords : Aided-Study Class Teaching Mode, Self-Directed Learning, Mathematics in Primary School, Mathematics Achievement

1. Introduction

Since the middle of the 20th century, the rapid development of modern information technology has greatly advanced the development of applied mathematics and mathematical applications, making mathematics penetrate into almost every scientific field and every aspect of people's lives. Mathematics as the language of science, an important tool to promote the forward

development of science. It has an irreplaceable role in the history of human development, and will play a greater role in the future development of society.

And primary school mathematics as a key starting stage of mathematics learning, the introductory learning of addition, subtraction, multiplication and division will have a profound impact on students' further learning in the future. As primary school teacher, in my daily teaching, I am deeply aware of some current unscientific and unreasonable teaching status, and have been reflecting on the current confusion and problems faced in primary school mathematics education and teaching, trying to find an effective way to solve the problem. In the process of teaching, I found that the current primary school teaching mainly exists in the following aspects.

1. Ignoring the main position of students in teaching

In 2020, the government of Henan Province issued the "Implementing Opinions on Deepening Education Teaching Reform and Comprehensively Improving the Quality of Compulsory Education", which proposed to "optimize teaching methods and teaching links, focus on inspiring, interactive and inquiry-based teaching, emphasized contextual teaching, and promote research-based, project-based and cooperative learning", but in primary school mathematics classroom teaching activities, there are still many teachers using a single "indoctrination" teaching method to guide primary school students to learn mathematical knowledge. This single teaching guidance cannot meet the cognitive characteristics of primary school students, primary school students generally have a poor quality of learning mathematics course, is not conducive to the in-depth learning of mathematical knowledge of primary school students.

2. Not paying attention to the cultivation of students' interest in mathematics

In China, there is a famous saying "Interest is the best teacher". In primary school mathematics classrooms, teachers need to design teaching according to the personality characteristics of primary school students. Through a variety of classroom teaching activities, primary school students can quickly integrate into classroom learning and experience the fun of learning mathematics. However, at present, many teachers ignore the cultivation of mathematics interest, the classroom teaching atmosphere is relatively dull, and classroom teaching is often shrouded in a depressing atmosphere.

3. Ignoring the effective interaction of classroom teaching

Under the new education guidance policy, teachers need to pay attention to the effective interaction of classroom teaching, create a good communication platform for primary school students, so that every primary school student can actively express and create, and at the same time pay attention to the cultivation of primary school students' comprehensive learning ability. However, many teachers currently ignore the value of effective interaction in classroom teaching. In classroom teaching activities, we only guide primary school students to learn knowledge and memorize knowledge, while ignoring the important influence of teaching

interaction on primary school students' mathematics knowledge learning, which has a certain hindering effect on the development of primary school students.

These problems have led to students' low motivation and initiative in learning, poor learning results and poor performance. Therefore, I think the mathematics classroom should focus on the cultivation of students' mathematical literacy and on the cultivation of creative consciousness and practical ability. Therefore, we introduce the " Aided-study class teaching model" in our classroom to ignite primary school students' interest in learning mathematics and improve their mathematical achievement.

2. Research objectives

2.1 To compare mathematics achievement of the students before and after receiving aided-study class teaching mode.

2.2 To compare mathematics achievement of students with the determined criteria set at 70 %.

3. Research Methodology

3.1 Samples

The sample for this study was 30 Grade 4 students of primary schools in Bayi Road, Zhoukou City, Henan Province, selected through cluster random sampling method.

3.2 Research instruments

Research instruments were the tools for conducting the research to collect data. The research instruments which were used in this study were:

Instruments for measuring mathematics achievement

1) Instructional innovation : Aided-study Class Teaching Mode which was comprised of three steps: 1) self-help, advocating research before teaching (Students learn independently through tasks assigned by teachers), under the guidance of help sheets to continuously improve students' independent learning ability; 2) mutual assistance (cooperative learning), setting appropriate task-driven situations, allowing students to fully demonstrate Through questions, supplementation, questioning, debates and other forms, the independent inquiry and group cooperation, peer exchanges and other forms of mutual aid learning can be implemented; 3) teacher assistance (the teacher helps students improve according to their learning situation), "the teacher changes the traditional method of all-inclusive teaching, based on learning to teach, on the basis of the correct diagnosis of the learning situation, delete the complicated and simplify, reasonable force, the implementation of targeted teaching and learning to match the needs of students. We will also make time and effort to develop students' higher-order thinking skills and put into practice their innovative spirit and practical skills. Specifically, the order of traditional

"teaching" and "learning" is reversed. The teacher will set up appropriate questions (help sheets) to let students explore first, and then let them show their learning results, discuss, question, and collaborate in the classroom, and then determine what to teach and how to teach after students' "different ideas" have fully stirred and collided in the classroom." (Zhong Guangqun, 2014)

2) Lesson plan: A total of five lessons and 6 hours of primary math instruction were assigned.

Instruments for collecting data

Instruments for measuring Mathematics Achievement, a test of mathematics.

Math test had a total of 40 items, and the Index of Item Objective Congruence (IOC) of each item in the evaluation form is higher than 0.5, the result of analyzing the IOC index showed that all test items were appropriate and could be used in the test difficulty (p) between 0.2-0.8 and discriminability (r) > 0.2 and an achievements test with a reliability of 0.71.

3.3 Data collection

The procedures of data collection were as follows:

1) A pre-test was conducted on the mathematics achievement of 30 sample students, and their pre-test achievements were collected.

2) The sample is taught using the aided-study class teaching mode.

3) After the teaching, 30 sample students will be post-tested using the same equipment as the pre-test.

3.4 Data analysis

The test data were subjected to the Paired-Samples T Test and One-Sample T Test using the Statistical Package for Social Sciences (SPSS for Windows). To analyze the pre-test and post-test, the item's difficulty index (P) was determined by testing a sample of 30 students, and the item's difficulty was analyzed. The results show that the test difficulty index is between 0.20 and 0.80, and the test discriminability (r) is greater than 0.2. A total of 40 items were tested, and each item's Item Objective Alignment Index (IOC) was higher than 0.5. In order to calculate the test reliability, calculated by Kuder and Richardson formula 20, the reliability is 0.71, which is greater than 0.7.

4. Research Results

The results were presented according to the research objectives as follows:

4.1 Section 1 Result of comparing mathematics achievement of the students before and after receiving aided-study class teaching mode by using t-test for dependent sample.

Table 1 Paired samples test

Group	N	$\overline{x}$	S.D.	t	p
Experimental group	30	5.400	3.069	9.636	0

As shown in Table 1, Students had mathematics achievement after learning through aided-study class teaching mode (post-test) greater than before learning (pre-test) at .05 statistically significant level (t = 12.990, p < 0.05).

On average, Posttest scores were 4.26 points higher than Pretest scores (95%).

Thus, it was concluded that, mathematics achievement of Grade 4 students after receiving aided-study class teaching mode was higher than before.

4.2 Section 2 Result of comparing mathematics achievement of students with the determined criteria set at 70 % by using t-test for one sample.

Table 2

Group	N	Full score	Criteria score	$\overline{x}$	S.D.	t	p
Experimental group	30	40	28	35.433	2.621	15.528	0

Based on the results, we can state the following:

The average score for the Mathematics Achievement of Grade 4 Students after using aided-study class teaching mode was 35.43 from a full marks of 40 and the standard deviation was 2.62 which was statistically higher than the criterion of 70% at the .05 level of statistical significance.

Thus, it was concluded that, the mathematics achievement of the Grade 4 students who received aided-study class teaching mode was higher than 70%.

5. Discussion

Based on the findings of the study, the following points were discussed:

5.1 "The implementation of "aided-study class teaching mode" is not only a transformation of the classroom teaching process, but also a transformation of teachers' teaching concepts and students' learning methods. " (Guangqun, Zhong,2013)In this study, teachers actively accepted the teaching concept of " aided-study classroom" and carried out teaching with students as the center. Therefore, using the "aided-study class teaching mode" for teaching can not only increase students' subject knowledge, but also cultivate students' emotional attitudes to learn to share, tolerate and accept, and truly realize the value of mathematics education.

5.2 In the implementation process of "aided-study class teaching mode", an important factor that cannot be ignored is whether students have developed the habit of self-study. Only when teachers and students are fully prepared can they be fully prepared for the implementation and development of the "aided-study class teaching mode" in the future.

5.3 The timely feedback of the "help study task list" provides a basis for classroom teaching. At the same time, the "help study task list" is also a timely feedback of students' self-learning achievements. Therefore, "whether it is online platform feedback or classroom communication, teachers need to summarize the classroom in a timely manner, because the difficult problems found in it will become a resource for classroom interaction. "(Jinfeng, Liu,2018) Teachers design these questions as topics for group discussions and guide students to explore answers to the questions through independent discussion and group work. Classroom interaction always focuses on solving key problems in order to improve the pertinence of classroom interaction.

5.4 Interactive classroom teaching is the core link of "aided-study class teaching mode". Students' questions and discussions, teachers' guidance and help, realize the full interaction between teachers and students, and students and students, and experience the process of hypothesis, verification, and conclusion formation through problem situations, so that students can perceive the formation of mathematical knowledge. At the same time, group debates and discussions also foster tolerance and acceptance among students.

6. Conclusion

Through comparative analysis of grade 4 students using aided-study class teaching mode pre-test and post-test, according to the current situation of mathematics learning at the same level, after the intervention of aided-study class teaching mode, students' mathematics achievement significantly improved and statistically higher than the 70% standard, reaching the 0.05 level. Therefore, this teaching method was feasible in primary school mathematics teaching, which helped to improve students' learning effect and mathematics achievement. The experimental results verified the research hypothesis.

7. Recommendations

7.1 Due to the limitation of experimental time, the experimental part still needs continuous and more detailed observation, and the effect evaluation also needs to be further enriched and improved. As a teaching concept and teaching mode, how the "aided-study class teaching mode" can better promote elementary mathematics education still needs in-depth research and continuous observation.

7.2 "aided-study class teaching mode" has an impact on students' learning motivation, academic performance, comprehension ability and cognitive level. In which stage and which links

have the greatest impact, we need to further sort out and analyze the experimental process and data in the follow-up research.

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The Effect of Cooperative Learning Using STAD Technique
on Mathematics Achievement of the Fourth Grade Students in Primary Schools

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Abstract

The objectives of this research were to: 1) Compare mathematics achievement of the students before and after receiving the cooperative learning using STAD Technique, and 2) Compare mathematics achievement of students with the determined criteria set at 70 %. The sample used in this study was 30 students in the Fourth grade of Xianghe primary school in Zhu madian City, Henan Province, China. They were derived from cluster random sampling. The research instruments were: 1) 5 lesson plans adopted " Cooperative Learning Using STAD Technique " on the topics of Multiple, ray, parallel line, speed and distance. 2) Mathematics achievement test. The statistics used for data analysis were the mean, standard deviation, t-test for dependent sample and t-test for one sample.

The results of the study were as follows:

1) Mathematics achievement of grade 4 students after receiving cooperative learning using STAD Technique was higher than before at a statistically significant level of 0.05.

2) The mathematics achievement of grader 4 students after u receiving cooperative learning using STAD Technique was higher than the standard of 70% at the 0.05 statistical significance level ($\overline{X}$= 86.9   S.D=8.55).

Keywords : Cooperative Learning using STAD Technique, Primary School Mathematics, Teaching Model, Mathematics Achievement

1. Introduction

In 2020, the government of Henan Province issued the "Implementing Opinions on Deepening Education Teaching Reform and Comprehensively Improving the Quality of Compulsory Education", which proposed to "optimize teaching methods and teaching links, focus on inspiring, interactive and inquiry-based teaching, emphasize contextual teaching, and promote research-based, project-based and cooperative learning. (www.henan.gov.cn)Therefore, how to optimize

teaching methods, promote students' cooperative learning skills and improve students' academic performance has become an urgent problem to be solved. Especially for primary school students, they feel that mathematics is boring in learning mathematics. Students can't solve problems through cooperative learning, and groups can't use group cooperative learning to find answers to problems. These problems lead to their poor performance in mathematics and are not interested in mathematics learning.

Through the analysis of the current situation of mathematics classroom teaching in grade 4 of primary school, it is found that there are the following four problems: 1. Students' mathematical language expression ability is poor; 2. Lack of hands-on activities in the classroom; 3. There is a lack of communication between teachers and students, and there is a lack of group cooperative learning activities among students;4.The results on the report card are statistically found: the mathematics scores of the fourth grade of primary school are generally low, and the Chinese scores are generally high.(http://www.177liuxue.cn/zt/4/3900/)

In order to solve the above four problems, the researcher considered to use the cooperative learning using STAD Technique to improve the mathematics achievement of grade four in primary school. The cooperative learning using STAD Technique is to let students rely on each other, actively discuss and explore, share and communicate. Many countries are experimenting with cooperative learning using STAD Technique, and find that the effect of cooperative learning using STAD Technique is better than traditional teaching methods in the cultivation of students' thinking ability and the lasting time of students' memory.(Wang Tan,2019)

Cooperative learning teaching methods can't only enrich classroom communication methods, but also cultivate students' communication and cooperation ability. Therefore, cooperative learning teaching methods have been widely used in classroom teaching. It makes the subject consciousness and personality socialization development of students' learning publicized, plays an irreplaceable role in cultivating students' cooperative spirit and communication ability, creates a large space for students' independent exploration and active development, and brings a new atmosphere to classroom teaching.

Decision of the State Council on the reform and development of basic education: It attaches great importance to cooperative learning, and points out to encourage cooperative learning, promote mutual communication and common development among students, and promote the growth of teaching and learning, actively advocate the learning methods of autonomy, cooperation and exploration.(http://www.moe.gov.cn/)

In order to meet the needs of basic education reform and meet the new requirements of mathematics curriculum standards, this paper introduces the teaching mode of group cooperative learning in mathematics teaching in grade 4 of primary school, and discusses whether the teaching

mode of group cooperative learning can improve the mathematics performance of grade 4 students in primary school.

Therefore, the researcher wants to explore how to use "cooperative learning using STAD Technique" to stimulate primary school students' interest in learning; Improve primary school students' interest in learning mathematics and academic performance. This is a problem that the researcher always care about and hope to solve in teaching. For these reasons mentioned above so the researcher is interested in studying the effect of cooperative learning using STAD technique on mathematics achievement of the Fourth grade students in primary schools.

2. Research objectives

This research consisted of two objectives:

2.1 To compare mathematics achievement of the students before and after receiving the cooperative learning using STAD Technique

2.2 To compare mathematics achievement of students with the determined criteria set at 70 %.

3. Research hypotheses

3.1 The Fourth grade primary school students' mathematics achievement after receiving cooperative learning using STAD Technique is higher than before.

3.2 The Fourth grade primary school students mathematics achievement after receiving cooperative learning using STAD Technique is higher than 70 percent.

4. Research Methodology

4.1 Samples

4.1.1 The population in this study was 120 students (4 classrooms) in the Fourth grade of Xianghe primary school in Zhu madian City, Henan Province, China.

4.1.2 The sample for this study was 30 Fourth grade primary school students derived from cluster random sampling.

4.2 Research instruments

Research instruments were the tools for conducting the research to collect data. The research instruments which were used in this study were:

Instrument for measuring mathematics achievement

1) Instructional innovation : Cooperative Learning Using STAD Technique

Cooperative Learning Using STAD Technique which was comprised of four steps: 1) scenario simulation, introducing new courses and stimulating students' interest in learning new courses. 2) Study and communicate in groups, explore the answers to questions and gain new

knowledge. 3) The group will share the results and show the answers to the questions within the group. 4) Teachers evaluate the results of each group. (Liu Wen, 2016)

2) Lesson plan: A total of Five lessons with 10 hours of primary math instruction were assigned.

Instruments for collecting data

Instrument for measuring : Mathematics Achievement

1) Final exam results (70%)

2) Usual test scores (20%)

3) Classroom performance (10%)

4.3 Data collection

The procedures of data collection were as follows:

1. The sample was given the pretest for measuring Mathematics Achievement with constructed instrument.

2. The sample was taught by using Cooperative Learning Using STAD Technique.

3. After finishing the instruction, the samples received the posttest by using the same instrument which was used in the pretest.

4.4 Data analysis

In this study, data were analyzed by using the statistical program according to the research objectives.

1. Compare Mathematics Achievement before and after receiving Cooperative Learning Using STAD Technique by using t-test for dependent sample.

2. Compare Mathematics Achievement with the determined criteria set at 70 % by using t-test for one sample.

5. Research Results

The results were presented according to the research objectives as follows:

5.1 Section 1 Result of comparing mathematics achievement of the students before and after receiving cooperative learning using STAD technique by using t-test for dependent sample.

Table 1 Paired samples test

Group	N	$\overline{x}$	S.D.	t	p
Experimental group	30	9.27	8.55147	12.830	0

As shown in Table 1, Students had mathematics achievement after using the cooperative learning using STAD Technique (post-test) greater than before using the cooperative learning using STAD Technique (pre-test) at .05 statistical significant level (t_{29}= 12.83, p < 0.05).

On average, Posttest scores were 9.27 points higher than Pretest scores (95% CI [13.71, 20.09]). Thus, it was concluded that, mathematics achievement of Grade 4 students after receiving the cooperative learning using STAD Technique is higher than before.

5.2 Section 2 Result of comparing mathematics achievement of students with the determined criteria set at 70 % by using t-test for one sample.

Table 2

Group	N	Full score	Criteria score	$\overline{x}$	S.D.	t	p
Experimental group	30	100	70	86.9	8.55147	10.824	0

As shown in Table 2, Since p < 0.05, we rejected the null hypothesis (H0) and conclude that the mean Mathematics achievement of the sample was significantly different than the average Mathematics achievement of the overall student population.

Based on the results, we can state the following:

The Mathematics Achievement of the Fourth Grade Students in Primary Schools after teaching with cooperative learning using STAD Technique was 86.9 from a possible full marks of 100 and the standard deviation was 8.55 which was statistically higher than the criterion of 70% at the .05 level of statistical significance.

Thus, it was concluded that, the mathematics achievement of the Grade 4 students who received the cooperative learning using STAD Technique was higher than 70%.

6. Discussion

The following points based on the research results were discussed:

6.1 To form a better sense of cooperation, students should not only rely on classroom time teaching, but also help students learn to start from life and practice and cultivate in combination with life. (Zhang Yan, 2011)

6.2 Students should not only learn simple operations, but also master the methods to solve mathematical problems that require higher thinking ability. Because this is one of the abilities that primary school students must have. They should learn to innovate, not be afraid of problems, and be able to think independently. (Zhou Shuhong, 2017)

6.3 The process of learning mathematics should not be boring. Students should gradually change the current situation of learning for learning and strive to improve their interest in learning. The theoretical explanation is that students are not only required to participate in mathematics learning in their own thinking, but also to guide their emotions to participate in learning. The mathematical skills they learn are important, and more importantly, they also include their love and confidence in mathematics. (Wu Qiong, 2013)

6.4 Teachers should establish the concept of serving students. The content and form of teaching should serve students. Teachers should put students' needs first in a series of activities. (Zhang Wenyu, 2011)

6.5 Each teacher has different specialties. Mutual cooperation between teachers can not only improve the quality of teaching, but also guide students to cooperate. (Wu Qiong, 2013)

7. Conclusion

Through comparative analysis of grade 4 students receiving cooperative learning using STAD Technique pre-test and post-test, according to the current situation of mathematics learning at the same level, after the intervention of cooperative learning using STAD Technique, students' mathematics achievement significantly improved and statistically higher than the 70% standard, reaching the 0.05 level. Therefore, this teaching method was feasible in primary school mathematics teaching, which helped to improve students' learning effect and mathematics achievement. The experimental results verified the research hypothesis.

In addition, the cooperative learning using STAD Technique, significantly improved students' performance in class, self-learning habits, and activeness in finding and solving problems.

8. Recommendations

The following are some recommendations based on the research results:

8.1 The traditional concept of education is deeply rooted, so many teachers and students have not been exposed to the "cooperative learning using STAD Technique ". Therefore, it is necessary to implement the "cooperative learning using STAD Technique" on a large scale, improve students' group cooperation ability and their autonomous learning ability, and let students accept the "auxiliary learning classroom" student-centered teaching mode.

8.2 Although the teaching method of "cooperative learning using STAD Technique" is simple in implementation, many teachers have problems in grouping and can't actively guide in the process of group communication, so the teaching results are not obvious. This requires our teachers to have experience and patience in the implementation of the teaching method of "cooperative learning using STAD Technique ". Only with the joint efforts of teachers and students can we see the obvious effect.

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Effect of Learning Management by Using Davies Instructional Model on Ability of Automobile Engine Disassembly and Adjustment and Learning Achievement of Students in Jiangsu Electronic Information Vocational College

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Abstract

The objectives of this research were to 1) compare the ability of automobile engine disassembly and adjustment and learning achievement of students before and after learning management by using the Davis' instructional model. 2) compare the ability of automobile engine disassembly and adjustment and learning achievement of students after learning management by using the Davis' instructional model with the established 70% criterion. 3) assess the satisfaction of the students on learning management using the Davis' instructional model. The sample of this study was com 40 students in Jiangsu electronic information vocational college, obtained through cluster random sampling.

The research findings were as follows:

1) The ability of automobile engine disassembly and adjustment and learning achievement of students after learning management by using the Davis' instructional model are higher than before at a statistically significant level of 0.05

2) The ability of automobile engine disassembly and adjustment and learning achievement of students after learning management by using the Davis' instructional model were higher than the established 70 % criterion at the 0.05 statistical significance level ($\overline{X}$ = 91.43 S.D = 3.80473).

3) The satisfaction of the students on learning management using the Davis' instructional model is at a high level.

Keywords : Automobile Engine Disassembly and Adjustment, Davies Instructional Model, Learning Achievement

1. Introduction

Disassembly and adjustment of automobile engine is the first professional core course of automobile inspection and maintenance technology, which aims to cultivate the ability of various posts in automobile maintenance enterprises or automobile maintenance stores. Through the study of this course, students will be trained to understand the structure of modern automobile engine, understand the working principle of various engine mechanisms and systems, and operate the lifting, disassembly and adjustment of engine. It lays a foundation for further cultivating professional skills such as the use and maintenance, fault diagnosis, detection and maintenance of automobile engines, and cultivating students' thinking ability, method ability, post ability and comprehensive professional ability. However, how to effectively transform and apply teaching methods to practical teaching and improve the effect of classroom teaching is very important.

The index construction of "double qualified" teachers in higher vocational colleges is the key index whether higher vocational colleges can move forward correctly and continuously,. The quantity and quality of "double qualified" teachers basically determine the quality of teaching and training. Therefore, it is urgent to deeply study the basic elements and improvement paths of the quality of "double qualified" teachers in higher vocational colleges, effectively improve the education and teaching quality of higher vocational colleges, and cultivate and bring up a contingent of vocational education teachers with excellent quality and exquisite skills.

Problem about teaching, in the traditional teaching of engine disassembly and adjustment, theoretical teaching is the main aspect .In the teaching process, teachers pay attention to theoretical teaching, instill knowledge points, and ignore students' operation in practice . This leads students do not dare to practice and also lead students know little about the engine, bring inconvenience to the future work. Therefore, with the intention to solve this problem, the researcher studied some teaching models and methods and choose the Davis Instructional Model which consisted of 5 steps of teaching.

2. Research Objectives

This research consisted of three objectives:

2.1 To compare the ability of automobile engine disassembly and adjustment and learning achievement of students before and after learning management by using the Davis' instructional model.

2.2 To compare the ability of automobile engine disassembly and adjustment and learning achievement of students after learning management by using the Davis' instructional model with the established 70% criterion.

2.3 To assess the satisfaction of the students on learning management using the Davis' instructional model

3. Research hypothesis

1) The ability of automobile engine disassembly and adjustment and learning achievement of students after learning management by using the Davis' instructional model are higher than before.

2) The ability of automobile engine disassembly and adjustment and learning achievement of students after learning management by using the Davis' instructional model were higher than the established 70 % criterion.

(Criterion set at 70 % refers to the average score required by the college.)

4. Research Methodology

4.1 Population and Sample

The population of this study was 300 students in Jiangsu electronic information vocational college.

The sample was composed of 40 students derived by using cluster random sampling.

4.2 Research Instruments

Instruments for measuring the ability of automobile engine disassembly and adjustment and learning achievement of students were:

1) Instructional innovation : Davis' Instructional Model

In practical work, comparing the traditional indoctrination teaching with Davis teaching mode, we can combine theory with practice, master the disassembly knowledge of automobile engine in time, and apply it to practical operation, so as to understand the theoretical knowledge more directly. In order to improve students' learning efficiency, stimulate students' learning motivation, regularly evaluate students' learning situation and help students solve problems in time.

Specifically, it includes the following five steps:

（1）Tell relevant theoretical knowledge and combine video learning with practical operation to improve students' cognition of modern automobile engine structure, understanding of engine mechanism and system working principle, and operation ability of engine lifting, disassembly and adjustment.

（2）The teaching implementation process adheres to the goal of adapting to social needs and the main line of technical application ability. The design of teaching content closely focuses on the goal of cultivating skilled talents. In the teaching process, students pay attention to the understanding of automobile engine structure and principle and the cultivation of practical disassembly and assembly ability, strengthen practical teaching and pay attention to knowledge renewal.

(3) In the teaching process, innovate the teaching mode and pay attention to the integration of in class and out of class. Make full use of advanced computer simulation technology, further deepen the reform on the basis of the original teaching reform of the integration of theory and practice, and reform the original teaching mode of "theory + practice" into the teaching process of "theory + virtual simulation + practice".

(4) After each practical operation, students learn to sort out the tools and return the tools.

(5) Through the assessment process, help students master relevant operation skills in time and achieve the purpose of employment. Each group completes the operation assessment together. In the process of operation assessment, it is necessary to evaluate not only the operation skills of the whole group of students, but also the cognition of students' parts, so as to obtain the operation assessment results.2) Lesson plan: A total of five lessons based on Davis' Instructional Model with 20 class hours of theory and 60 class hours of practice.

Instruments for collecting data:

1) The automobile engine disassembly and adjustment ability tester is a performance evaluation table.

2) The tool for measuring academic performance is a paper test for automobile engine disassembly and adjustment. Each group completes the operation assessment together. In the process of operation assessment, it is necessary to evaluate not only the operation skills of the whole group of students, but also the cognition of students' parts, so as to obtain the operation assessment results. A comprehensive and systematic written examination of theoretical papers will be arranged at the end of the term.

3) Evaluate students' satisfaction on learning through Davis teaching model by using a questionnaire.

4.3 Data collection

The procedures of data collection were as follows:

1) The sample was given the pretest for measuring the ability of automobile engine disassembly and adjustment and learning achievement with constructed instruments.

2) The sample was taught according to the lesson plans based on Davis' instructional model.

3) After finishing the instruction, the sample received the posttest on the ability of automobile engine disassembly and adjustment and learning achievement by using the same instruments which were used in the pretest.

4.4 Data analysis

In this study, data were analyzed by using the statistical program according to the research objectives.

4. 4. 1 Compare the ability of Automobile engine disassembly and adjustment and learning achievement of students before and after learning through Davis' instructional model by using t-test for dependent samples.

4. 4. 2 Compare the ability of Automobile engine disassembly and adjustment and learning achievement of students after learning through Davis' instructional model with the established 70% criterion by using t-test for one sample.

4.4.3 Analyze the satisfaction of the students on learning through Davis' instructional model by using arithmetic mean and standard deviation.

5. Research Results

The results were presented according to the research objectives as follows:

5. 1 Part 1: Result of comparing the ability of Automobile engine disassembly and adjustment before and after receiving Davis' instructional model by using t- test for dependent samples.

Table 1 Paired sample t-test

Group	N	$\bar{x}$	S.D.	t	p
Experimental group	40	88.50	4.58	-11.99	.000

As shown in Table 1, students   had ability of Automobile engine disassembly and adjustment after using Davis' instructional model (post- test) greater than before using Davis' instructional model (pre-test) at .05 statistical significant level (t= -11.99, p < 0.05).

On average, Posttest scores were 88.50 points higher than Pretest scores (95% CI [79-91]).

Thus, it was concluded that, ability of Automobile engine disassembly and adjustment of students after receiving Davis' instructional model was higher than before.

5. 2 Part 2: Result of comparing the learning achievement of the students before and after receiving Davis instructional model by using t-test for dependent samples.

Table 2 Paired samples test

Group	N	$\bar{x}$	S.D.	t	p
Experimental group	40	93.93	3.84	-11.99	.000

As shown in Table 1, Students had learning achievement after using Davis instructional model (post- test) greater than before using Davis instructional model (pre- test) at .05 statistical significant level (t= -11.99, p < 0.05).

On average, Posttest scores were 93.93 points higher than Pretest scores (95% CI [80-98]).

Thus, it was concluded that, learning achievement of the students after receiving Davis instructional model was higher than before.

5.3 Part 3: Result of comparing ability of Automobile engine disassembly and adjustment of students with the determined criteria set at 70 % by using t-test for one sample.

Table 3

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	t	p
Experimental group	40	100	70%	91.43	3.804	105.44	.000

As shown in Table 3, since $p < 0.05$, we rejected the null hypothesis (H0) and concluded that the mean of ability of Automobile engine disassembly and adjustment of the sample was significantly different from the average ability of Automobile engine disassembly and adjustment of the overall student population.

Based on the results, we can state the following:

The ability of Automobile engine disassembly and adjustment of the students in Jiangsu Electronic Information Vocational College after receiving Davis' instructional model was 100 from a possible full marks of 91.43 and the standard deviation was 3.804 which was statistically higher than the criterion of 70% at the .05 level of statistical significance.

Thus, it was concluded that, the ability of Automobile engine disassembly and adjustment of the students who received the Davis' instructional model was higher than 70%.

5.4 Part 4: Result of comparing learning achievement of students with the determined criteria set at 70 % by using t-test for one sample.

Table 4

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	t	p
Experimental group	40	100	70%	91.43	3.80	105.44	.000

As shown in Table 4, since $p < 0.05$, we rejected the null hypothesis (H0) and concluded that the mean of learning achievement of the sample was significantly different from the average learning achievement of the overall student population.

Based on the results, we can state the following:

The learning achievement of the students in Jiangsu Electronic Information Vocational College after receiving Davis' instructional model was 40 from a possible full marks of 100 and

the standard deviation was 3.80 which was statistically higher than the criterion of 70% at the .05 level of statistical significance.

Thus, it was concluded that, the learning achievement of the students who received the Davis' instructional model was higher than 70%.

5.5 Part 5: Result of the satisfaction of the students on learning through Davis' instructional model by using arithmetic mean and standard deviation.

The satisfaction questionnaire consisted of two parts: 1) close-ended questions with five-rating scales and 2) recommendations. Moreover, the first part was composed of three sections with a total of 17 items: four items for English contents, eight items for booklet design, and five items for English CD. The satisfaction questionnaire possessed the contents validity of 0.67-1.00. Look at the concise figures of their satisfaction in Table 6.

Table 6 The samples' satisfaction with the innovation

Items	Numbers	Levels of Mean	S.D. of samples	Satisfaction $\overline{\text{X}}$
1	40	1.19	.398	4.80
2	40	1.17	.380	4.82
3	40	1.11	.312	4.89
4	40	1.21	.414	4.78
5	40	1.21	.414	4.78
6	40	1.15	.360	4.84
7	40	1.06	.247	4.93
8	40	1.19	.398	4.80
9	40	1.21	.414	4.78
10	40	1.15	.416	4.84

The above table shows that the sample's satisfaction with innovation is between 4.78-4.93. Overall, this is the highest ranking (4.93). Considering every aspect, it shows that the acceptance of automobile engine disassembly and adjustment under Davis' teaching mode is the highest, ranking first (4.93). The second is the teaching situation of Davis' teaching method (4.89), the achievement of Davis' teaching mode and the satisfaction with teachers (4.84).

6. Discussion

The following points based on the research results were discussed:

According to the research results, the following points are discussed:

6.1 The results show that after accepting Davis teaching mode, students' ability of automobile engine disassembly and adjustment is improved. This may be because students fully

participate in teaching activities according to the steps of the teaching mode, which provides students with sufficient opportunities to practice the necessary automobile engine disassembly and adjustment skills.

6.2 The results show that students' academic performance after accepting Davis teaching mode is higher than that before accepting Davis teaching mode. This may be because students prefer to combine theoretical knowledge with practical operation learning. Through practical operation, theoretical knowledge is no longer boring, but can improve students' enthusiasm for active participation.

6.3 This study is based on the needs of the sample. Therefore, the needs of students are analyzed through course group discussion and prediction test, so as to obtain real data and develop practical innovation suitable for them. It is not only consolidates and uses theoretical knowledge in time, but also mobilizes students' enthusiasm and initiative.

6.4 When students study engine disassembly and assembly in school, the asynchronous or long-span teaching time and content makes the theoretical knowledge learned by students unable to be consolidated in time. However, due to the lack of solid and corresponding training teaching with theoretical knowledge foundation, the effect is unsatisfactory and the teaching efficiency is low, which makes the theoretical knowledge and practical ability of students unable to be guided in time.

6.5 Davis' teaching mode is applied in the course of engine disassembly and adjustment to achieve seamless connection in time, consolidate and utilize theoretical knowledge in time, and mobilize students' learning enthusiasm and initiative.

6.6 Sixteen objectives are adopted in the course. Adhere to the goal of adapting to social needs and taking the technical application ability as the main line. The design of teaching content closely focuses on the goal of cultivating skilled talents. In the teaching process, pay attention to students' understanding of automobile engine structure and principle and the cultivation of hands-on disassembly and assembly ability, strengthen practical teaching and pay attention to knowledge renewal. At the same time, establish students' correct outlook on employment and life, and set lofty goals for the future.

6.7 Adopting Davis' teaching mode in the teaching of automobile engine disassembly and adjustment can improve students' professional practice ability, help students improve their practice ability and lay a good foundation for their future career. At the same time, it can effectively solve the employment problem of higher vocational colleges.

6.8 The three experts evaluated the disassembly and adjustment of automobile engine at the highest level (4.81), and the sample's satisfaction with innovation also reached the highest level (4.74). This may be due to the following reasons: it is developed according to the needs analysis of the target group. The system development process lasts from the first stage of

data collection to the final stage after testing. This teaching model helps to improve students' efficiency in learning this course.

7. Conclusion

Through continuous investigation, exploration and discussion, students have a better grasp of the course of automobile engine disassembly and adjustment. Davis teaching method improves students' interest in learning professional knowledge, stimulates students' ability of independent learning and self exploration, cultivates innovative consciousness, and enriches the content and form of training and teaching. The combination of theory and practice has been carried out very well in the practical training of automobile engine disassembly.

8. Recommendations

The following are some recommendations based on the research results:

8.1 Teachers can communicate flexibly with the actual teaching needs of the enterprise in time.

8.2 Teachers pay attention to the learning of individual differences among students, help backward students adapt to Davis teaching mode as soon as possible, and try their best to enable each student to carry out simple disassembly and assembly of automobile engine.

8.3 Young teachers should learn more from experienced teachers, improve classroom efficiency and master methods to mobilize students' active participation.

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A Study of Dalcroze Music Teaching Method on Music Class
to Promote Musical Literacy of Primary School Students

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Abstract

The purposes of this study were to: 1) compare students' musical literacy before and after receiving Dalcroze music teaching method; 2) compare students' satisfaction before and after receiving Dalcroze music teaching method. The sample was 30 students (Class 1) from Grade 3 of Phoenix School in Honggutan District, and was randomly selected by cluster random sampling. The research tools used in this study were: 1) a music literacy achievement test; 2) a student satisfaction questionnaire. The statistics used to analyze the data were mean, standard deviation, and paired t-test and single sample test. The results showed that students' music literacy score after receiving Dalcroze music teaching method was higher than before statistically significant at the level of 0.05, and students' satisfaction was also at a high level after using Dalcroze music teaching method for learning management.

Keywords : Dalcroze Music Teaching Method, Teaching Music, Musical Literacy, Primary Schools

1. Introduction

With the promulgation and implementation of music curriculum standards, Chinese music education is becoming more and more important position. The New Curriculum Standards for Music presents the practical characteristics of music, musical uncertainty, abstraction, timeliness, expression, and emotion. It emphasizes that teaching in the field of music curriculum is conducted through listening, singing, playing, integrated art performance, and musical creation. In the process of participating in these time activities, the students have obtained a direct music experience and a rich emotional experience, which has laid a good foundation for mastering the knowledge and skills related to the music, understanding the connotation of the music, and improving the music literacy. Music literacy is a comprehensive quality education for learning music, which includes

the comprehensive theoretical basis of spectrum reading, visual singing, listening, rhythm, music appreciation and music history.(Zhi Menglin ,2017)

At the same time, there are still many internal problems in primary and secondary school music education of the basic education, mainly reflected in two aspects. Firstly,through the traditional music teaching methods,although students Learned music knowledge and skill in class,they did not internalize, of music and understand the connotation of music, which is easy to forget, and their music literacy was not really improved. Secondly, the inartistic tendency of music education which pay too much attention to the teaching and training of music knowledge and skills, ignoring the aesthetic value of music and the cultivation of students ' music interest; and simply equate the educational goal of non-art courses to promote the comprehensive development of students through the aesthetic education function of music. (Lu Rong, 2020)

Through long-term practice and research on music teaching, the famous music educator Dalcroze has finally succeeded with his hard work and patient exploration. Dalcroze teaching method pioneered the first generation, opened the prelude to the reform of western music teaching in the century, and the spread and influence in the world continues to this day. [i] Its outstanding advantage is that the music teaching refers to the training forms of various sensory combination of auditory, visual and sports perception, which runs through the whole music education process with the physical rhythm, and opens a new way for students to experience music and express music. The body rhythm teaching mode is the core idea of Dalcroze's teaching method. He argued that "music and body rhythm are closely linked, inseparable, and body rhythm can be an instrument". Therefore, when feeling music, using the rhythm of the body can better feel music and understand music, use the change of body amplitude, strength changes and different actions to feel the basic elements of music, and improve students ' music literacy. (Ye Shumei , 2021)

Music literacy is a common concept in the new curriculum standards, which refers to the basic quality of a person's understanding and feeling of music, and is a comprehensive embodiment of music knowledge, skills and attitudes. Some scholars also believe that music literacy is music quality and musical accomplishment, emphasizing that on the basis of mastering the most basic music knowledge and practical ability, a higher cognition and aesthetic ability of music. The improvement of music literacy is an asymptotic and systematic process, which covers music reading training, audiovisual singing, rhythm training, music appreciation and music culture, etc. (Zhu Hongzhen, 2021)

A person who learns music, does not learn music literacy, waits for a robot of mechanical play and singing, he cannot understand music, and express music. Therefore, the learning of music literacy is to comprehensively improve the comprehensive quality of music students, so as to promote students' learning of professional subjects and enhance the perception, understanding and creative ability of music. (Wang Shanshan, 2021).

I hope to learn how to better carry out primary school music teaching through this research and my own teaching experience.

2. Research Objectives

This research consisted of two objectives:

2.1 To compare students' musical literacy before and after receiving Dalcroze's music teaching method.

2.2 To assess students' satisfaction after receiving Dalcroze's music teaching method.

3. Research Methodology

3.1 Sample

This study was conducted on a sample of 30 grade 3 students at Phoenix School in Red Valley Beach.

3.2 Research instruments

The research instruments used in this research were: 1) An observation form to assess students' performance, 2) An achievement test on musical literacy, 3) A students' satisfaction questionnaire toward Dalcroz music teaching.

3.3 Data Collection

The procedures of data collection were as follows:

3.3.1 The sample was given the pretest for measuring musical literacy with constructed instrument.

3.3.2 The sample was taught by using Dalcroz music teaching

3.3.3 After finishing the instruction, the sample received the posttest by using the same instrument which was used in the pretest.

3.3.4 The sample was given satisfaction questionnaire toward Dalcroz music teaching.

3.4 Data Analysis

In this study, data were analyzed by using the statistical program according to the research objectives.

3.4.1 To compare students' musical literacy before and after receiving Dalcroze's music teaching method by using t-test for dependent samples.

3.4.2 To assess students' satisfaction after on learning through Dalcroze's music teaching method by using arithmetic mean and standard deviation.

4. Research Results

This part presents the findings related to the objectives of the research. The findings of this research were analyzed through descriptive statistics and t-test by using statistical package program to answer the progress of participants after its implementation. The results were presented according to the research objectives as follows:

Table 1 Statistical symbols

Statistical symbols	Description
$\overline{X}$	Sample mean
S.D.	Sample standard deviation
t	Sample t Test
p	Statistically Significant

Table 2 Section 1: Result of comparing Learning management using the Dalcroze's music teaching before and after receiving the students' learning achievement by using t-test for dependent sample.

Group	N	Pretest		Posttest		t	p
		$\overline{X}$	S.D.	$\overline{X}$	S.D.		
Experimental group	30	77.33	10.03	86.40	8.95	15.817*	0.000

From the result of t-test for dependent samples, we can say that:

Students had learning achievement of musical literacy score after learning management using the Dalcroze's music teaching method (post-test) gr eater than before learning through Dalcroze's music teaching method pre-test (at 0.05 statistical significant level t 29 =15.817*, *p < 0.05).

On average, Posttest scores were 9.06667 points higher than Pretest scores (95% CI [7.89, 10.24]).

Table 3 Section 2: The result of the satisfaction of the students on Learning management using the Dalcroze's music teaching method.

Reliability analysis results		
Number	Sample size	Cronbach α
10	30	0.973

Table 3 (Continue)

<div align="center">Validity analysis results</div>

KMO	0.612
P	.000

From the result of the score of the satisfaction we can say that:

The reliability system value was 0.973, greater than 0.9, indicating that the reliability quality of the study data was very high and can be used for further analysis .Using KMO and Bartlett tests, we could see that the KMO value is was 0.612, somewhere between 0.6 and 0.7, and the study data was more suitable for extracting information.

5. Conclusion

5.1 The learning achievement: The students' learning achievement after learning through Dalcroze's music teaching method was higher than before statistically significant at the level of 0.05.

5.2 Satisfaction on learning management using the Dalcroze's music teaching method. The satisfaction of the students on learning management using the Dalcroze's music teaching method was at a high level.

6. Discussion

6.1 This study was conducted with the students who had some learning problems arising from traditional teaching method.The research used classroom observation, discussion with students, and pre -test method to collect real data to design teaching plans that can improve students' learning and management ability.

6.2 Students who received traditional teaching methods, the academic performance was not ideal, and the musical literacy ability was not high, mainly because the students could not actively participate in the learning .Teachers dominated the whole teaching process, and students do not have much opportunity to participate in learning.

6.3 The "body rhythm" in Dalcroze's music teaching method can improve the music literacy of the sample, give full play to the initiative of learning, successfully complete the learning task, and achieve the course objectives.

6.4 Students were very satisfied with the Dalcroze music teaching method, which might be due to the fact that in Dalcroze music teaching method teachers used body rhythm throughout the whole process of music education.   Therefore, this sample had a strong interest in learning this course.

7. Recommendations

The purpose of this paper was to fully understand and use dalcroze's body rhythm teaching model for reference, combine dalcroze's body rhythm teaching model with the practice of primary school music teaching, and discuss the application of Dalcroze's music teaching method in primary school music classroom teaching.

In primary school music education, it is very necessary to carry out teaching design according to the psychological characteristics of children. The physical characteristics of pupils are naturally active, and the combination of dalcloze's body rhythm teaching mode is unified.

Since the new round of music curriculum reform in 2011, the basic concept and curriculum content of the new curriculum standard (expression, creation, feeling and appreciation and music and related culture) provide an opportunity to learn from dalcroze's body rhythm teaching model. In primary school music classroom teaching, it is necessary to carry out teaching design according to the psychological characteristics of children. The characteristics of pupils' inborn hyperactivity are consistent with the characteristics of Dalcloze's body rhythm teaching mode. Therefore, in the process of music teaching in primary schools, the combination of this teaching mode and music teaching in primary schools can make the classroom full of vitality and make students full of interest. Combining with the psychological characteristics of primary school students and the concept and content of the new curriculum standard, this paper discusses how to use the teaching mode of body rhythm in music classroom teaching of primary school in China.

Each kind of teaching method has its characteristic, only we apply, elaborate design. The teaching mode of body rhythm combines hearing and kinesthesia, perceiving music through the movement of the body, and understanding the content expressed by music from the perception and experience of music. If we apply this innovation to primary school music teaching reasonably, then, our teaching will bid farewell to the dull era of music classroom. So that students in the enjoyment of music, music learning in happiness. To this advanced music

In terms of educational concepts and methods, we should take the essence of the subject and discard the dregs.

Explore better efficient teaching methods for primary school music classroom teaching to do their meager power.

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Study of Case Study Method through Microteaching Method to Enhance Teaching Practice Skills of Students Majoring in Chinese Language and Literature

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Abstract

The purposes of this research were to : 1) compare teaching practice skills of students majoring in Chinese Language and Literature receiving case study method through microteaching method with a criteria set at 70% and 2) compare the students' satisfaction receiving case study method through microteaching method with a criteria set at 70%. The 70% of criteria means that after students receiving the case study method through microteaching method, their teaching practice skills and satisfaction are at a good level. Students can independently implement the teaching of questioning skills and explanation skills, and students' satisfaction with case study method through microteaching method is at a high level. The samples was 10 students from the third year class 4,majoring in Chinese language and literature at Zhoukou Normal University, Henan Province, China. The samples were selected by simple random sampling. The research instruments used in this research were: 1) 4 lesson plans allocated with sixteen hours of teaching questioning skills and explanation skills by using case study method through microteaching method. 2) The evaluation form of students' microteaching lesson plan. 3) The performance evaluation form of students' questioning skills. 4) The performance evaluation form of students' explanation skills. 5) Questionnaire on Chinese language and literature students' satisfaction with the case study method through microteaching method to enhance their teaching practice skills. The statistics used to analyze the data were mean, standard deviation and one sample nonparametric test.The results revealed that the samples after receiving the case study method through microteaching method, their teaching practice skills and satisfaction were significantly higher than the criteria of 70% at the 0.05 level of statistical significance.

Keywords : Case Study Method,   Microteaching Method,   Teaching Practice Skills,   Chinese Language and Literature,   Satisfaction

1. Introduction

In December 1978, the Communist Party of China held the Third Plenary Session of the Eleventh Central Committee, which made a major decision to implement Economic Reform and Open Up. The reform and opening up has brought Chinese society into a new round of accelerated transformation. The reform of The Times will inevitably lead to the reform of education and give birth to new educational ideas and practical policies (Ye Lan, 2009). In 1992, the Ministry of Education of China issued the Basic Requirements for Teacher Vocational Skills Training for Students in Normal Colleges and Universities (Trial Draft) (Song Yanli,2019). The basic requirements of teaching skills training for students in normal colleges and universities are put forward as follows: 1) To make lesson plans according to the characteristics of subjects. 2) Can apply teaching skills such as introduction, explanation, questioning, response, consolidation, closure and blackboard design according to teaching tasks and students' characteristics.

The researcher works in the Literature College of Zhoukou Normal University, Zhoukou, Henan Province, China. This research is based on the course Chinese Teaching Design in Middle School of Chinese Language and literature major. Students majoring in Chinese Language and literature become the main force of Chinese teachers in primary and secondary schools after graduation. Chinese Teaching Design in Middle School, which is a compulsory core course for the major of Chinese Language and Literature. This course is mainly to guide students to carry out Chinese practice activities, improve students' lesson plan design and teaching implementation skills. And help students obtain the basic teaching practice skills of middle school Chinese teaching. In August 2020, Zhoukou Normal University issued the 2020 Undergraduate Talents Training Plan, the graduation requirements for students majoring in Chinese Language and Literature are as follows : Grasp middle school's Chinese curriculum standards and middle school's Chinese teaching concepts. In the education practice, can according to the characteristics of middle school students' physical and mental development and Chinese subject to use the language knowledge and information technology, carry on the lesson plan design, implement and evaluate the teaching, obtains the teaching experience (Zhoukou Normal University,2020).

However, in reality, there are still many deficiencies in the teaching practice skills of normal college students, which cannot be consistent with the pace of basic education reform and development, and the teaching ability of normal college graduates cannot fully adapt to the needs of primary and secondary schools (Ministry of Education, PRC, 2016). Currently, students majoring in Chinese Language and Literature in Literature College of Zhoukou Normal University have the following problems in the cultivation of teaching practice skills : 1) Professional courses are set with emphasis on theory rather than practice, and there are not many practice hours. For students majoring in Chinese language and literature, the practice class hours are far less than the theory class hours, and the cultivation of students' teaching practice skills cannot be implemented and

improved. After graduation, many students find that their teaching practice skills cannot meet the requirements of primary and secondary school Chinese teachers. 2) The large class system hinders the implementation of innovative teaching methods. At present, there are 301 third year students in the University of Chinese Language and Literature, divided into 5 classes with an average of 60 students in each class, the six classes were divided into six groups in this study. Each class time lasts 60 minutes, so it is difficult for teachers to give detailed guidance to each student, and there is no time for innovative teaching reform. 3) Traditional teaching method focuses on teaching, teachers speak and students listen, ignoring the student-centered teaching concept, which makes it difficult for students to apply the theoretical knowledge they have learned into practice and generate their own teaching experience.

Based on the above reasons, the researcher selected 10 students from the fourth group by simple random sampling and trained them in questioning and explaining skills by using the case study method through microteaching method, help students build a learning platform from "learning" to "teaching", so that students can meet the national requirements, and lay a solid foundation for becoming middle school Chinese teachers after graduation.

2. Research Objectives

This research consisted of 2 objectives:

2.1 To compare teaching practice skills of students majoring in Chinese Language and Literature receiving case study method through microteaching method with a criteria set at 70%.

2.2 To compare the students' satisfaction receiving case study method through microteaching method with a criteria set at 70%.

3. Research Methodology

3.1 Samples

The population of this study was 301 students majoring in Chinese language and literature, third year at Zhoukou Normal University, Henan Province, China. 301 students were divided into 5 groups and selected 1 group by cluster random sampling. Then the researcher selected 10 students by simple random sampling.

3.2 Research Instruments

The research instruments used in this research were: 1) 4 lesson plans allocated with sixteen hours of teaching questioning skills and explanation skills by using case study method through microteaching method. 2) The evaluation form of students' microteaching lesson plan. 3) The performance evaluation form of students' questioning skills. 4) The performance evaluation form of students' explanation skills. 5) Questionnaire on Chinese language and literature students' satisfaction with the case study method through microteaching method to enhance their teaching

practice skills. The statistics used to analyze the data were mean, standard deviation and one sample nonparametric test.

3.3 Data Collection

The following were the stages of data collection:

The methods of developing the research tools were discussed as follows:

3.3.1 Four lesson plans allocated with sixteen hours of teaching questioning skills and explanation skills by using case study method through microteaching method. The four lesson plans had the content validity examined and approved by three experts.

3.3.2 The evaluation form of students' microteaching lesson plan to measure students' knowledge of lesson plan making for teaching skills.The evaluation form consists of two parts, the first part is the basic information about the student and the teaching topic. The second part is the knowledge evaluation about microteaching lesson plan making, which involves the standardization of the lesson plan, teaching content, teaching methods, teaching activities, teaching evaluation and teaching time schedule.The evaluation form had the content validity examined and approved by three experts,it was used with the samples.

3.3.3 The performance evaluation form of students' questioning skills and the performance evaluation form of students' explanation skills were used to measure student performance in teaching skills during microteaching. Each form has eight items, and the content validity and approved of the forms were examined by three experts.

3.3.4 The satisfaction questionnaire consisted of two parts: 1) close-ended questions with five-rating scales and 2) recommendations. Moreover, the first part was composed of 4 sections with a total of 10 items: 2 items for case study learning experience,4 items for microteaching learning experience,2 items for the schedule of the experiment and 2 items for the instructional design learning effects of case study method through microteaching method. The questionnaire had the content validity examined and approved by three experts.

3.4 Data Analysis

In this study, data were analyzed by using nonparametric test of SPSS according to the research objectives.

3.4.1 The researcher's four lesson plans were examined by three experts with an IOC of 1.00.

3.4.2 The evaluation form of students' microteaching lesson plan were examined by three experts with an IOC of 1.00.

3.4.3 The performance evaluation form of students' questioning skills and the the performance evaluation form of students' explanation skills were examined by three experts with an IOC of 1.00.

3.4.4 The satisfaction questionnaire was examined by three experts with an IOC of 1.00,and the reliability was 0.87.

4. Research Results

The results were presented according to the research objectives as follows:

4.1 - 4.4 were the results of research objective 1.

4.5 was the result of research objective 2.

4. 1 The results of knowledge testing for student questioning skills microteaching lesson plan making.

Table 1

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	t	P
Experimental group	10	50	35	46.40	1.90	45.00*	0.007

* p < .05

As shown in Table 1,after receiving case study method through microteaching method,the 10 students got an $\overline{X}$=46.40 ,SD=1.90,t=45.00,p=0.007, which was higher than the criterion of 70% (35) of full marks (50) at the 0.05 level of statistical significance.

4. 2 The results of knowledge testing for student explanation skills microteaching lesson plan making.

Table 2

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	t	p
Experimental group	10	50	35	46.50	1.51	55.00*	0.005

* p < .05

As shown in Table 2,after receiving case study method through microteaching method,the 10 students got an $\overline{X}$= 46.50 ,SD=1.51,t=55.00,p=0.005,which was higher than the criterion of 70% (35) of full marks (50) at the 0.05 level of statistical significance.

4.3 The result of students' questioning skills performance test.

Table 3

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	t	p
Experimental group	10	40	28	36.70	0.95	55.00*	0.004

* p < .05

As shown in Table 3,after receiving case study method through microteaching method, the 10 students got an got an $\overline{X}$= 36.70 ,SD=0.95,t=55.00,p=0.004, which was higher than the criterion of 70% (28) of full marks (40) at the 0.05 level of statistical significance.

4.4 The result of students' explanation skills performance test.

Table 4

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	t	p
Experimental group	10	40	28	36.90	0.88	55.00*	0.005

* p < .05

As shown in Table 4,after receiving case study method through microteaching method,the 10 students got an $\overline{X}$=36.90 ,SD=0.88,t=55.00,p=0.005,which was higher than the criterion of 70% (28) of full marks (40) at the 0.05 level of statistical significance.

4.5 The students' satisfaction with case study method through microteaching method.

Table 5

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	t	p
Experimental group	10	5.00	3.50	4.75	0.97	55.00*	0.004

* p < .05

As shown in Table 5,after receiving case study method through microteaching method,the 10 students got an $\overline{X}$=4.75,SD=0.97,t=55.00,p=0.004, which was higher than the criterion of 70% (3.50) of full marks (5.00) at the 0.05 level of statistical significance.

5. Discussion

The following points based on the research results were discussed:

The posttest analysis showed that after students received the case study method through microteaching method, they had higher scores in their teaching practice skills compared to the 70% criterion from research objectives ,and their satisfaction at a high level , which is because:

5.1 The case study method through microteaching teaching method is effective in improving the teaching practice skills of Chinese language and literature students. Firstly,students learn the theoretical knowledge of teaching skills through the case study method, and secondly, students train their teaching skills through the microteaching method. Students have theoretical knowledge as the foundation and the opportunity to transform theoretical knowledge into practical skills. In the future, students can also use the learned teaching skills in real teaching, which is helpful for their career.

5. 2 Microteaching is a model that can systematically develop students' teaching practice skills. Microteaching concentrates on training one teaching skill at a time, which is short, less but comprehensive, easier for students to learn and easy to master this teaching skill systematically. After students received the case study method through microteaching method, they had high evaluation scores for their knowledge and performance of teaching skills, which increased their self-confidence and made them believe that they could become a qualified middle school Chinese language teacher in the future.

5. 3 Microteaching makes full use of modern educational technology to mobilize students' learning enthusiasm. During the training process of students' demonstration of teaching skills, the video camera records the students' teaching process in a realistic, vivid and intuitive way. When students look back at their teaching videos, they are like looking in the mirror and can find out their strengths and weaknesses in the teaching process and can objectively evaluate their own teaching as a spectator, which is important for improving students' teaching practice skills.

5.4 Real-time evaluation and feedback in the process of microteaching is a key part of improving students' teaching practice skills. Students' mutual evaluation and feedback, as well as teachers' targeted comments and feedback, can make a qualitative leap in the teaching practice skills of microteaching students.

6. Conclusion

The results were presented according to the research objectives as follows:

6. 1 After Chinese language and literature students received case study method through microteaching method, their teaching practice skills were higher than 70% of the criteria.

6.2 After the students receiving case study method through microteaching method, their satisfaction was higher than 70% of the criteria.

7. Recommendations

The following are some recommendations based on the research results:

7.1 Recommendation for implication

1) When teachers who work on the pedagogy of Chinese language subjects in colleges and universities use microteaching method to train teaching practice skills to students, it is recommended that teachers study and research theoretical knowledge of teaching methods and teaching skills in advance. Teachers first internalize theoretical knowledge and then explain the knowledge to students so that they know the process of microteaching and the structure of teaching skills, and use the theory to guide practice, which is conducive to students' learning and absorption of knowledge and reaching learning objectives.

2) When teachers determine the content of microteaching, the selection of content should meet the needs of students, and the design of the training process should be scientific and reasonable and easy to implement, which can effectively enhance students' teaching practice skills and also improve students' satisfaction with microteaching.

3) Teachers should use professional evaluation tools to measure students' microteaching, help students find their shortcomings in microteaching, and encourage students to continuously improve their teaching practice skills.

4) Taking advantage of multimedia technology, microteaching has been combined with video camera for teaching feedback since its birth, so it is closely connected with education information technology. The cases and resources of microteaching can be shared on the network platform, and students can download or watch them offline and after class. This allows students to learn from the strengths of others' teaching experiences and improve the weaknesses of their own teaching steps.

5) Optimize the class arrangement of courses such as "Chinese Teaching Design in Middle School" and "Chinese Teaching Theory", and give suggestions to schools to optimize and integrate relevant courses, so as to improve the implementation effect of Chinese teaching skills practice courses.

7.2 Recommendation for further research

1) This study only studies the questioning skills and explanation skills,it is recommended that further studies should be conducted for other teaching practice skills,such as introduction, class ending, blackboard writing design and so on.

2) It is recommended to conduct a comparative study of traditional teaching methods and microteaching methods.

3) It is recommended that to study advanced technological success and information technology be integrated into the microteaching method.

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Effect of Learning Management Using Problem-Based Learning together with the Mobile Phone Application on Students' Learning Achievement and the Ability of Landscape Design of College Students

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Abstract

The purpose of this research were to: 1) Compare the learning achievement of the students about landscape design before and after receiving Learning management using Problem-Based Learning together with the mobile phone application; 2) Compare the ability of the students about landscape design after receiving Learning management using Problem-Based Learning together with the mobile phone application with the established 70% criterion; 3) Compare the satisfaction of the students after receiving Learning management using Problem-Based Learning together with the mobile phone application with the established 70% criterion. The sample was 30 students (1 class) from Zhoukou Normal University majoring in Environmental Design which were selected by using cluster random sampling. The research instruments used in this research were: 1) The test of the learning achievement of landscape design; 2) The evaluation form about the abilities of landscape design; 3) The questionnaire for students' satisfaction. The statistics used to analyze the data were mean, standard deviation and paired t-test and single sample test. The results revealed that after the students use the learning management using problem-based learning together with the Mobile phone application, their abilities of landscape design are all higher than the criteria of 70%, and the students' satisfaction was also at a high level.

Keywords : Problem-Based Learning, Mobile Phone Application, Landscape Design Teaching

1. Introduction

With the rapid development of Internet technology and application, cyberspace has changed from text environment to multimedia environment, and from man-machine interaction to social interaction. The use of new media, especially mobile social media, is inevitably integrated into the invisible background of contemporary college students' growth, life and social interaction.

In the traditional landscape design teaching classroom where teachers impart knowledge, students are exposed to the knowledge imparted by teachers in a boring way, and students' interest in learning is not very positive. The books students read are theoretical and professional books, and they can't get access to the latest design concepts or new and good design schemes in the world. Unable to improve students' landscape design ability.

In March 2020, China issued The guiding opinions of the Ministry of education on strengthening the application of "three classrooms", which pointed out that teachers should be encouraged to use information technology to improve the efficiency and quality of classroom teaching, strengthen the deep integration of information technology and teachers' teaching, and promote the change of teachers' teaching methods and students' learning methods, Provide teachers with interactive multimedia teaching equipment, common office software, multimedia production software and instant messaging software, pay attention to the development of personalized learning and evaluation system represented by mobile intelligent network terminal, big data analysis technology and virtual reality technology, promote classroom revolution, innovate education and teaching mode and promote the transformation of education mode, We should support the construction of a new ecosystem of "Internet plus education", develop more equitable and quality education, and accelerate the modernization of education.

With the rapid development of information network technology and the continuous popularization of mobile terminal equipment, using mobile phone application to learn has gradually become a new way of learning. The use of mobile phone application can provide new forms for college classroom teaching, promote the innovation of classroom teaching in training students' interest in learning, training students' thinking ability, strengthen students' autonomous learning ability, improve the learning efficiency has incomparable role, at the same time also can promote the new technology, new equipment support for learning.

Therefore, a study is carried out in this paper. Using Problem-Based Learning to assist classroom teaching through mobile phone application to improve students' landscape design ability. In class, the teacher explains the questions, and the students search the relevant contents through mobile phone applications according to the questions, and get the answers through group discussion.In class and after class, students can get in touch with many of the world's latest design concepts and methods at any time and anywhere through the function of mobile phone applications. Students can improve their learning achievement and design ability by learning these excellent design projects.

2. Research Objectives

This research consisted of three objectives:

2.1 To compare the learning achievement of the students about landscape design before and after receiving Learning management using Problem-Based Learning together with the mobile phone application .

2.2 To compare the ability of the students about landscape design after receiving Learning management using Problem-Based Learning together with the mobile phone application with the established 70% criterion.

2.3 To compare the satisfaction of the students after receiving Learning management using Problem-Based Learning together with the mobile phone application with the established 70% criterion.

3. Research Methodology

3.1 Samples

The sample was 30 students (1 class) from Zhoukou Normal University majoring in Environmental Design which were selected by using cluster random sampling.

3.2 Research instruments

The research instruments used in this research were: 1) The test of the learning achievement of landscape design;2)The evaluation form about the abilities of landscape design;3) The questionnaire for students' satisfaction.

3.3 Data Collection

1. The samples were pretested for learning achievement before teaching.

2. The samples were taught according to the lesson plans using Problem-Based Learning activities in combination with the mobile phone application in classroom.

3. After teaching according to the lesson plans, the samples were post-tested for learning achievement, ability of landscape design and answer students' satisfaction on the learning activity questionnaire.

3.4 Data Analysis

In this study, data were analyzed by using the statistical program according to the research objectives.

1. To compare the learning achievement of landscape design after receiving using Problem-Based Learning with the mobile phone application in classroom by using performance test for dependent samples.

2. To compare ability of landscape design with the determined criteria set at 70 % by using evaluation form for one sample.

3. To compare the student's satisfaction on using Problem-Based Learning with the mobile phone application in classroom with the determined criteria set at 70 % by using arithmetic mean and standard deviation.

4. Research Results

This chapter presented the findings related to the objectives of the research. The findings of this research were analyzed through descriptive statistics and t-test by using statistical package program to answer the progress of participants after its implementation. The results were presented according to the research objectives as follows:

Statistical symbols

Statistical symbols	Description
$\overline{X}$	Mean scores
S.D.	Standard deviation
t	T statistics
p	Significance level

4.1 The results of research objective 1

The result of comparing the different scores of the learning achievement of the students about landscape design before and after learning through the learning management using Problem-Based Learning together with the mobile phone application ,the pretest is $\overline{X}$=13.13, SD=11.252, the posttest is $\overline{X}$ = 29.07, S.D. = 0.98, t_{29}= 55.437, p= 0.000, the posttest scores of students' learning achievement of the students about landscape design was greater than pretest scores at .05 level of statistical significance.

Table1

Group	N	Pretest		Posttest		t	p
		$\overline{X}$	S.D.	$\overline{X}$	S.D.		
Experimental group	30	13.13	1.252	29.07	0.980	55.437*	0.000

* p < .05

4.2 The results of research objective 2

The result of comparing the different scores of ability of landscape design of students after learning through the learning management using Problem-Based Learning together with the mobile phone application is $\overline{X}$ =92.03, S.D.=10.005, t_{29} = 12.062, p=0.000, which was higher than the criteria at 70% (70 marks) of full marks at .05 level of statistical significance.

Table2

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	t	p
Experimental group	30	100	70	92.03	10.005	12.062*	0.000

* p < .05

4.3 The results of research objective 3

The result of the student's satisfaction on using Problem-Based Learning with the mobile phone application is $\overline{X}$ =4.98, S.D.=0.4611, t_{29}=176.187, p=0.000, which was the highest level compared with the criterion at 70% (3.50 marks) of full marks at .05 level of statistical significance.

Table 3

Group	N	Full score	$\overline{X}$	S.D.	t	p
Experimental group	30	5.00	4.98	0.4611	176.187*	0.000

* p < .05

5. Discussions

The following points based on the research results were discussed:

5.1 This study is based on a random sample of tests, so by organizing t-tests and questionnaires on the sample, It provides reliable data for developing methods suitable for them to improve their landscape design ability.

5.2 Through the t-test, students' score of the students' learning achievement of landscape design was relatively low before the students learning through the learning management using Problem-Based Learning together with the mobile phone application in the classroom was adopted, but after the students learning through the learning management using Problem-Based Learning together with the mobile phone application in the classroom, students' score of the students' learning achievement of landscape design was improved.

5.3 The students' ability of landscape design after using the pedagogy was significantly higher than the previous landscape design competencies. Test findings indicate that more than 70% of students have improved their ability of landscape design.

5.4 The lesson plans, the test of the students' learning achievement of landscape design, the students' ability of landscape design and questionnaire of the course were highly evaluated by the three experts, and the students' satisfaction with learning management using Problem-Based Learning together with the mobile phone application in the classroom method was very high, so it can be concluded that the learning management using Problem-Based Learning together with the mobile phone application in the classroom can meet the students' learning for the landscape design courses.

6. Conclusion

According to the t-test, the following conclusions are drawn:1)The learning achievement of the students about landscape design after receiving Learning management using Problem-Based

Learning together with the mobile phone application is higher than before. 2) The ability of the students about landscape design after receiving Learning management using Problem-Based Learning together with the mobile phone application is higher than the established 70% criterion. 3) The satisfaction of the students after receiving Learning management using Problem-Based Learning together with the mobile phone application is the highest level compared with the criterion at 70%.

7. Recommendations

7.1 Recommendation for implication

1) Before teaching with the Problem-Based Learning method, students are taught to acquire knowledge using online learning platforms, various databases and libraries, and are trained to master the Problem-Based Learning method in terms of assessment of learning styles, learning requirements, the role of the teacher, the role of the students, organization and introduction.

2) Teachers should have a deep understanding of Problem-Based Learning, understand its essence and adapt to the change of teachers' role under Problem-Based Learning teaching method, so as to reflect the characteristics of this teaching mode. Teachers should take the initiative to participate in seminars and training courses on Problem-Based Learning teaching, and take the initiative to communicate with other teachers to learn from each others' advanced experiences, so as to improve the level of Problem-Based Learning teaching.

3) Establish a reliable, consistent, objective and comprehensive evaluation system that is compatible with the Problem-Based Learning teaching method, so as to ensure the diversity of evaluation contents, evaluation methods and evaluation subjects. Strengthen collaboration, organize experienced teachers, combine with students' characteristics, and develop syllabus and teaching materials of Problem-Based Learning teaching method based on the framework of competencies that students should master, so as to ensure the standardization and clarity of teaching ideas.

7.2 Recommendation for further research

1) Young teachers should learn more about new teaching theories, update their teaching concepts, guide their teaching practices and adjust their teaching designs to meet the needs of social and economic development for the cultivation of talents with disciplinary theories and professional abilities.

2) Further analysis can be done by using a combination of Problem-Based Learning teaching method and flipped classroom teaching method. The flipped classroom teaching model focuses on flipping the teaching process and expanding the learning space for students. Combined with the Problem-Based Learning teaching method, the classroom is given to students to be the master of the classroom and to develop students' problem awareness and the ability to identify problems, ask questions and solve them.

3) Adopt the teaching method of combining Problem-Based Learning method and case study method to integrate actual cases into the classroom teaching through teacher guidance. Students' independent learning ability is cultivated, and students are encouraged to find problems, ask questions and solve problems in the actual cases as a way to improve their landscape design ability.

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The Effect of BOPPPS Teaching Method on Learning Achievement and Dance Performance of University Students

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Abstract

This research aimed to: 1) To compare students' learning achievement before and after learning with the BOPPPS teaching method. 2) To compare students' dance performance after learning with the BOPPPS teaching method with the established 70% criterion. The samples were 30 third-year students (one class) in the department of dance studying Training Philosophy of Dance course obtained by cluster sampling method. The research instruments were lesson plans, learning achievement test and dance performance evaluation form. The statistics employed to analyze the quantitative data were percentage, mean, standard deviation and t-test (dependent). The results revealed that: The students' learning achievement after learning with the BOPPPS teaching method was higher than before. The students' dance performance after learning with the BOPPPS teaching method was higher than the established 70% criterion at significant level of 0.05.

Keywords : BOPPPS Teaching Method, Learning Achievement, Dance Performance

1. Introduction

Dance, as a unique form, has irreplaceable significance and value in the construction of socialist spiritual civilization and the promotion of human's all-round development. Dance majors usually need early professional dance training as the foundation. During the undergraduate period, they will achieve comprehensive development from three aspects namely knowledge, quality and ability training. Finally, they will achieve all-round development in dance skills, cultural literacy and creative thinking through the combination of professional skills, artistic accomplishment, the creation in class and artistic practice. (National standard for teaching quality of music and dance, 2020)

Training Philosophy of Dance, as a compulsory course of dance major, plays a crucial role in the whole process of dance learning. Training Philosophy of Dance is a course combining theory and practice. It is usually offered in the third year of university. The main teaching goal is to let students master the training system of different kinds of dance. Students are expected to achieve accurate and infectious dance performance of different types of dance with their professional ability shaped by the scientific training system. (Yangou, 2009)

BOPPPS teaching method originated from teacher skills training in Canada. It is a teaching target-oriented and student-centered teaching method. It divides the whole teaching process into six stages namely: Bridge in, Objective or Outcome, Pre-assessment, Participatory learning, Post-assessment and Summary. First, pique students' learning interest. Then inform them of the teaching goal before teaching to achieve the goal orientation. Next have a pre-test to have a clear picture of the students' knowledge reserves. Design interactive participatory teaching activities according to the results of the test. Post assessment to see the learning progress after those teaching activities. Finally comes the teaching summary, which works as the introduction of the teaching session as well. The method has a clear train of thought throughout the whole process, from the shallow to the deep, from the outside to the inside, stating from interest and ending with the summary, which is closely connected and in line with the cognitive law of people. Therefore, this method is highly promoted by many university teachers who are familiar with it and carry out applied research and practice in their own classroom teaching. (Sun Jinping, 2019)

I am a university teacher and work at a normal university in Hebei, China. The courses I teach mainly include Training Philosophy of Dance, Appreciation of Dance Works and Dance Techniques. My research questions were:1) How does students' learning achievement before and after learning with the BOPPPS teaching method? 2) How does students' dance performance after learning with the BOPPPS teaching method compare with the established 70% criterion? (Yu Miaomiao, 2011)

I hope to find scientific and systematic dance teaching system, fully tap the students' learning potential, and realize the comprehensive development of students. Based on the reasons above, we choose to study the influence of BOPPPS teaching model on improving the academic performance and dance performance of students majoring in dance.

2. Research Objectives

This research consisted of two objectives:

2.1 To compare students' learning achievement before and after learning with the BOPPPS teaching method.

2.2 To compare students' dance performance after learning with the BOPPPS teaching method with the established 70% criterion.

3. Research Methodology

3.1 Samples

The population of this study were 180 students of third-year (six classes) in the department of dance, Conservatory of Music, Lang fang Normal University, Hebei Province, China. The samples were 30 students (one class), which selected randomly through probability sampling techniques by the clusters random sampling method.

3.2 Research Instruments

The research instruments were lesson plans, learning achievement test and dance performance evaluation form. The statistics used to analyze the quantitative data were percentage, mean, standard deviation, t-test (dependent) analysis.

For example: one lesson plan using BOPPPS teaching method.

Table 1

Lesson plan : Training philosophy of dance

Instructional Topic : Flexibility training in dance

Class Level : The third grade

Number : 30 students

Times :120 minutes

Objectives	1. Students understand the concepts of flexibility, classification of flexibility and significance of flexibility training. 2. Students know the means and methods of dance flexibility training through actual movement exercises. 3. Students understand the mind map about the basic principles and main characteristics of dance flexibility training. 4. Students know how to design a preliminary plan suitable for children's flexibility training.
Content	Concepts of flexibility, classification of flexibility and significance of flexibility training, means of flexibility, method of flexibility.
Media and Learning Resources	Media: Power point presentations Instructional video Text Books: *Training Philosophy of Dance* and *Anatomy of Dance* Auxiliary equipment: mat, handle bar, tension belt

<div align="center">Instructional Strategies (teaching methods)</div>

Bridge-in	Play the video of Chinese classical dance technique, and attract the students' attention by appreciating the difficult technique movements. Let

	the students think about how to realize the exquisite technique. This leads to the learning objectives and tasks of this course.
Outcome	The teacher introduces the teaching objectives of this class to the students: 1) Students can explain concepts of flexibility, classification of flexibility and significance of flexibility training. 2) Students can show the means and methods of dance flexibility training through actual movement exercises. 3) Students can present the mind map about the basic principles and main characteristics of dance flexibility training. 4) Students can design a preliminary plan suitable for children's flexibility training.
Pre -assessment	Student have the pre-test knowledge of this lesson plan. Then, through sharing their own experience in the process of flexibility training, students can understand how much they have mastered the knowledge and methods of flexibility training.
Participatory Learning	1) Teacher's explanation: Firstly, teachers will explain and demonstrate the characteristics, principles and requirements of flexibility training with PPT. 2) Students' participation: Students are divided into six groups to practice flexible movements, including three means and two methods. The three means are: using external tools, relying on external forces, using their own power. The two methods are static tensile method, dynamic tensile method. 3) Interactive session: After the movement exercise, each group will perform the movement demonstration. Each group recommends one student to be the speaker, the speaker will use a mind map for a presentation. The other students demonstrate actions. While students are sharing, teachers can supplement their knowledge.
Post -assessment	Student have the post-test knowledge of this lesson plan. Then, through the method of asking questions, understand the students' grasping of dance flexibility training knowledge.
Summary	The teacher evaluates the achievement of students' learning objectives through the comparison between post-test and pre-test knowledge points, summarizes the content and knowledge points of this course, and predicts the learning content of the next class.

3.3 Data Collection

he stages of data collection were as follows: The samples were pre-test for learning achievement before teaching according to the lesson plans. The samples were taught according to the lesson plans using the BOPPPS teaching method in the classroom and observed dance performance of students. After being taught according to the lesson plans, the samples would be given post-test for learning achievement and dance performance.

The methods of developing the research tools were discussed as follows:

3.3.1 Regarding pre-test and post-test of training philosophy of dance: There were 25 choice questions. There were four options for each choice question, including single and multiple multiple-choice questions. The content included five aspects: flexibility training in dance, c ores trength abilitytraining in dance, speed training in dance, ag ilitytraining in dance, endurance training in dance.

3.3.2 The dance performance evaluation form: It included Body, Action, Time, Space and Energy. The final score was the average of five points for Body, Action, Time, and Space and Energy. The final score was the average of five points for Body, Action, Time, and Space and Energy.

3.4 Data Analysis

Data analysis were: 1) Reliability of the research tools was used by Cronbach reliability, the validity of the research tools was analyzed by three experts of IOC. The value of the reliability of dance test equals 0.972. The value of the reliability of dance performance evaluation form equals 0.949. The contents validity of two research tools IOC=1.00. The data above indicates that the two research tools had high reliability and validity and can be used as research tools. 2) Students' learning achievement score after learning with the BOPPPS teaching method was $\overline{X}= 86.40$, S.D.$= 8.95$ were higher than before learning with the BOPPPS teaching method was $\overline{X}=77.33$, S.D.=10.03 at .05 level statistical significant. The average score for the students' dance performance after using the BOPPPS teaching method was $\overline{X}= 84.27$, S.D.$= 8.12$ which was statistically higher than the criterion of 70% at the .05 level of statistical significance.

4. Research Results

The results were presented according to the research objectives as follows:

4.1 Results of comparing learning achievement with the BOPPPS teaching method before and after by using t-test for dependent sample.

Table 2 To compared students' learning achievement before and after using BOPPPS teaching method.

Group	N	Pre-test		Post-test		t	p
		$\overline{x}$	S.D.	$\overline{x}$	S.D.		
Experimental group	30	77.33	10.03	86.40	8.95	15.82	.000

P*<0.5

As shown in table 2, after receiving the BOPPPS teaching method, the student got $\overline{X}$=86.40, S.D.=8.95 (post-test) higher than before, with was $\overline{X}$=77.33, S.D.=10.03 (pre-test) at .05 level of statistical significance.

4.2 Results of comparing students' dance performance after learning with the BOPPPS teaching method with the established 70% criterion by using t-test for one sample.

Table 3 To compare students' dance performance after learning with the established 70% criterion.

Group	N	Full score	Criteria score	$\overline{x}$	S.D.	t	p
Experimental group	30	100	70%	84.27	8.12	42.7	.000

P*<0.5

As shown in table 3, after leaning with BOPPPS teaching method, the average score for the students' dance performance was $\overline{X}$=84.27, S.D.=8.12 which was statistically higher than the criterion of 70% at .05 level of statistical significance.

5. Discussion

The following points based on the research results were discussed:

5.1 The prominent problem in the traditional dance teaching is that teachers are the main body of teaching, and students only complete the learning tasks according to the requirements of teachers. Students are not good at active thinking, let alone actively participating in all aspects of learning, which leads to poor academic performance and lack of expression in dance performance. In terms of sample selection, we choose students with moderate grades and a strong willingness to improve their academic performance. Raw data of the samples were collected through classroom observation, student discussion, and pretest, and the teaching plan was designed based on these data results. This was consistent with the sample selection requirements adopted by Chinese scholars when studying the teaching methods. (Yu Miaomiao, 2011)

5.2 The improvement in the samples' academic performance and dance performance ability may be that the initiative of the six steps of the BOPPPS teaching method of the students

had been effectively played. In the bridge-in section, we used many interesting contents and various forms for course import. And students had developed a strong interest in learning about the course content. In the objective / outcome section, set the learning goals that students can achieve, greatly enhanced the students' self-confidence. In the participatory learning section, a favorite part of the students, students could share, show, and discuss, giving full played to their own subjective initiative. Through the pre-test and the post-test, teachers could accurately understand how students completed their course goals, and timely improve the teaching effect. This was consistent with scholars saying that the "BOPPPS" is an "effective", "efficient" and "beneficial" teaching method that can promote students' active participation in classroom learning. (Zhang Jianxun, & Zhulin, 2016)

5.3 The reason for the improvement of students' comprehensive ability may be that the teaching plan emphasizes the cultivation of students' comprehensive ability, and organically combines theoretical learning and practice, especially in dance performance, while paying attention to physical ability performance and paying more attention to the embodiment of artistic connotation, which greatly improves the students' dance performance. Through the experimental group quantifying the teaching effect, digging deep into the data generated, we reflected on the various teaching links, and made the teaching more scientific. This was coincident with scholars who put forward the construction of a "network" core curriculum system thinking. (Ningxing, 2020)

6. Conclusions and Recommendations

6.1 Summary of the Study

1) The students' post-test average score was $\overline{X}=86.40$, S.D.=8.95. The post-test average score increased was 9.07 higher than pre-test. at .05 level statistical significant. The students' learning achievement after learning with the BOPPPS teaching method was higher than before.

2) The average score for the students' dance performance after using the BOPPPS teaching method was $\overline{X}=84.27$, S.D.=8.12 which was statistically higher than the criterion of 70% at .05 level of statistical significance.

6.2 Implications of the study

1) Students can develop dance performance using the learning management using the BOPPPS teaching method.

2) Teachers can apply as a guide to develop learners' dance performance using the learning management using the BOPPPS teaching method.

3) The BOPPPS teaching method can improve teaching efficiency and respect students' dominant position in learning. It can help realize the student-centered education concept,

stimulate students' interest and promote students' independent learning. Also, it can enhance the cooperative learning between students and effectively improve the learning effect.

6.3 Recommendation

1) The BOPPPS teaching method can be widely used in other dance courses. It is suggested that to use BOPPPS teaching method, the bridge-in should be creative, interesting and arouse interest in learning and the objective should be scientific and measured to determine whether students achieve learning goals. In participatory learning, learning tasks should be arranged in advance to let students take the initiative to participate in learning activities and improve learning efficiency. The class must be summarized, timely reflected and the teaching effect can be constantly improved. For the teachers who will use BOPPPS teaching method, the characteristics of the courses taught should be carefully analyzed, the effectiveness of using this method should be evaluated, and how the teaching plan should be designed in accordance with the BOPPPS teaching method.

2) The BOPPPS teaching method can be used for the teaching ability training of art teachers. Through BOPPPS teaching method, this method can help teachers to develop more teaching plans in line with students' ability, and master more scientific teaching methods and means, so as to improve the teaching level of teachers.

3) The BOPPPS teaching method can be used as a means for students to study by themselves. Through preparation before class, sharing in class and review after class, students not only improve their learning ability, but also develop the learning habit of independent thinking and active participating in learning.

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Effect of Problem-Based Learning (PBL) on Music Teaching Scheme Design and Teaching Practice of Music Normal Students

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Abstract

Problem-Based Learning (PBL) teaching methods, wherein teachers guide students to discover, analyze, and solve problems through group discussions, are student-centered and problem-based. The purposes of this mixed quantitative and qualitative research are: 1) to compare the Music Teaching Scheme Design and Teaching Practice academic record of third-year university students before and after using problem-based learning (PBL), and 2) to assess students' satisfaction with problem-based learning (PBL). The sample consisted of 42 university musicology students. Convenience sampling was used in this study. A lesson plan for the Music Teaching Scheme Design and Teaching Practice using PBL pedagogy was the research instrument. Meanwhile, the measurement instruments were: 1) the Music Teaching Scheme Design and Teaching Practice academic record test, and 2) a students' satisfaction questionnaire. After collecting and arranging the experimental data, the paired-sample t-test and the single-sample t-test of the SPSS software were used for data analysis. The results show that: 1) students' Music Teaching Scheme Design and Teaching Practice academic record after using problem-based learning (PBL) is higher than that before learning, and 2) students' satisfaction with the PBL method is at a high level.

Keywords : Problem-Based Learning (PBL), Academic Record, Student Satisfaction

1. Introduction

It is the mission and responsibility of normal universities to train their teachers. All countries pay great attention to teacher training and have introduced several specific measures to promote the development of normal universities to ensure the improvement of teachers' quality (Tian, 2009). The development of music education has a long way to go. The development and improvement of the whole education system not only requires several pioneering leaders with both

political integrity and ability, but also several teaching talents armed with knowledge (Liu, 2012). The development of music education is an important part of comprehensive quality improvement at the national level. Further, with the continuous social progress of the human knowledge system, education work is facing the impact of knowledge updates and severe social situations. The means for developing music education, keeping pace with the times, and maintaining and carrying forward the inheritance of traditional national culture—while nourishing foreign art—are worthy of careful consideration by music educators (Xiao, 2014).

"Music Teaching Program Design and Teaching Practice" is a mandatory course for the university undergraduate music normal major, and its teaching effect is becoming increasingly important to the university talent training mode. The existing teaching methodology is generally based on Herbart's pedagogy: the traditional classroom under the "three centers" model of teachers, teaching materials, and classrooms; the implementation process involves directly imparting knowledge to students. Since the Industrial Revolution, this has been the most stable and widely used teaching model in the global education system for more than 300 years; yet, there are many problems in the process of practice (Chen & Sun, 2021).

By checking students' scores in the school's teaching management system, it was found that after the Music Teaching Program Design and Teaching Practice course in the first semester of the 2020–2021 school year, 88.9% of the students in the sample class scored below 80 points. Therefore, the teaching effect of this course has not been not ideal. Upon reflection, the following problems were identified in classroom teaching:

1) Students' theoretical knowledge learning is solid, but they lack teaching experience, and the actual teaching level is not high.

2) Students have minimal interest in classroom learning.

3) Students lack the ability to learn actively.

To change this situation, we must expand the teaching research of this course and conduct teaching exploration in combination with a new teaching mode. The PBL mode of teaching is teacher-led and problem-centered; its central focus is on students, and it emphasizes practical problem-solving through cooperative exploration (LI, n.d.). By applying the PBL teaching mode in the "Music Teaching Program Design and Teaching Practice" course, students can solve problems in the learning process, deepen their understanding of the teaching program design, improve their teaching practice level, and enhance the classroom teaching effect. Therefore, the PBL teaching mode should be applied in normal music majors' classrooms in colleges and universities: This would help test the feasibility and effectiveness of the PBL teaching mode in teaching practice, and provide a new theoretical basis and practical experience for the teaching reform of normal music majors.

2. Research Objective

2.1 To compare the Music Teaching Scheme Design and Teaching Practice academic records of third-year university students—before and after using Problem-Based Learning (PBL).

2.2 To assess the students' satisfaction with Problem-Based Learning (PBL).

3. Research Methodology

3.1 Samples

The sample of this study is 42 musicology students in a university. This university is located in Zhoukou City, Henan Province, China. It is a local university of general applied normal education. Convenience sampling was performed in this study. According to different majors and student administrative classes, we divided the 198 students into five classes with 42, 42, 41, 42, and 31 students. From among these classes, a class of 42 students was randomly selected.

3.2 Research Instruments

A research instrument is a tool used for experimental research and data collection. The research instrument used in this study included three components: as the experimental instrument, 1) a lesson plan for PBL; as measuring instruments, 2) the Music Teaching Scheme Design and Teaching Practice academic record test and 3) a questionnaire for students' satisfaction. The statistical data used to analyze quantitative data included four parts: 1) mean, 2) standard deviation, 3) the test statistic (denoted t) for the paired t-test, and 4) the p-value corresponding to the given test statistic t, with degrees of freedom df.

3.3 Data Collection

The procedure of data collection was as follows:

3.3.1 This study planned to conduct five sessions—once a week for 2 hours on each occasion, for a total of 10 hours—using the PBL teaching method. In this study, the PBL teaching method—when used in the classroom of music teaching scheme design and teaching practice— was divided into five steps: 1) Bring out the question: Before class, the teacher analyzed the teaching objectives, key points, and difficulties of this lesson; then, the teacher decided to use the explanatory lessons video clip at the Henan Province explanatory lessons competition as the medium and sent this video to the students through the WeChat platform, thereby eliciting the concepts, characteristics, and types of explanatory lessons and meaning. 2) Analyze the problem: In class, the teacher randomly divided 42 students into eight groups. According to the explanatory lessons video released before class, students analyzed problems, determined known and unknown information and problems, and clarified topics. 3) Solve the problem: In class, each group divided labor according to the plan, collected and shared information, and brainstormed independently. During this process, the team members communicated with each other and discussed the problem. 4) Achievement of presentations: Each

group had a student representative in class to explain the concept of lessons, characteristics, type, and significance. After the representative completed the speech, the group members provided a supplementary presentation. 5) Reflective evaluation: In class, each group voted to select the group with the best performance. Each group evaluated the students in the group and selected the students with the best performance in the class. After class, teachers interacted with students through the WeChat platform to jointly solve problems that were not fully understood in the classroom learning process. See the figure below for the specific teaching process:
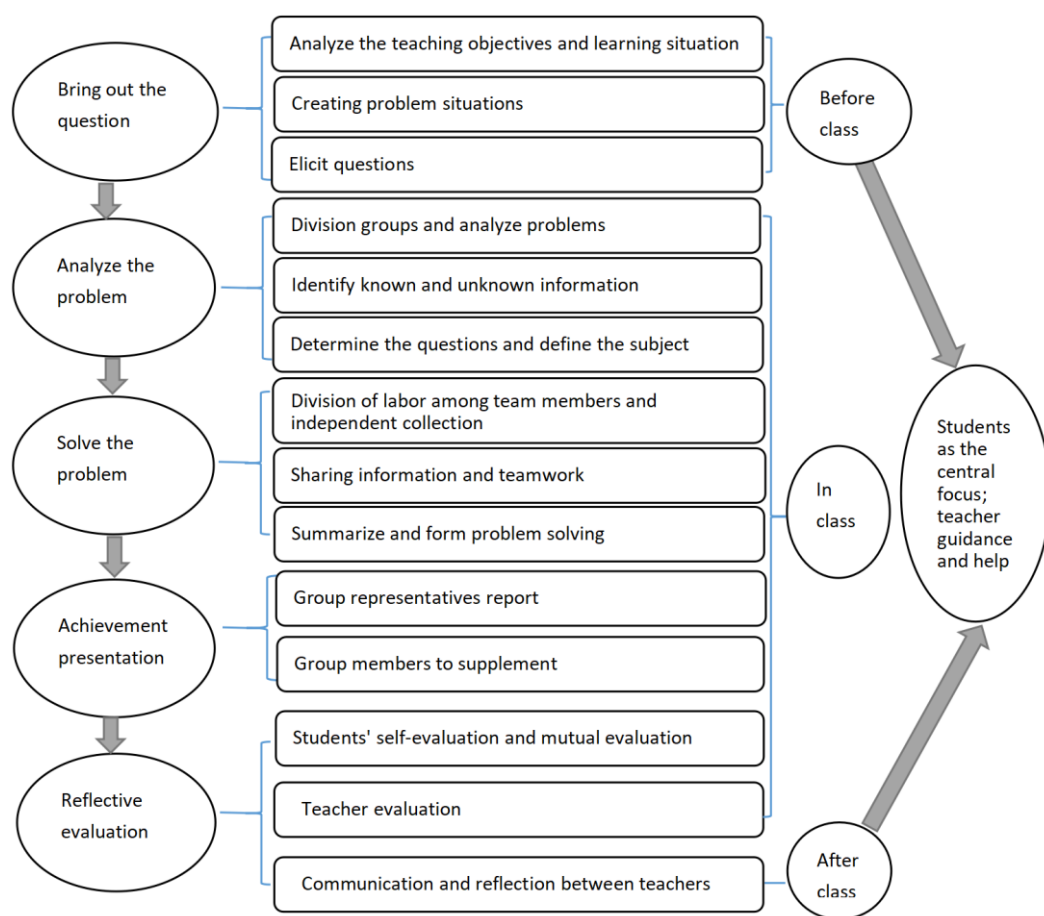
Picture 1 Flow chart of PBL teaching method

3.3.2 The pre-test and post-test utilized the Music Teaching Scheme Design and Teaching Practice academic record test, which contains two parts: 1) primary and secondary school music teaching program design, and 2) a student presentation video. Both parts contain five scoring standards each. Each scoring standard is set to 20 points. Academic record comprises 50% of the students' lesson plan scores in addition to 50% of student presentation video scores.

3.3.3 The purpose of using the questionnaire is to collect data regarding the students' opinions about the instruction, such as the content of the curriculum, learning activities, and instructional materials. The student satisfaction questionnaire comprised 16 items. Each item has five levels: excellent, very good, good, fair, and poor.

3.4 Data Analysis

According to the research purpose, this study conducted data analysis on the quality of the research instrument and measuring instrument. Three experts—associate professors—scored the validity of the lesson plans and the academic record test. The content validity index (CVI) of each item was calculated to be greater than 0.79, while the item objective congruence (IOC) of each item was greater than 0.5. The researchers used an academic record test to assess the students in class and obtain a data set. This data was then used to measure the item difficulty (p) and item discriminability (r) of the academic record test. The results showed 1) a range of 0.20–0.80 for the difficulty (p) of each item of the academic record test and 2) the discriminability (r) of each item was greater than 0.2. Using the same raw data set, the Cronbach's alpha coefficient of the reliability of the academic record test was found to be 0.884, which is greater than 0.8. The validity of the student satisfaction questionnaire was scored by three experts, and the IOC of each item was calculated to be greater than 0.5.

4. Research Results

This chapter presents the findings regarding the study's research objectives, which were as follows: 1) To compare the Music Teaching Scheme Design and Teaching Practice academic records of third-year university students—before and after using the PBL. 2) To assess students' satisfaction with PBL. The findings were analyzed through descriptive statistics and t-tests using a statistical package program to determine the progress of the participants after its implementation. The findings are as follows:

Table 1 Statistical symbols

Statistical symbols	Description
$\overline{\mathrm{X}}$	The average score of the sample
S.D.	The standard deviation of the difference scores
T	The test statistic (denoted *t*) for the paired T-test.
P	The *p*-value corresponding to the given test statistic *t* with degrees of freedom *df*.

4.1 Comparisons of Music Teaching Scheme Design and Teaching Practice academic records of third-year university students—before and after using PBL

The result of comparing the different scores of the Music Teaching Scheme Design and Teaching Practice before and after learning through Problem-Based Learning (PBL). The table below shows the descriptive statistics and t-test as analyzed by using the statistical package program. This table aims to answer the research objective of whether using PBL could enhance the music teaching scheme design and teaching practice academic record.

Table 2 Comparison table of academic record results before and after using Problem-Based Learning *(PBL)*

Group	N	Pretest scores		Posttest scores		t	p
		$\overline{x}$	S.D.	$\overline{x}$	S.D.		
Experimental group	42	71.32	5.667	80.10	3.740	16.739	.000

As presented in Table 2, the mean score of the pre-test of students' Music Teaching Scheme Design and Teaching Practice academic records was 71.32 (SD = 5.667), and post-test of students' Music Teaching Scheme Design and Teaching Practice academic record was 80.10 (SD = 3.740).

Moreover, the different scores before and after using PBL—to enhance the Music Teaching Scheme Design and Teaching Practice academic records—were examined. The results of this table show that after learning through problem-based learning (PBL) in the classroom, the post-test scores of students' Music Teaching Scheme Design and Teaching Practice academic records were greater than pre-test scores at .05 level of statistical significance (*tdf* = .000, p < .05). The average scores of the study increased more than those of the pre-test.

4.2 Results of assessing students' satisfaction on PBL

The results of comparing the different scores of students' satisfaction after learning through PBL with the criteria set at 70%. The table below shows the descriptive statistics and t-test as analyzed using the statistical package program. This table aims to answer the research objective of whether PBL could enhance students' satisfaction.

Table 3 Student satisfaction results table with the criteria set at 70%

Group	N	Full score	Criteria score	$\overline{x}$	S.D.	t	p
Experimental group	42	80	56	77.57	3.769	37.096	.000

As presented in Table 3, the mean scores of student satisfaction after learning through PBL were 77.57 out of a possible total score of 80, and the standard deviation was 3.796, which

was statistically higher than the criterion of 70% at a .05 level of statistical significance (t_{df} = .000, p < .05).

5. Discussion

5.1 PBL pedagogy can improve Music Teaching Scheme Design and Teaching Practice academic records for musicology students possibly due to the following two aspects: On the one hand, the PBL teaching method enables students to obtain knowledge and problem-solving skills in the form of groups, which transforms the traditional form of the teaching method, and pays attention to the combination of learning and thinking. Students can search, analyze, and collect data to increase their long-term memory of theoretical knowledge (Zhang, 2013). On the other hand, based on group cooperation to solve problems, PBL teaching encourages students to activate their existing knowledge, promotes the understanding of new information, and provides students with opportunities for independent thinking, organization, analysis, and exercising their ability of expression. Therefore, it is conducive for cultivating students' collective concept and team spirit, thereby improving their comprehensive quality.

5.2 PBL pedagogy enhances student satisfaction possibly because of the following aspects: First, the PBL teaching method is conducive to improving students' intrinsic interest and making the learning process more educational and enjoyable. The process of the group discussion in PBL pedagogy involves the relational process of building solidarity, collaboration, mutual support, and understanding; promoting more effective learning; and improving their ability to cooperate. Second, the evaluation system of the PBL teaching method permeates through the entire student learning process. In this practice, there are mutual evaluations among student groups and between teachers and students, along with formative and process evaluations. The PBL pedagogical evaluation system is conducive to comprehensive learning effectiveness for students, enabling them to learn through evaluation, evaluate through learning, and gain the recognition of other students.

6. Conclusion

6.1 This study analyzes and compares the pre-test and post-test scores of third-year university students who use PBL in the classroom. Finally, it shows that students' Music Teaching Scheme Design and Teaching Practice academic record after PBL is higher than that before learning.

6.2 This study assessed students' satisfaction with PBL using SPSS software. The results show that students' satisfaction toward Problem-Based Learning (PBL) method is at the high level.

7. Implications of the study

China's research on the application of the PBL teaching mode in the field of normal music is still in its infancy. Based on the existing research results in China, this study attempts to apply the PBL teaching mode to the teaching of normal music courses and initially forms a relatively complete and operable teaching process. On the one hand, it provides a new theoretical basis for teaching research on this course; on the other hand, it also provides new ideas for the development of a diversified teaching mode.

8. Recommendation for further research

8.1 The practice time for this implementation of the PBL teaching method was relatively short, and the number of lectures was limited. To better test the effect of PBL on cultivating students, excellent music teachers need to use PBL teaching strategies in the classroom for a longer time to conduct more effective empirical research in the future (Dai, 2017).

8.2 This research is limited by my academic level and external resource constraints; hence, the exploration of PBL teaching methods still has some shortcomings that need to be deeply explored and tried in the later stage. A school cannot represent all ordinary institutions of higher learning; hence, the PBL teaching method still needs to be verified in more ordinary institutions of higher learning to allow the results of the experiment to be more convincing (Wang, 2020).

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International Practicum: What Students Gain and Are Challenged

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Abstract

The aim of the study is to explore the effectiveness of the international practicum designated for EFL Vietnamese students who majored in English language teaching and English Language programs. The overseas practicum is the result of the partnership between the University of Foreign Languages and its university partners in Thailand. Within the theoretical framework of Kirkpartrick's four-level training evaluation model, the study adopted the narrative approach to data collection and analysis, employing in-depth interviews. The study results indicate that the international practicum was effective across the four levels of the model. At the first level, the program effectiveness was manifested in the three aspects, active engagement, high relevance and student satisfaction; at level 2, its effectiveness was exhibited in terms of considerable degrees of knowledge, skills, attitude, confidence and commitment students gained; at level 3, the effective features were demonstrated in substantial extents of application and performance students made; and at the final level, the effectiveness was displayed in significant extents of various impacts the practicum had on the students after the practicum. The findings also show the different challenges students had to face in their oversea placements and also suggestions for improvements from preservice teachers and interns, and their supervisors as well as coordinators. The study findings also suggest noteworthy implications for sustainable practicum outcomes, especially for key stakeholders including students, university faculty and administration.

Keywords : International Practicum, Preservice Teachers, Interns, Supervisors, Coordinators

Study of Problem-Based Learning Together with Questioning Technique to Promote Choreography Ability of Dance Students

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Abstract

The purposes of this research were 1) to compare the dance design ability of students before and after Problem-Based Learning (PBL) together with questioning techniques.2) Compare the dance design ability of students after PBL together with questioning techniques with 70% evaluation criteria. In this study, juniors majoring in dance choreography in Music College of Langfang Normal University were selected as the research. There were 50 students in two classes y learning this course, and 20 students from one class were randomly selected. Research tools include pre-test, post-test and performance tests. The t-test for dependent and t-test for one sample were used for statistical analysis. The results showed that the dance design ability of these samples were effectively improved after the PBL teaching method. They were significantly higher than the pre-test and for the dance design ability and the post-test scores, and higher than the criterion of 70% at the .05 level.

Keywords : Choreography Ability (Dance Design Ability), PBL, Questioning Technique

1. Introduction

Problem Based Learning (PBL) is a teaching method where students are presented with real world open-ended questions. The students are at the center of this method. Questioning technique is a method where students are given open-ended questions. The rationale for these two methods is that it was felt that they would keep students interested and they would learn more. Choreography is currently for students of dance professional colleges. It is an essential course, because its applicability and practicability are very strong. In today's society, there is an increasing demand for innovative talents, as well as in the field of art. People's spiritual needs are increasing. More and more competitions and performances require original works, so talent training of choreographers has also occupied a certain position in various universities and colleges. For professional college choreography major when students enter school, they have great

creative enthusiasm and thirst for knowledge, so traditional teaching methods are suitable for them. When teachers demonstrate in class and give assignment requirements directly, students will actively complete them. They have high requirements for themselves in their heart consciousness, so the completion of the course content is very good and the efficiency is very high. But in normal colleges, this kind of teaching method is not applicable. Because in normal colleges and universities, choreography is only a compulsory course of dance major, students will complete the goal when they complete the daily course content. They don't have high standards for themselves, or visions of the future. Students don't see the development prospects of this major and only care about whether they can graduate successfully, instead of thinking about the practicality of this course for the future (Bai, 2014).

In addition, learning this major requires rich professional knowledge and practical experience. That is to say, before learning dance they need to master a lot of professional knowledge about dance, such as dance styles and knowledge of common ethnic groups, as well as the intangible cultural heritage and a lot of practical creative experience. Due to the insufficient knowledge reserve of students, they easily lose interest in creation, so teachers have to lower teaching standards and requirements according to the knowledge reserve of students. Therefore, the practical creation of students will also be affected. If the amount of creation is insufficient, the accumulated experience will be insufficient, and the creation process of students will be difficult. Therefore, many students choose to give up the in-depth study of this course (Chen, 2021).

The questions for this course can be summarized as follows: There is insufficient reserve of other auxiliary professional knowledge. In addition, students' enthusiasm is not strong in the process of practice. Also, students do not have an in-depth understanding of the application prospect of this major.

On the development direction of choreography, choreography is an undergraduate major in colleges and universities, which belongs to music and dance. Choreography aims to cultivate interdisciplinary and innovative talents for those who have the knowledge and ability of dance. Choreographers are capable of editing, teaching and research of dance and dance drama in literary and art units, cultural centers, primary and secondary schools, publishing, radio and film departments, and lay a foundation for further study.

Choreography graduates should acquire the following knowledge and abilities: Master the basic theory and knowledge of choreography. Master the analytical methods and techniques of choreography. Have the basic ability of a choreographer. Understand the theoretical frontier, application prospect and development trend of choreography and master the basic methods of dance literature retrieval and data query, with preliminary scientific research and practical work ability

PBL teaching method of problem oriented teaching method, is based on the real world of student-centered education mode, is under the guidance of the teacher, "take the student as the center, on the basis of the problem", by adopting the form of group discussion, students explore problems independently collect data, to find and solve problems, to cultivate students' autonomous learning ability and the innovation of teaching mode. In contrast to traditional subject-based teaching methods, PBL emphasizes active learning by students rather than teaching by teachers (Zhang, et al. 2009).

Study of Problem-based Learning and questioning technique method consists of 6 steps. They are: 1) Design questions and ask questions. 2) Analyze the problem and experiment.3) Drive and control progress. 4) Demonstration of test results.5) Evaluation.6) Reflection and summary. Teachers' questioning is an effective way to learn the related knowledge of choreography. Through the guidance of professional knowledge of dance design and purposeful questions, students are encouraged to explore and develop dance design ability step by step. It is a very important aspect of classroom teaching and also an important part of classroom interaction of choreographers and directors.

There are all kinds of problems in student-centered classes. Questions that seek knowledge, promote understanding, and provoke reflection. Students can gradually improve their dance design ability by exploring and thinking about the problems and using the professional knowledge they have mastered in the early stage to carry out practical activities. The first two types of questions can be classified according to the level of information provided within the range of students' ability. However, the third kind of reflective questions can give us a new understanding of ourselves and how we learn, so that students can improve their dance design ability more effectively.

2. Research Objectives

This research consisted of two objectives:

2.1 To compare the students' dance design abilities before and after using PBL together with questioning techniques.

2.2 To compare the students' dance design abilities after using PBL together with questioning techniques with 70% standard.

3. Research Methodology

Samples

Population was 50 junior students majoring in choreography in Music College of Langfang Normal University. The sample was 20 students randomly selected.

Research instruments

Research instruments were lesson plans and dance design ability test.

1. Lesson plan :

1) The process of construction as follows:

Instructional Topic: Body deconstruction training

Step 1: According to PBL question teaching method, design questions and ask the students: the question is "have you felt every part of your body carefully and danced with it?" According to the teaching purpose, this question is put forward to arouse students' thinking and guide students to discover the infinite possibilities of the body. In the process of thinking, students unconsciously change their movements, which is the process of thinking in the gradual exploration. Step 2: Analysis and experiment: Through the above questions, trigger students to think about their own dance movements, and gradually transform into body tests. First of all, divide the students into 5 groups, 10 people a group. Work together as a group. Each group choses a body part and dance freely with this body part as the lead, using the timing of a piece of music as the background. Give students creative space, do not interfere, but let them give full play to their imagination. Combined with the teaching purpose, the teacher should clearly solve the body's diverse motor ability and students' active exploration consciousness, and then guide students to actively explore.

Step 3: Observe the progress and situation of each group, timely guide students and put forward suggestions to help students expand their thinking, not limited to thinking and imagination, but to use their bodies to really feel and try more development and change of actions. We can guide students when they are blocked by a problem and can't proceed with a later experiment. For example, if they choose to complete a series of movements with their feet as the dominant force, then we can ask them, in addition to trying to walk forward or backward, can we also try to walk left or right? Because there are a lot of directions, right? And our feet can go down or up; you can hit the ground, you can have a rhythm, you can rub against the ground and so on. So what does that tell us? According to the principle that space is multi-dimensional and three-dimensional, our feet can also make movements in different directions to ask questions to students. Give guidance and advice to students. Group members cooperate to explore and analyze the problems during the experiment and try more possibilities of dance movements.

Step 4: Display them one by one in five groups. This is the test phase of the experiment, each group of students show their experiment results, follow the music, show the dance first, and then the other four groups of students can guess which body part is the main part of the group to dance. Other groups interact and discuss during the observation.

Step 5: Students can evaluate the dances shown by other groups. Say what you like and what you suggest. The teacher helps the students to objectively analyze the cause of the problem. According to the teaching purpose, guide the students to find the key and difficult points of the problem. For example, the limitation of our thinking in the process of creation can lead to the limitation of movement, so that we cannot create more possibilities for the body itself.

Step 6: In the process of the experiment, guide students to find problems, take the initiative to explore problems, cooperate to analyze problems, solve problems together, and finally reflect on the problems in the experiment. Self-reflection: Have students gain a new understanding of their own body structure by solving problems in practice? Did you discover more possibilities for dance moves? Sum up experience, in the next test to better complete.

2) Constructing lesson plan (6 lessons). The above example is one of the sections.

3) 3 Experts assessed the quality of lesson plan by using a 5-point rating scale.

2. Dance design ability test.

The process of construction as follows:

1) Studying the document related with dance design ability.

2) Constructing the component of the test which was the situation or problem and the indicators for assessment.

3) There were indicators for dance design and practical skills. Dance design indicators were material selection and conception of dance, structural conception of dance, application of dance, and embodiment of innovative thinking. Practical skills indicators were movement rhythm, technical completion, stage performance and overall completion.

4) The test was presented to experts for evaluation. The appropriateness, precision and accuracy were considered, also with suggestions.

5) Analyzing the quality of the test.

Data Collection

This research used one group pre-test and post-test design.

The processes of data collection were as follows:

1) The samples were given the pre-test by measuring dance design ability with constructed instruments.

2) The samples were taught by using lesson plans of problem -based on learning together with questioning techniques.

3) The samples were given the post-test by using the same pre- test.

Data Analysis

The data were analyzed by using the statistical program according to the research objectives.

1) Compare dance design ability before and after being taught by using problem-based learning together with questioning techniques by using t-test dependent sample.

2) Compare dance design ability with the 70% criteria by using t-test for one sample.

4. Research Results

1) The result of comparing mean score of dance design ability before and after being taught by using problem-based learning together with questioning technique.

Table 1 The result of comparing the mean scores of dance design ability before and after being taught by using problem-based learning and questioning technique.

Group	N	Pre-test scores		Post-test scores		t	P
		$\overline{X}$	S.D.	$\overline{X}$	S.D.		
Experimental Group	20	70.95	14.16	80.30	9.70	-7.06	.000

The mean scores of pretest of students dance design ability was X=70.95, S.D =14.16 and posttest of students' dance design ability was X =80.30, S.D =9.7. The results showed that after being taught by using problem-based learning together with questioning techniques, the post-test mean scores was higher than pre-test mean scoresat.05 level of statistical significance (t =-7.06, P <.05) The results of comparing mean scores of post-test with criteria at 70 percent.

Table 2 The result of comparing the mean score of dance design ability after taught with the criteria 70 percent.

Group	N	Full score	Criteria score	$\overline{X}$	S.D.	T	p
Experimental group	20	100	70%	80.30	9.70	30.546	.000

The mean score of students' dance design ability after being taught by using problem-based learning together with questioning technique was X =80.30, S.D =9.7. The criteria score was 70 (Full score =100). Results showed that it was statistically higher than the criteria 70 percent at.05 level (t=30.546 P <.05)

5. Discussion

5.1 The students learned from the process of problem solving. From the scenario they did research and showed dance performance. They can improve practical skills and dance design skills. They master standardized technical movements. Completion of technical movement, they can do coordination learning. The teacher used appropriate questions in each step of learning.

The questions encouraged the students ' thinking. They can integrate the content with dance design skills. The teacher used diverse questions in practice time .Every time the scenario was raised in class, the corresponding solutions of each groups were different. Therefore, in the basic part of each class in the experimental group, many targeted exercises are increased which is due to the rapid movement of students' physical (Zhou, 2020).

5.2 After practice dance skills there are still many skills to be improved. The students do better at teaching evaluation, but also have students reflect, if not actively participate in class if they don't know what needs to be done to the classroom, teachers generally feedback this way of teaching classroom atmosphere. It is better, but also adds a new challenge to prepare lessons, course content is more abundant and initiative of students is stronger (Huang. & Xu. 2019).

5.3 The research results show that PBL together with questioning technique is feasible and effective in ordinary university teaching. PBL together with questioning technique can optimize dance class, change students' previous learning styles, improve students' learning ability, interest in sports learning and skill level of movement. It can improve students' interest in physical education and arouse students' enthusiasm. The application of PBL teaching mode in ordinary colleges and universities can improve the teaching efficiency, be conducive to the mastery of technical movements, and play a positive role in the students' learning of standard degree of movements, artistic expression, combination completion and combination arrangement ability. PBL teaching mode has rich teaching means and learning methods to meet the different needs of students, and students have high satisfaction with PBL teaching mode (Liu, 2020).

6. Conclusion and Recommendations

This study showed the post-test scores of dance design ability was higher than before using problem-based learning together with questioning techniques, and post-test also higher than 70 percent criteria. The students dance design ability after being taught by using problem-based learning together with questioning technique was higher than before at .05 level of statistical significance. It means that problem-based learning together with questioning techniques can enhance dance design ability of students majoring in choreography in Music College of Langfang Normal University.

As students learn to solve problems, they do research and demonstrate the ultimate practical results. Improve the ability of dance design through solving problems, exploring problems and practicing activities. The teacher asked the students appropriate guiding questions at each step of their learning. These questions stimulated the students' thinking. The results show that PBL together with questioning technique can optimize the class of choreography, change students' previous learning styles, and improve students' learning ability, learning interest and dance design ability. It can improve students' interest in choreography and arouse students' enthusiasm for

innovation. The application of PBL together with questioning technique method in ordinary colleges and universities can improve the teaching efficiency, be conducive to the mastery of professional technical ability, and play a positive role in students' learning skills of artistic expression, dance completion and choreography ability. PBL together with questioning technique method has rich teaching methods and learning methods, which can meet the different needs of students. They can combine content with dance design ability. The teacher used a variety of questions in the practice and proposed different questions in class each time, and the corresponding solutions of each group were different. Therefore, the experimental group added a lot of targeted exercises in the basic part of each class, and the practice results found that the dance design ability of the experimental group students was effectively improved.

The following are recommendations based on the research results: PBL together with questioning technique can be used in other practical skills courses. It is suggested to use this teaching method to stimulate students' learning initiative and interest. Teaching objectives should be clear, flexible, and scientifically formulated and planned. Students' participation in learning tasks are introduced in advance, so that students take the initiative to participate in learning activities and improve learning efficiency. After class must be summed up, timely reflection, and constantly improve the teaching effect. For teachers who will use PBL and questioning technique, carefully analyze the characteristics of the curriculum they teach, evaluate the effectiveness of using the methodology, and how to formulate teaching plans. According to the ability of students, need to master more scientific teaching methods and means are necessary, so as to directly or indirectly improve the teaching level of teachers. Through the leading-in process, analysis of problems, experimental research, sharing, display and evaluation summary, students can not only improve their learning efficiency and academic performance, but also actively participate in learning and develop good learning habits. Recommendations for further research: Due to the particularity of the course, choreographer teachers need to use PBL together with questioning technique in class for a long time, test experimental effects, make use of research data, and conduct more effective practical research in the future. There are still some deficiencies in the exploration of PBL together with questioning technique, which need to be continuously improved and innovative teaching methods should be tried. It is suggested to further study other dance-related courses to enrich the accumulation of relevant knowledge.

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Study of Problem-Based Learning Approach for Enhancing Learning Achievement and Students' Satisfaction Among the First Year Students on Fundamentals of Information Technology Course, Zhoukou Normal University

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Abstract

The purposes of this research were to 1) compare learning achievements on Fundamentals of Information Technology course of the First Year Students at Zhoukou Normal University before and after using Problem-Based Learning approach, 2) study learning achievements on Fundamentals of Information Technology course of the First Year Students at Zhoukou Normal University after using Problem-Based Learning approach with an expectation of passing with the criteria 70 percent and 3) study the student's satisfaction toward with the Problem-Based Learning approach. The sample of this research were 66 students of the first year from Zhoukou Normal University and network engineering university which selected through cluster random sampling. The research instruments were: 1) the lesson plan 2) PBL pretest and posttest form, and 3) the satisfaction questionnaire. Data were analyzed by mean, standard deviation, IOC, and t-test.

The findings of the research revealed that: 1) post-learning of students was higher than their pre-learning with statistical significance at the level .05. 2) The learning achievement of students was 89 percent that higher than the standard criteria of 70 percent with statistical significance at the level .05. 3) The students' satisfaction after learning was at a highest level.

Keywords : Problem-Based Learning Approach, Learning Achievement, Students' Satisfaction

1. Introduction

In 2016, the Ministry of education of the people's Republic of China pointed out in the "Guiding Opinions of the Ministry of Education on Deepening Education and Teaching Reform in Colleges and Universities Affiliated to the Central Departments": in terms of the relationship between teaching and learning, we should establish the idea that students are the main body of teaching activities, and pay more attention to the cultivation of students' autonomous learning ability and

innovative spirit; It is proposed that the reform of teaching is to change the teaching approach, let students become the main body of the classroom, fully mobilize the enthusiasm of students, improve their innovative consciousness, change the traditional teaching approach, reform the teaching approach, and widely carry out heuristic, discussion and participation teaching. Let the students' study actively to improve their autonomous learning ability and academic performance. (Ministry of Education of the People's Republic of China, 2016)

In 2019, the Ministry of Education issued the "Opinions on Deepening the Reform of Undergraduate Education and Teaching and Comprehensively Improving the Quality of Talent Training", which clearly pointed out: to enhance the academic challenge, strengthen the quality requirements of talent training program, teaching process and teaching assessment, scientifically and reasonably set the total amount of credits and the number of courses, increase students' learning time, and improve their autonomous learning ability, Guide students to read more, think deeply, ask questions and practice frequently. (Ministry of Education of the People's Republic of China, 2019)

In August 2020, Zhoukou Normal University issued the "2020 Undergraduate Talent Training Program", which requires the graduates of network engineering major (Article 12) to have the awareness of autonomous learning and lifelong learning, and the ability to constantly learn and adapt to the rapid development of network technology. Credit requirements: students must complete 171 credits required by the professional talent training program and be allowed to graduate, which is a clear requirement for the academic performance of network engineering students. (Zhoukou Normal University, 2020)

Zhoukou Normal University network engineering major is an undergraduate specialty set up by the school in 2007. As a network engineering major established by local colleges and Universities under the provincial level, it is a "Comprehensive Reform Pilot of Henan Province" and "Pilot Project Education Professional Certification Pilot".

Talent training mode: "students as the main body, supported by school enterprise cooperation, international cooperation and production, learning and research cooperation, guided by advanced engineering education ideas, and with the cultivation of engineering application ability and innovation spirit as the core, the theory teaching, independent learning and practical teaching are integrated and promoted, and knowledge, ability and quality are comprehensively coordinated and developed."

The theoretical significance of this study is to determine the relationship between PBL and students' learning achievement and students' satisfaction, that is, students' learning process under the guidance of PBL. PBL has a positive driving relationship with students' learning achievement and students' satisfaction. Zhou, Du, Wang, & Zhang, 2019)

In view of the above reasons, PBL is a new teaching method in computer basic course. Whether PBL can also become a powerful tool in the teaching field of computer specialty is worth studying. (Zhou et. Al., 2015) The basic course of information technology is developed with the learning method of PBL teaching approach, to improve the learning effect of professional basic courses for undergraduates majoring in network engineering. This is also the process of opening new ideas for the exploration and research of information technology teaching. In addition, the results of this study will provide valuable enlightenment to the research of PBL in the whole curriculum teaching.

2. Research objectives

This research consisted of three objectives:

2.1 To compare learning achievements on Fundamentals of Information Technology course of the First Year Students at Zhoukou Normal University before and after using Problem-Based Learning approach.

2.2 To study learning achievements on Fundamentals of Information Technology course of the First Year Students at Zhoukou Normal University after using Problem-Based Learning approach with an expectation of passing with the criteria 70 percent.

2.3 To study the student's satisfaction toward with the Problem-Based Learning approach.

3. Research Methodology

3.1 Samples

The research population of this study was 399 students (5 classrooms) majoring in network engineering in Zhoukou Normal University, Henan Province, China.
The sample of this study were 66 students (1 classroom), from Zhoukou Normal University and network engineering university which selected through cluster random sampling.

3.2 Research Instruments

Research instruments consisted of the lesson plan, PBL pretest and posttest form, and the satisfaction questionnaire. Data were analyzed by mean, standard deviation, IOC, and t-test.

3.3 Data Collection

The following are the stages of data collection:

The development methods of research tools are as follows:

3.3.1 The samples are given the pretest by measuring learning achievements with constructed instruments. The PBL test consists of 30 items of multiple-choice questions, each of which has four alternatives with one correct answer. The PBL test items consisted of four types of cognitive domain: 1) knowledge, 2) comprehension, 3) application, and 4) analysis.

3.3.2 The samples are taught by using the Problem-Based Learning Approach. Based on PBL, students' learning process includes three main stages: 1. Define problem in this stage, students define problems; 2. PBL task. In this stage, students analyze problems, determine further learning needs, guide themselves, collect additional information, review what they have learned, put forward solutions and solve problems together; 3. Evaluation. At this stage, teachers and students jointly evaluate the impact of PBL process on students' autonomous learning ability and academic performance.

3.3.3 After finishing the instruction, the samples receive the posttest by using the same instrument which are used in the pretest.

3.3.4 Using the method of questionnaire, this research investigates the students' satisfaction with the sample: the questionnaire of PBL teaching purpose of fundamentals of information technology course.

3.4 Data Analysis

In this study, data analyze according to the research objectives.

3.4.1 Compare the learning achievements before and after receiving the Problem-Based Learning Approach by using t-test for dependent sample.

3.4.2 Compare the learning achievement with the determined criteria set at 70 percent by using t-test for one sample.

3.4.3 Study the student's satisfaction on the Problem-Based Learning Approach by using arithmetic mean and standard deviation.

To analyze the PBL pre-test and post-test, we tested 66 non sample students in Zhoukou Normal University, determined the difficulty index (P) of the PBL pre-test and post-test, and analyzed the difficulty of the scores. The results show that the PBL test difficulty index is between 0.25 and 0.35. For the calculation of the PBL test reliability, Kuder Richardson's KR-20 formula was applied. The reliability of the PBL test was 0.81. The contents validity of the PBL test was examined by three experts and had the IOC of 0.67-1.00. The contents validity of the lesson plan was examined by three experts and had the IOC of 0.67-1.00. The contents validity of the satisfaction form was also examined by three experts and possessed the IOC of 0.67-1.00. The statistics, mean and standard deviation, were employed to analyze the form to find the samples' levels of satisfaction with the Problem-Based Learning Approach.

4. Research Results

According to the research objectives, the results are presented as follows.

4.1 The results of compare learning achievements before and after receiving the Problem-Based Learning Approach

Table 1 The results of compare learning achievements before and after receiving the Problem-Based Learning Approach

Test	n	score	$\overline{x}$	S.D.	t	df	sig
before	66	30	17.21	2.02	37.37	65	.00
after	66	30	26.62	1.97			

The table above indicates that the learning achievements of students after received the Problem-Based Learning Approach was significantly higher than before learning at the level .05.

4.2 The results of compare learning achievement with the determined criteria set at 70 percent

Table 2 The results of compare learning achievement with the determined criteria set at 70 percent

Test	n	score	$\overline{x}$	criteria	S.D.	t	Sig.
learning achievement	66	30	26.62	70	2.00	23.23	.00

The table above indicates that the learning achievement of students was 89 percent that higher than the standard criteria of 70 percent with statistical significance at the level .05.

4.3 The result of student's satisfaction on the Problem-Based Learning Approach

Table 3 The result of student's satisfaction on the Problem-Based Learning Approach

Items	$\overline{x}$	S.D.	Levels of satisfaction
The formal difference between PBL teaching approach and traditional teaching approach	5.00	0.00	highest
Classroom atmosphere activity	5.00	0.00	highest
Students fully express their views	5.00	0.00	highest
Improve students' ability to solve problems	4.00	0.61	high
Improvement of students' learning enthusiasm	5.00	0.00	highest
Improvement of students' innovative thinking ability	4.55	0.50	highest
Classroom atmosphere created by PBL teaching approach	4.05	0.64	high
Students' mastery of classroom knowledge of fundamentals of information technology course	5.00	0.00	highest
Improve students' academic performance	5.00	0.00	highest
The change of teachers' role in the classroom	4.50	0.66	highest

Table 3 (Continue)

Items	$\bar{x}$	S.D.	Levels of satisfaction
Mutual help from team members	5.00	0.00	highest
Group cooperation mode can better promote the mastery of personal classroom knowledge	5.00	0.00	highest
Teaching effect of PBL teaching approach in fundamentals of information technology course	4.55	0.79	highest
Total	**4.74**	**0.25**	**highest**

The table above indicates that the student's satisfaction on the Problem-Based Learning Approach after learning was ranked at the highest level ($\bar{x}$ = 4.74, S.D. = 0.25).

5. Discussion

According to the research results, the following points are discussed:

5.1 This paper studies the application of problem-based learning approach in the classroom of computer specialty in Zhoukou Normal University. By introducing problem-based learning approach into the classroom of "information technology foundation" of computer specialty course, this paper solves some existing problems, improves the teaching effect, and provides a certain reference for the future teaching reform.

5.2 In the research process, students actively use their brains to think, search learning information and learning resources through various channels, analyze and screen, explore independently, and actively practice solving problems; in practice, students can skillfully apply the basic theories and basic concepts learned to the production of works; group cooperation also improves the ability of team cooperation. As scholars have said, the purpose of PBL is to make students better participate in the classroom and become the main body of the classroom. By improving students' participation in the classroom, it can improve students' sense of achievement in the classroom, and then cultivate students' interest in learning. (Pan, 2020).

5.3 Problem-based learning approach has achieved good results in this teaching practice. On the one hand, it is due to the nature of problem-based learning approach itself, on the other hand, it is also related to students' characteristics, teachers' style, harmony of class atmosphere, teaching objectives, class arrangement, etc. Therefore, when problem-based learning approach is applied to other majors and other courses, these factors should be fully considered. This is also merging with the views of scholars: PBL is not a simple teaching method. PBL is a complex teaching method that needs to mobilize all elements of teaching. In the process of using it, it will glow with different brilliance according to different teachers, students, and teaching contents. (Liu, 2018).

5.4 Problem based learning model was not designed to help instructors provide as much information to students. It was developed to help students improve problem solving skills and their involvement in real experiences in the form of simulations, and become student-focused learning. The problem-based learning model is more challenging because learning begins with a real problem encountered in work (Pardimin, Arcana, & Supriadi, 2019). Problem based learning could improve the ability of problem solving while learning outcomes indicate that students use their tacit knowledge for problem solving (Chamidy, Degeng, & Ulfa, 2020).

5.5 The student's satisfaction on the Problem-Based Learning Approach after learning was ranked at the highest level ($\bar{x}$ = 4.74, S.D. = 0.25), and the samples' satisfaction with the formal difference between PBL teaching approach and traditional teaching approach, classroom atmosphere activity, students fully express their views, improvement of students' learning enthusiasm, students' mastery of classroom knowledge of fundamentals of information technology course, improve students' academic performance, mutual help from team members, and group cooperation mode can better promote the mastery of personal classroom knowledge were also found at highest level ($\bar{x}$ = 5.00, S.D. = 0.00). This is similar to the research results of the researcher who said that the samples were satisfied with the local innovation because it covered the needed contents, and was convenient to use (Sonam and Pema, 2021; Jiang et al., 2017).

6. Conclusion

After statistical analysis of student data, it is found that:

For the problem, creating a situation is its fundamental condition. Teachers combine the actual situation of teaching content and objectives to create relevant learning situations of interest to students, so that they are willing to explore. For the curriculum, students are the main body, give full play to students' subjective initiative, make students diligent in thinking and willing to cooperate, enable them to actively connect thinking and knowledge, and improve their application ability, to improve students' ability to understand and deal with problems.

Group cooperation, creative design of works, group members actively discuss, learn from each other, cooperate to complete the work display, which plays a positive role in promoting students' academic performance.

In the process of problem-based learning approach, teachers should pay attention to the problems of students in cooperative learning and solve them in time; Teachers should fully grasp the learning situation, correctly guide students and deal with the relationship between teachers and students. Therefore, in PBL teaching practice, students, teachers, and teaching environment should be fully considered to better improve students' academic performance and students' satisfaction.

7. Recommendations

7.1 In problem-based learning approach, teachers should timely guide students to the problems encountered in the discussion process. After teaching, teachers should evaluate the whole process and give targeted guidance to the problems in the process. In the process of group discussion and achievement display, teachers should also encourage students to ask questions boldly, and let students dare to make their own suggestions in the whole teaching process.

7.2 Through the research results, it is found that problem-based learning approach can be applied to computer professional courses, but the teaching mode is not perfect in computer professional courses. Therefore, we need to explore a set of problem-based learning approach that is more in line with the computer courses in colleges and universities in the application of this mode in combination with the characteristics of school students and the conditions of software and hardware facilities of the school itself. Finally, a more characteristic school-based model will be formed.

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Study of State and Problems on Learning Management and Propose Guidelines on Ideological and Political Education Courses in Xinzhou Teachers University

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Abstract

The purposes of this research were to 1) investigate the state and problems on learning management on Ideological and political education courses in Xinzhou Teachers University according to the teachers' and students' opinions and 2) propose guidelines for Ideological and political education courses in Xinzhou Teachers University. The sample of this study were 287 students and 7 teachers of Ideological and political education in Xinzhou Teachers University which selected through 557 students by random sampling and 54 teachers by purposive sampling of teachers who majoring in Ideological and political education. Mix-method research was use in this study. The quantitative data collected with a state and problems on learning management questionnaire and qualitative data collection through in-depth interview and focus group technic about state and problems on learning management with interview form. The research instruments were: 1) questionnaire survey and 2) interview form. Data were analyzed by content analysis, mean, and standard deviation.

The findings of the research revealed that:

1) The states in the four aspects of ideological and political education on learning management; curriculum setting; instructional management; instructional media and measurement and evaluation overall and each side were all at the high level with total overall mean 4.13 (M = 4.13; SD = 0.71). The problems in the four aspects of ideological and political education on learning management overall and each side were all at the low level with total overall mean 2.09 (M = 2.09; SD = 0.87).

2) In view of the existing problems, countermeasures and suggestions are proposed to improve the ideological and political education on learning management: First, improve the curriculum by set up courses and arrange suitable courses for students according to the acceptance ability of students in each grade. Second, improve the quality of instructional management and promote students' autonomous learning. Thirdly, introduce and expand instructional media and use

multimedia teaching to realize modern teaching management. Fourthly, improve the measurement and evaluation mechanism and improve students' learning motivation.

1. Introduction

The general office of the CPC Central Committee and the general office of the State Council formulated the provisions of the opinions on deepening the reform and innovation of school ideological and political theory courses in the new era. With the establishment of the major of Ideological and political education and the construction of the discipline of Ideological and political education, the curriculum of Ideological and political education has been continuously innovated, made breakthroughs in content, structure, and teaching implementation, and made great progress in the intellectualization and curriculum of Ideological and Political Education (Li Yuwen, 2014).

The course of Ideological and political education includes two kinds of courses: one is the ideological and political theory course as a broad ideological and political education course, and the other is the ideological and political education course as a discipline and specialty. The former kind of curriculum existed before the founding of the people's Republic of China. Its development history is very long. So far, it has rich accumulation and achieved good results in practice. The latter kind of curriculum is a special curriculum that has been put on the construction agenda since the establishment of the major of Ideological and political education in 1984. It is a professional curriculum in the sense of discipline. So far, it has a construction and development history of more than 30 years. Over the past 30 years, the major of Ideological and political education has grown from scratch, from small to large, from weak to strong, and has been continuously improved in scale and quality. In terms of curriculum, the opinions of the Ministry of education on setting up the major of Ideological and political education in 12 colleges and universities promulgated in 1984 established a curriculum structure composed of public courses, basic courses, professional basic courses, professional courses, and practical courses. In July 1992, the State Education Commission put forward in the opinions on strengthening the management of the construction of Ideological and political education curriculum and teaching materials in colleges and universities that such curriculum construction "must adhere to the guidance of Marxism". The opinions of the National Education Commission on running schools for the major of Ideological and political education in Colleges and universities issued in 1993 also proposed to "form programs at different academic levels, such as postgraduates, second bachelor's degree students, undergraduates and junior college students, with the same main body, mutual connection and different requirements for the number of courses and depth and breadth", It defines the curriculum

of Ideological and political education as "public course, basic course and professional course", and stipulates the curriculum subjects learned at each academic level. After years of construction, several rounds of "teaching materials for ideological and political theory" and a series of teaching materials for ideological and political education have been compiled for the curriculum of Ideological and political education in China (such as curriculum teaching materials for the 21st century and a series of teaching materials for the 21st century), forming a vertical curriculum echelon with different academic levels, principle research, development history research Method research and comparative research are the professional ideological and political education curriculum system in the horizontal curriculum field, forming a textbook system determined by the curriculum with the wide intersection, limited reference and organic integration of multiple disciplines as the content source.

Although ideological and political pedagogy has more than 30 years of construction and development history, this history is still very short for the independence and scientific of a discipline. After the attempt of specialization, discipline and scientization, the achievements of Ideological and political education curriculum construction in the past 30 years are worthy of recognition. But at the same time, compared with adjacent disciplines and similar disciplines at home and abroad, it is not difficult to find some deficiencies in the learning management of Ideological and political education curriculum, which need to be seriously solved, such as the flexibility of curriculum management, the pertinence and operability of curriculum content, the scientific of curriculum evaluation system, the scientific of teaching methods, etc.

Some studies believe that learning management is a process in which students are the main body. According to the goal management theory, students are constantly set goals through the role of internal and external factors (tutors, schools, etc.) in the learning process, to finally improve students' learning management ability (Lin Yu, 2015). Some studies have also proposed that the learning management system can not only be well applied to face-to-face school education and distance education, but also meet the basic requirements of the information society and the development of modern education. This learning method will change the role of teachers and the relationship between teachers and students in traditional teaching, to fundamentally change the teaching structure and the essence of education. (Cui Xiaoxia, Helan, 2009)

Under the current educational background, how to cultivate college students more effectively with basic Marxist theory and professional knowledge of Ideological and political education is not only the need for higher education to adapt to and serve the society, but also the goal of higher education teaching reform. This study follows the logical thinking of what, why and how to do, adopts the literature method and comparative method, studies the concept theory of some related fields at home and abroad, and summarizes the connotation of Ideological and political education curriculum and learning management in the current environment. On this basis,

combined with the curriculum setting, instructional management, the state of teachers' teaching and the current situation of students' learning, this paper analyzes the problems and causes of the learning management of Ideological and political education curriculum in Xinzhou Normal University. Finally, according to the actual needs and theoretical requirements, this paper looks for the teaching methods suitable for ideological and political education curriculum to achieve the teaching objectives.

2. Research objectives

This study includes two objectives:

2.2.1 To investigate the state and problems on learning management on Ideological and political education courses in Xinzhou Teachers University according to the teachers' and students' opinions.

2.2.2 To propose guidelines for Ideological and political education courses in Xinzhou Teachers University.

3. Research methods

3.1 Samples

This sample consisted of 287 students majoring in Ideological and political education which selected through 557 students by random sampling and 7 teachers which selected through 54 teachers by purposive sampling of teachers who majoring in Ideological and political education in Xinzhou Normal University.

3.2 Research Instruments

The tools used in this study are questionnaire and interview form. This study is divided into two parts to collect data:

3.2.1. A questionnaire survey was conducted among students. The self-made questionnaire is used to investigate the students through the network to obtain the first-hand research data, and then the survey results are analyzed and processed by descriptive statistics and other statistical methods to draw a conclusion.

3.2.2. Teachers provide interview forms through focus group technicians. Firstly, through the collection and analysis of various existing literature, select valuable information to provide theoretical basis for yourself, and then establish an interview form based on this. Then seek teachers' opinions and modify the interview questions. Recently, the interview form was determined, and the interview was conducted.

3.3 Data collection

3.3.1 To investigate the State and Problems on learning management of ideological and political education courses in Xinzhou Teachers University with questionnaire.

3.3.2 After analyzing the questionnaires, researchers collecting the opinion of teachers to get more information about learning management and survey how to solve the problems by using interview form.

3.3.3 Researcher analyze the information and investigate the way to solve problems by documentation research after that summarize the guidelines for solving problem on learning management.

3.4 Data analysis

By means of questionnaire, the author makes statistics and Analysis on the current situation, problems, and Countermeasures of learning management of Ideological and political education in Xinzhou Normal University. The questionnaire is calculated by Cronbach's alpha coefficient, and its reliability is 0.991. The reliability quality is very high, which can be used for further analysis. To evaluate the validity of the questionnaire, the questionnaire was evaluated by three experts, and the evaluation results obtained IOC 0.65-1.00. Statistical data, mean and standard deviation are used to analyze the table to find the current situation and problem information of learning management.

3.4.1) use descriptive statistics to analyze the personal information of the target group, with frequency and percentage.

3.4.2) use the mean and standard deviation to analyze the current situation and existing problems of learning management of Ideological and political education curriculum in Xinzhou Normal University.

3.4.3) analyze and summarize the questionnaire survey results on improvement suggestions.

4. Research Results

4.1 The analysis result of state on learning management on Ideological and political education courses in Xinzhou Teachers University according to 287 students' opinions as shown in table 1.

Table 1: The result of state on learning management on Ideological and political education courses in Xinzhou Teachers University according to students' opinions.

No.	Item	Practice level		
		M	SD	Meaning
	Curriculum			
1	This course had learning management efficiency for learners.	4.04	0.82	high

Table 1: (Continue)

No.	Item	Practice level		
		M	SD	Meaning
2	This course had master knowledges that suitable for Ideological and political education.	4.05	0.76	high
3	This course aimed to improve independent thinking for learners.	4.06	0.78	high
4	This course aimed to improve the ability to analyze and solve problems for learners.	4.12	0.78	high
5	This course had the basic ability to engage in Ideological and political work.	3.97	0.78	high
6	This course had mastered the basic methods of document retrieval and data inquiry.	4.20	0.70	high
7	This course cultivated certain scientific research and work ability.	4.00	0.78	high
8	This course cultivated learners' world outlook on life and values.	4.31	0.67	high
9	This course had the basic theory of Marxism and professional knowledge of Ideological and political education.	4.31	0.68	high
10	This course engaged in Ideological and political work in party and government organs, schools, enterprises, and institutions.	4.14	0.76	high
	Total	**4.12**	**0.76**	**high**
	Instructional management			
11	Teachers could choose teaching methods that were appropriate for the level of knowledge and age of the learners.	4.18	0.70	high
12	Teachers could choose teaching methods that were appropriate for this course.	4.17	0.68	high
13	Teachers used variety of teaching methods.	4.05	0.74	high
14	Instructional management for this course had efficiency and effectiveness.	4.10	0.72	high
15	Teachers used variety of technology.	3.94	0.80	high
16	Instructional management includes formulating the teaching work plan.	4.12	0.71	high

Table 1: (Continue)

No.	Item	Practice level		
		M	SD	Meaning
17	Teachers clarified the teaching work objectives.	4.19	0.69	high
18	Teachers ensured the instructional plan for teaching.	4.20	0.68	high
19	Teachers could teach step by step and could make learners' learning ability.	4.20	0.67	high
20	Instructional management ordered operation of teaching work.	4.21	0.68	high
21	Instructional management showed strengthen the management of teachers' teaching quality.	4.18	0.69	high
22	Instructional management could improve independent thinking for learners.	4.17	0.68	high
23	Instructional management could improve the ability to analyze and solve problems for learners.	4.18	0.67	high
	Total	**4.15**	**0.71**	**high**
	Instructional media			
24	Instructional media had benefits to improve independent thinking for learners.	4.10	0.72	high
25	Instructional media had benefits to improve the ability to analyze and solve problems for learners.	4.13	0.70	high
26	Instructional medias were appropriate for the level of knowledge of learners.	4.13	0.69	high
27	Instructional medias were appropriate for content and leaners.	4.16	0.65	high
28	Instructional media were relevant with the purpose of Ideological and Political education course.	4.14	0.72	high
29	Instructional media were up to date.	4.00	0.78	high
30	Instructional media had variety type such as multimedia, PPT, textbooks, teaching videos, etc.	4.23	0.66	high
	Total	**4.13**	**0.71**	**high**
	Measurement and evaluation			
31	The measurement and evaluation evaluated on learners' learning process.	4.10	0.68	high
32	The measurement and evaluation evaluated on ideological status.	4.10	0.68	high

Table 1: (Continue)

No.	Item	Practice level		
		M	SD	Meaning
33	The measurement and evaluation evaluated on behavior status.	4.10	0.69	high
34	The test corresponds to the content of the course.	4.14	0.67	high
35	Tests could assess learners' knowledge well.	4.09	0.66	high
36	The measurement and evaluation were in accordance with the objectives of the course.	4.13	0.66	high
37	The measurement and evaluation had variety platform.	4.10	0.70	high
	Total	4.11	0.69	**high**
	Total	4.13	0.71	**high**

Table 1 showed that the current situation of learning management consists of four parts: curriculum, instructional management, instructional media, measurement, and evaluation. The total average score of state on learning management was at high level of practice (M = 4.13; SD = 0.71). When considered each four parts, the total average of state on four parts were at high level with (M = 4.12, SD = 0.76; M = 4.15, SD = 0.71; M = 4.13, SD = 0.71; M = 4.11, SD = 0.69) respectively. There was still a part of content, mainly has outdated teaching media, course of conduct didn't have the ability to engaged in ideological and political work, courses do not have to cultivate the students' scientific research ability and work ability, the teachers did not use different tools and teaching methods, test and evaluate the learner's knowledge can't very well.

4.2 The analysis result of problems on learning management on Ideological and political education courses in Xinzhou Teachers University according to 287 students' opinions as shown in table 2.

Table 2: The result of problems on learning management on Ideological and political education courses in Xinzhou Teachers University according to students' opinions.

No.	Item	Problem level		
		M	SD	Meaning
	Curriculum			
1	This course had learning management efficiency for learners.	2.10	0.82	low
2	This course had master knowledges that suitable for Ideological and political education.	2.09	0.85	low
3	This course aimed to improve independent thinking for learners.	2.15	0.85	low
4	This course aimed to improve the ability to analyze and solve problems for learners.	2.09	0.84	low
5	This course had the basic ability to engage in Ideological and political work.	2.07	0.88	low
6	This course had mastered the basic methods of document retrieval and data inquiry.	2.14	0.90	low
7	This course cultivated certain scientific research and work ability.	2.1	0.86	low
8	This course cultivated learners' world outlook on life and values.	2	0.90	low
9	This course had the basic theory of Marxism and professional knowledge of Ideological and political education.	2	0.90	low
10	This course engaged in Ideological and political work in party and government organs, schools, enterprises, and institutions.	2.04	0.86	low
	Total	**2.08**	**0.87**	**low**
	Instructional management			
11	Teachers could choose teaching methods that were appropriate for the level of knowledge and age of the learners.	2.05	0.86	low
12	Teachers could choose teaching methods that were appropriate for this course.	2.10	0.91	low
13	Teachers used variety of teaching methods.	2.11	0.88	low
14	Instructional management for this course had efficiency and effectiveness.	2.06	0.85	low
15	Teachers used variety of technology.	2.13	0.87	low

Table 2: (Continue)

No.	Item	Problem level		
		M	SD	Meaning
16	Instructional management includes formulating the teaching work plan.	2.05	0.87	low
17	Teachers clarified the teaching work objectives.	2.09	0.88	low
18	Teachers ensured the instructional plan for teaching.	2.09	0.90	low
19	Teachers could teach step by step and could make learners' learning ability.	2.08	0.86	low
20	Instructional management ordered operation of teaching work.	2.06	0.83	low
21	Instructional management showed strengthen the management of teachers' teaching quality.	2.07	0.86	low
22	Instructional management could improve independent thinking for learners.	2.08	0.87	low
23	Instructional management could improve the ability to analyze and solve problems for learners.	2.07	0.86	low
	Total	**2.08**	**0.87**	**low**
	Instructional media			
24	Instructional media had benefits to improve independent thinking for learners.	2.12	0.89	low
25	Instructional media had benefits to improve the ability to analyze and solve problems for learners.	2.13	0.86	low
26	Instructional medias were appropriate for the level of knowledge of learners.	2.10	0.86	low
27	Instructional medias were appropriate for content and leaners.	2.09	0.86	low
28	Instructional media were relevant with the purpose of Ideological and Political education course.	2.04	0.83	low
29	Instructional media were up to date.	2.16	0.87	low
30	Instructional media had variety type such as multimedia, PPT, textbooks, teaching videos, etc.	2.05	0.87	low
	Total	**2.10**	**0.86**	**low**
	Measurement and evaluation			
31	The measurement and evaluation evaluated on learners' learning process.	2.14	0.88	low

Table 2: (Continue)

No.	Item	Problem level		
		M	SD	Meaning
32	The measurement and evaluation evaluated on ideological status.	2.14	0.89	low
33	The measurement and evaluation evaluated on behavior status.	2.15	0.89	low
34	The test corresponds to the content of the course.	2.10	0.87	low
35	Tests could assess learners' knowledge well.	2.12	0.86	low
36	The measurement and evaluation were in accordance with the objectives of the course.	2.11	0.84	low
37	The measurement and evaluation had variety platform.	2.10	0.88	low
	Total	2.12	0.88	low
	Total	2.09	0.87	low

Table 2 showed that the problems of learning management consisted of four parts: curriculum, instructional management, instructional media, measurement, and evaluation. The total average score of state on learning management was at low level of practice (M = 2.09; SD = 0.87). When considered each four parts, the total average of state on four parts were at low level with (M = 2.08, SD = 0.87; M = 2.08, SD = 0.87; M = 2.10, SD = 0.86; M = 2.12, SD = 0.88) respectively. In the survey, it is found that there are certain problems in the four parts of learning management. This course needs to improve independent thinking for learners. Instructional management teachers should use variety of technology. Instructional media update is not timely, outdated equipment. The method of measurement and evaluation is backward, and the thought and behavior of students are not evaluated.

4.3 The analysis result of state and problem on learning management on Ideological and political education courses in Xinzhou Teachers University according to 7 teachers' opinions.

A summary is made based on content analysis and focus group with in-depth interview according to 7 teachers' opinions. The major of Ideological and Political Education mainly sets up courses such as principles and Methods of ideological and political education, scientific socialism, political economy, Marxist Philosophy, History of Chinese Philosophy, pedagogy, and history of Ideological and political education of the Communist Party of China. In the interview, 7 teachers all think the curriculum is reasonable. Teachers mainly adopt practical teaching method, traditional teaching method, theoretical teaching method, multimedia teaching and other methods when teaching. Among the 7 teachers interviewed, 3 teachers thought the instructional

management was unreasonable, and 4 thought the instructional management was reasonable. In teaching, teachers usually use PPT, projection, cases, books and other teaching tools and media. Among them, 2 teachers think teaching tools and media are unreasonable, and 5 teachers think teaching tools and media are reasonable. In terms of measurement and evaluation, the method of "daily performance and final examination" was mainly adopted. Two teachers thought that the method of measurement and evaluation was unreasonable, and five teachers thought that the method of measurement and evaluation was reasonable.

Through the interview survey, the following problems are found in the current learning management: the teaching method is slightly single; Outdated equipment; Lack of practice and practice; Students' enthusiasm for learning is low; There is a heavy form of class, light effect; Not combining book knowledge with reality. There is a phenomenon of seeking more and more in class content, knowledge is too superficial; In the teaching content of the book knowledge and extracurricular knowledge and interests, and the content of the textbook and students in high school related subjects interlaced, overlapping, so that students lack freshness to the course. The examination method is relatively single, lack of examination of students' comprehensive quality and ability; Do not pay attention to the improvement of students' comprehensive quality and ability. The solutions to these problems were as follows:

1. Combine teaching materials with PPT and other new media.

2. Combine regular scores with final exams and add essay writing as appropriate.

3. The combination of book knowledge and reality to explain.

4. Combine theory with practice, effect and form are equally important in class

5. The evaluation of ideological and political education can make use of the technical advantages of the network. The evaluator can use the digital information processing technology to carry out the terminal intelligent evaluation, which makes the evaluation of ideological and political education more flexible and rapid.

6. Teaching methods: using experiential, situational teaching, case teaching method.

4.4 To propose guidelines for Ideological and political education courses in Xinzhou Teachers University.

In view of the problems and current situation of learning management of Ideological and political education major in Xinzhou Normal University, better learning management can improve the quality of education. This paper gives practical suggestions from four aspects: curriculum, instructional management, instructional media, measurement and evaluation.

1. Improve the curriculum and stimulate students' interest in learning. (Lin Yu, 2015) first, we should reasonably set up courses and arrange suitable courses for students according to the acceptance ability of students in each grade. The difficulty of courses leads to low learning

efficiency and poor effect. Secondly, we should optimize the course selection mechanism, reasonably arrange professional courses and elective courses, and let students independently choose public compulsory courses, professional compulsory courses, public elective courses and professional elective courses.

2. Improve the quality of instructional management and promote students' autonomous learning. According to Wang Lirong' s point of view, curriculum teaching should change the original single and passive teaching method of "one-way transmission of subject knowledge", establish and form diversified teaching methods, so as to fully mobilize and give full play to students' subjectivity and enable students to study actively and with personality (Wang Lirong, 2015) therefore, the combination of systematic teaching, discussion, teacher-student Q & A, case analysis and behavior experience can be used to strengthen the interaction between teachers and students; We can also arrange appropriate social practice activities in combination with the course content to enhance students' ability to integrate theory with practice and improve their comprehensive quality.

3. Introduce and expand instructional media and use multimedia teaching to realize modern teaching management. It is mainly reflected in investing a lot of new teaching media and equipment; Online education resources can be used to carry out online learning. Improve the teaching media facilities and update them in time.

4. Improve the measurement and evaluation mechanism and improve students' learning motivation. According to Wang Qin (2021), with the deepening of the new curriculum reform, the summative evaluation model is no longer suitable for the new educational environment, so there is the emergence of the process evaluation model (Wang Qin, 2021) therefore, we should establish an all-round assessment mechanism, pay attention to the final examination results, but also pay attention to the ideological and behavioral status of students; We should establish a variety of evaluation methods, combine self-evaluation, student mutual evaluation and teacher evaluation, and constantly update the evaluation system.

5. Discussion

5.1 This study needs to explore four aspects of learning management, including curriculum setting, instructional management, instructional media, measurement, and evaluation. Learning management should provide a variety of functions, such as personal guidance, collaborative monitoring, discussion group management, troubleshooting, test paper management, homework management, achievement management and learning progress management (Yu Shengquan, Chen Tian, 2002)

5.2 Through the questionnaire survey, it is found that there are problems in the curriculum setting of ideological and political education, mainly reflected in the students' opinion that the

curriculum setting cannot timely cultivate students' scientific research and working ability and cannot enable students to timely master the basic methods of literature retrieval and data query.

5.3 Through the questionnaire survey, it is found that there are problems in the instructional management of ideological and political education. Some students think that teachers cannot adopt various teaching methods and use various teaching tools in teaching, and teachers cannot choose the teaching method suitable for this course. The results have consistency with Liu Ming's results, he points out that the instructional management is "the school managers according to the teaching principle, teaching plan and the requirements of teaching outline, according to the laws of the teaching work, use these theories, on all aspects of the teaching, reasonable combination, the elements and the link to the through planning, organizing, check, summary, such as management link, Promote the normal and efficient operation of teaching work "(Liu Ming, 1997).

5.4 According to the survey, there are still many students who think that teachers seldom use the latest instructional media when teaching, and many students think that instructional media has problems in improving learners' ability of independent thinking, analysis and problem solving. The research results with something in the "thought morals tutelage and legal foundation practice" content have consistency, she thought: PPT courseware, insert and use DV, MP3, flash, etc., use the media video and film, give full play to the multimedia sound, light, electricity, the advantage of "all-round" and "depth", make classroom teaching more intuitive, informatization; Fully mobilize students' senses, enhance their intuition and objectivity, and improve the attraction and appeal of this course, so that every student can truly access the most profound philosophy of life, the most appropriate enlightenment of life, the most thorough perception of life and the most touching life experience (Wang Na, 2019).

5.5 Through investigation and research, it is found that some students think that the assessment method cannot properly assess students' ideological and behavioral status and cannot comprehensively evaluate learners' knowledge. Educational measurement plays an important role in talent selection, teaching students according to their aptitude, educational evaluation, and educational research (Gu Mingyuan, 1998). Specifically, educational measurement is a quantitative measurement of students' learning ability, academic achievement, interest, moral character, physical quality, and many problems in educational measurement.

6. Conclusion

Through the research, the ideological and political education in Xinzhou Normal University is generally good in learning management, which is suitable for most students. However, there are some problems in curriculum setting, instructional management, instructional media, and assessment methods. Many students think that ideological and political education courses have

some problems in cultivating students' scientific research and working ability and making students master the basic methods of literature retrieval and data query. Some students think that teachers should not adopt various teaching methods and use various teaching tools in teaching. There are also many students who think that teachers seldom use the latest instructional media and only limit themselves to traditional teaching. In addition, some students think that the assessment method cannot well assess students' ideological and behavioral status and cannot comprehensively assess the knowledge of learners. In view of these problems, some suggestions on curriculum setting, instructional management, instructional media, assessment, and evaluation are put forward.

7. Recommendations

There were some suggestions based on the findings:

7.1 Effective measures to improve the style of study: strengthen the construction of teachers, improve the teaching level of teachers; Strengthen academic exchanges, open more elective courses, and lectures; Strengthen student management, serious classroom discipline and attendance; Actively organize extracurricular interest groups, etc.

7.2 Adopt a variety of teaching methods for teaching. Teachers should adopt interactive teaching methods such as discussion, debate, case analysis and situation setting. Carry out extra-curricular study and social practice activities to carry out teaching. In teaching, teachers should pay attention to classroom discussion, pay attention to the cultivation of innovative thinking, and be familiar with the frontier knowledge in the subject field and apply it.

7.3 The aspects that teachers should improve include innovative spirit, teaching level and academic level.

7.4 Strengthen practical teaching. The quality of ideological and political education curriculum can be improved through the way of "connecting theory with practice, answering the key, difficult and hot issues that we care about"; Advanced information zed teaching methods should be adopted. Teaching content should be based on social hot issues concerned by the public and close to the actual study and life of college students. 'Teaching content should be updated frequently and keep pace with The Times.

7.5 Improve the assessment system. It is the way to improve teaching objectives that should be "reformed and graded".

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Ambiguity Found in Advertisements

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Abstract

In learning English, there are four skills: listening, reading, writing and speaking. Among them, writing is one of the major skills to communicate each other in the society. Text documents are essential to store information via personal desktop, computer, internet, email, website, signs and symbols. In most of workplaces, the employers inform their employees to contact for certain messages by writing. This study aims to explore how the words are related to convey the right meaning in the advertisements. Language is always ambiguous. They cannot be controlled by speaking or by writing. So, 15 advertisements available from websites are analyzed by two types of ambiguity, word level and sentence level. Qualitative and quantitative methods are used in this article. It is found that both the word level and sentence level are almost used equally. Written English for advertisements is one of the most prominent factors in business.

Keywords : Advertisements, Ambiguity, Communication, Lexical Level, Structural Level

1. Introduction

In learning English as a foreign language, there are four basic skills that must be achieved. They are writing skill, reading skill, speaking skill and listening skill. Among the four skills, listening and reading are regarded as receptive skills, and writing and speaking as productive skills. As a productive skill, writing is essential to be required by the learners since this skill is a form of thinking through writing. It means that the learners will be able to express their ideas to other people in written forms. The purpose of teaching English in the schools is to provide the students with the ability to use that language. Then, as an international language that plays an important role in globalization era. Text documents are one of the means to store information. These documents can be found on personal desktop computers, internets and in the Website. It means that the learners will be able to express their ideas to other people in written forms.

Written communication is also important for business advertising. It includes direct mail pieces such as sales letters and brochures, magazine display advertisements, fliers, Internet ads and catalogs. Advertising is designed with picture and written language to attract attention then compel people to purchase products. Written communication in business is important to the people

because they give information of the products available in daily from the writing in advertisements. Most of the advertisements do not provide the meaning directly. Semantics provides the rules for interpreting the syntax which do not the meaning directly. It shows how new words and ideas are related to each other within the text.

Language is always ambiguous. The meaning of the things that are said and written cannot be fully controlled. The meaning changed by speaking and by writing is not given in the words and sentences alone but are also constructed partly out of what our listeners and our readers interpret them to mean. To put another way, meaning in language is jointly constructed by the participants in communication for a particular language, this information is provided by a grammar, which systematically pairs forms with meanings, ambiguous forms with more than one meaning. According to Baker and Hengeveld (1988), semantics "provides the rules for interpreting the syntax which do not provide the meaning directly but constrains the possible interpretations of what is declared". Semantics refers to arrangement of words and it shows new words and ideas are related to each other within a text.

There is no research that are conducted on advertisements by the types of ambiguity. Therefore, this research is written to investigate how the ambiguity meaning is used in the advertisements to convey the correct meaning within the business communication

2. Research Objectives

The purpose of this research project is to explore how the words are related in advertisements to convey the correct meaning.

The objectives of this research paper are

    (i) To express the meanings of the words used in advertisements

    (ii) To investigate the ambiguity used in the advertisement

3. Research Methodology

There are fifty advertisements currently used in the business getting from the website. (16) advertisements are from food products, (25) items are from cosmetics and (9) from home cleaning products. In collecting data for statistical analysis, records are made for the number of occurrences of lexical ambiguity referring to the word level and the number of structural ambiguity referring to the phrase, clause and sentence in the advertisements. In my research paper, both qualitative method and quantitative method are used to collect data.

According to Scollon and Jones (1988), the ambiguity is divided into two categories.

3.1 Lexical ambiguity (within a word)

This form of ambiguity is also called homonymy or semantic ambiguity. It occurs in the sentence because of the poor vocabulary usage that leads to two or more possible meanings.

Such words as the prepositions "in" or "at" are notorious difficult to teach and to learn, and this is because their meanings reside only partly in the words themselves. Much of their meaning is given by the situations in which they are used. e.g., There's a man at the front door.

The preposition "at" tells us something about where the man is located, but it does not tell us very much. It is known that he is outside the door. It can further be assumed that he is standing within reach of the door where he has probably just knocked or run the bell. This sentence is quite ambiguous in that it cannot be known very much about just how this 'man' is 'at' the door. That is why, language is ambiguous at the word level.

3.2 Structural ambiguity (within sentence or sequence of words)

This form of ambiguity is also called structural or grammatical ambiguity. It occurs in the sentence because the sentence structure leads to two or more possible meanings. Sentences are equally ambiguous. Ray McDermott has given the example of the simple sentence, "What time is it?, as an excellent example of the ambiguity of language at the sentence level. If I am walking down the street and I stop you to ask:

What time is it?

Your answer is likely to be something like, "It's two o' clock," or whatever time it is. I will then thank you and go on. Nothing out of the ordinary is understood. But let us change the context to the elementary school classroom. The teacher asks one student,

What time is it?

The student answers, "It's two o'clock". In this case the teacher answers, "Very good," In the first case the sentence, "What is is it?," is part of the speech act of requesting the time and so such it forms a set with the other sentence, "Thank you." In the case the same sentence, "What time is it?, is part of the speech act of testing a child for his or her ability to tell the time. As such this sentence forms a pair not with, "Thank you," but with, "Very good."

Ambiguity has more than one interpretation. Context may play a role in resolving ambiguity. For example, the same piece of information may be ambiguous in one context and unambiguous in another.

4. Research Results

The collected data for the advertisements are represented in the table. The definitions of ambiguity and semantics have been described. 50 advertisements, mentioned in the appendix, are analyzed and indicated in the table.

Table1 Types of ambiguity used in advertisements

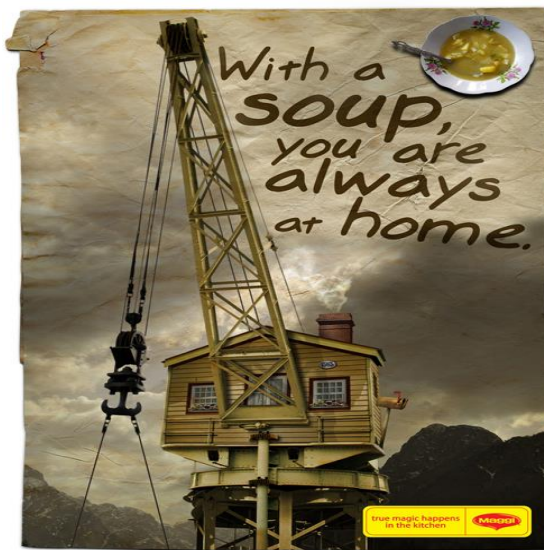| Sr No	Written text in the advertisements	Types of ambiguity lexical	Types of ambiguity structural	Ambiguity meaning
1	With a soup, you are always **at home**		√	I. Together with the soup at home ii. can have soup just at home
2	We have no cage, just big barns		√	i. no cage, no barns ii. no cage, but barns
3	The special **Book** of cheese	√		i. sheets of paper ii. order
4	Show us what you're made of		√	i. **Show us what** you're made of ii. **Show us** what you are made of
5	Super **onion**, one of many flavorful **bagels**	√		i.onion ii.bagels
6	Makes other snacks look scary		√	i. **Makes other** that snacks look scary ii. **Makes other snacks** that look scary
7	We can Barely figure out how to open our cash **register**	√		i.machine ii. record
8	Because sometimes their brains need **a little extra help**		√	i.a little help ii. an extra help
9	Teach a man to make reservations and **he'll eat for a life time**		√	i.he will eat it for his whole life ii. he will eat it for a long time
10	Like Sweet Banjo Music to your toungue		√	i. **Like Sweet** Banjo Music to your toungue ii. **Like Sweet Banjo Music** to your toungue
11	A world cut out for you.		√	i.**A world cut** out for you. ii.**A world cut out** for you.
12	Have a chocolate **break**	√		i.piece of luck ii.rest, pause
13	The all-natural Paar flavor **Ice cream at Big Gulp**		√	i.The location of ice cream ii. easy to swallow the ice cream because of good flavor
14	Najru Sunflower. **Cooking and frying oil**		√	i.cooking and frying oil ii.cooking oil and frying oil
15	Pepsi **Twist**	√		i.change ii.action of turning
16	100 billion good **bacterias** to defend your stomach	√		i.small living thing organisms causing many diseases ii. fruits and vegetables
17	Skin Matching Make-up		√	i.**Skin Matching** Make-up (make-up that is matched with skin) ii.**Skin** Matching Make-up (skin that is matched with make-up)

Table1 (Continue)

Sr No	Written text in the advertisements	Types of ambiguity		Ambiguity meaning
		lexical	structural	
18	You're looking at the first unretouched make up AD		√	i. **You're looking** *at the first unretouched make up AD (location)* ii. **You're looking at** *the first unretouched make up AD (object)*
19	MAC Style **Warrior**	√		i. fighter ii. designer
20	Putting on makeup shouldn't be like playing with matches.		√	i. **Putting on makeup shouldn't be** like playing with matches. ii. **Putting on makeup shouldn't be like** playing with matches.
21	Comfort Dispil		√	i. Dispil that is comfort ii. Dispil is comforted.
22	Lashes **appear** longer by using Maybelline eyelash	√		i. lashes is **emergent** automatically ii. lashes **exists**
23	Wardah Beauty **Concept**		√	i.idea ii. network

24	Avon's Fragrance Accessories--- interesting accents to you		√	i.<u>interesting accents</u>
				  (sub) (v)
				to you
				ii.<u>interesting accents</u>
				  (adj) (N)
				to you

25	Naked eyes are **out**	√		i.outside ii.useless (ugly)
26	New **Pure** Color	√		i.blind ii.clean
27	The New Lipstick **from** Hollywood	√		i.The lipstick is in Hoolywood not arrive at the point ii.The lipstick is in the point that is brought from Hollywood
28	**Homemade**. Natural. Make up	√		i.handmake ii.made at home
29	Shake. **Stir**. Seduce	√		i.mix a lique by moving a spoon ii.excites somebody
30	Get the look Mila Kunis		√	i.<u>Get</u> the look Mila Kunis ii.<u>Get the look</u> Mila Kunis
31	Discover the hold of a longwear in the luxury of a lipstick		√	i.Discover the hold of a longwear **in the luxury of a lipstick** ii Discover the hold of **a longwear in the luxury of a lipstick**

Table1 (Continue)

Sr No	Written text in the advertisements	Types of ambiguity (lexical)	Types of ambiguity (structural)	Ambiguity meaning
32	For stealing kisses		√	i.For <u>stealing kisses</u> 　　　PP　　obj ii. For <u>stealing</u> <u>kisses</u> 　　　Adj　　N
33	DAY-TO-NIGHT **SMOKY EYES**	√		i.the eyes that have the taste of smoked food ii. the eyes that darkens
34	Clean make-up		√	i.<u>Clean</u> <u>make-up</u> 　Adj　　N Make-up that is clean ii.<u>Clean</u> <u>Make-up</u> 　　V　　Ob Make up is removed
35	**Even** without make-up	√		i.smooth smooth without ------ ii.the word used to emphasis at the moment -----
36	Texture control shampoo and conditioner		√	i.<u>Texxture control</u> 　　　　N <u>shampoo</u> and <u>Conditioner</u> 　　N　　　　　N ii.<u>Texxture</u> <u>control</u> 　　Sub　　V <u>shampoo and conditioner</u> 　　　　Obj
37	The great escape kit by Clairol Cosmetics		√	i.<u>The great escape kit</u> 　　Sub　　V　O by Clairol Cosmetics ii.<u>The great escape</u> 　　　　Sub <u>kit</u> by Clairol Cosmetics
38	Maxfactor creates **pan-cake**	√		i.Kind of cake ii.Compressed powder
39	My skin seems so **acid**	√		i.sour ii.bitter or cutting
40	Headline Red		√	i.<u>Headline</u> <u>Red</u> 　　V　　N Article written in red color <u>Headline</u> <u>Red</u> 　　N　　N Red color at the top

Sr No	Written text in the advertisements	Types of ambiguity		Ambiguity meaning
		lexical	structural	
41	The lipstick that lets you take on the world *__single-handedly__	*√	√	i.__The lipstick__ *that lets you take on the world single-handedly* ii.__The lipstick that lets you__ *take on the world single-handedly* *without other's help *with one hand
42	Saving that Sparkle and Shine everyday		√	i. __Saving that Sparkle and Shine__ NP everyday ii. __Saving__ Gerund __that Sparkle and Shine__ everyday Obj
43	We shine Day and Night.		√	i. Make the day and night bright ii. Make something shine at day and night
44	No Need of Dust		√	i. __No__ __Need of Dust__ ii. __No Need__ of Dust
45	Just Plain Clean		√	i. The plain is clean ii. Plain (simple) and clean
46	Great House Cleaning		√	i. __Great__ Adj __House Ceaning__ N ii. __Great House__ *Ceaning* (the house that is cleaning is great)
47	Old Dutch __throws__ a new light on Housecleaning.	√		i.put into place ii.send away
48	__Green Cleaning Products__ Mythbuster Disinfectant Overload		√	i.The cleaning products are green. ii. The Products are green and clean.
49	Join our __value seekers__ club	√		i.The people who look for value ii.The valuable seekers
50	Products. Earth Friendly.		√	i.The products make the people familiar with the earth. ii.The products enable the people to live with the convenient life.
Total *(percentage)*		20 (40%)	30 (60%)	

As can be seen in table that is mentioned, the types of ambiguity used in the advertisements are almost the same. The difference is not considerable – 40% for lexical ambiguity and 60% for the structural one. The content of the structural ambiguity is 20% higher than lexical ambiguity. Two pictures of advertisements are given as example in this paper.

i. Together with the soup at home ii. can have soup just at home	i. the eyes that have the taste of smoked food ii. the eyes that darkens

The collected data for ambiguity meaning in the advertisements can be represented in the bar charts as follows. In the bar chart, the horizontal axes represents the types of ambiguity (lexical and structural) and the vertical axes represents the statistical data in percentages (0%, 10%,20%, 30%, etc)
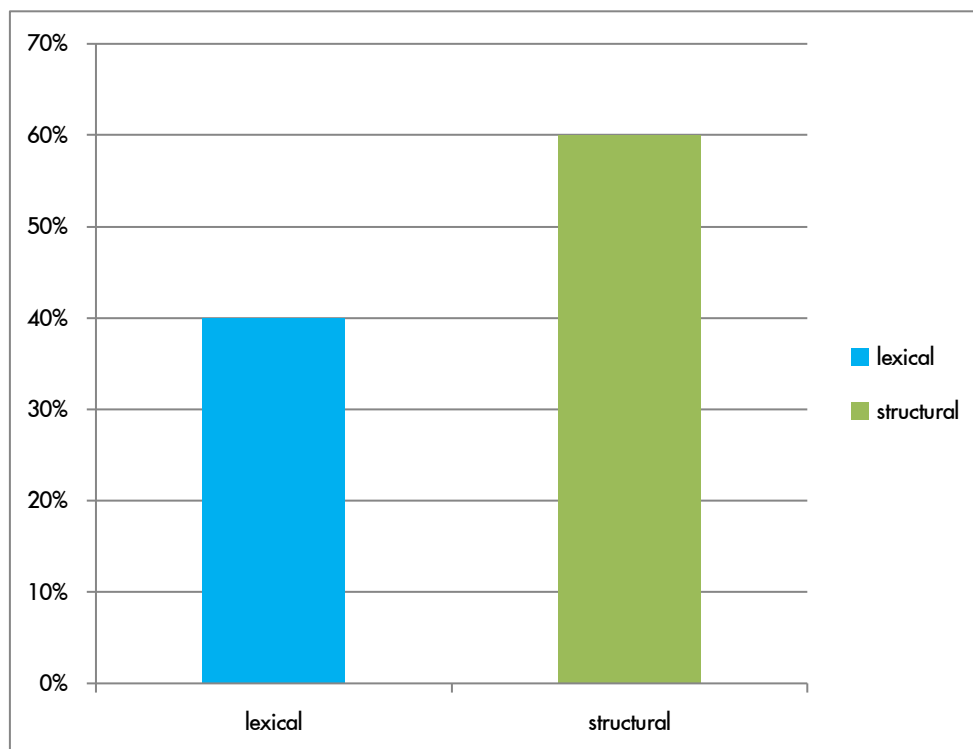

Figure1 Types of ambiguity used in the advertisements

As can be seen in the figure, both lexical ambiguity and structural ambiguity are used in the advertisements. Although the used structural ambiguity is higher than the lexical ambiguity, it is not considerable. To sum up there is almost balance in the use of ambiguity in the advertisements. It can be found that in the advertisement written in English, both the lexical ambiguity and structural ambiguity are nearly equal used.

5. Discussion

This research focuses on the lexical and structural ambiguities in the advertisements available from the international website. It is found that both lexical ambiguity and structural ambiguity are used in the advertisements. Although the use of structural ambiguity is higher than the lexical ambiguity, it is not considerable. To sum up there is almost balance in the use of ambiguity in the advertisements. It is contrasted with the research conducted by Utami (2013), entitled "Investigating lexical and structural ambiguity in the reader's forum section of Jakarta Post Newspaper. Its finding was that structural ambiguity was not as many as lexical ambiguity. Another research paper which is "Investigating ambiguity in headlines of Contemporary Yoruba Newspaper" written by Osunnuiga (2013). It was also found that the majority was to be ambiguity at the lexical level rather than structural level. By investigation ambiguities in advertisements, they will expand our knowledge not only about lexical ambiguity and structural ambiguity but also about transmission of a message through language. The language has a meaning whether it is a spoken language or written language. The results prove that advertisements become ambiguous because of lexical items and structural phrases that have more than one meaning in the written text. Ambiguity can produce remarkable effect on business. It is capable of making the advertisements more attractive and interesting. An ambiguous meaning makes the readers learn more to improve language skill from the written text. On the other hand, it can confuse the readers with the two possible interpretations and they can sometimes recognize the wrong information about the information.

6. Conclusion

In conclusion, semantic is one of the techniques that can be chosen in writing. It can help to arrange the vocabulary by developing and organizing the details of the text. Written English is the major tool in communication in the society. Written advertisements include direct mail pieces such as sales letters and brochures, magazine display advertisements, fliers, Internet advertisements and catalogs. In the written form of advertisements, it is interesting for the audience by using ambiguity. The advertisements are very effective and attractive to the customers through the lexical ambiguity and structural ambiguity to convey the correct meaning. This paper   helps

the learners know the deep understanding of semantics. So, written English for advertisements is one of the most prominent factors in business and learning languages.
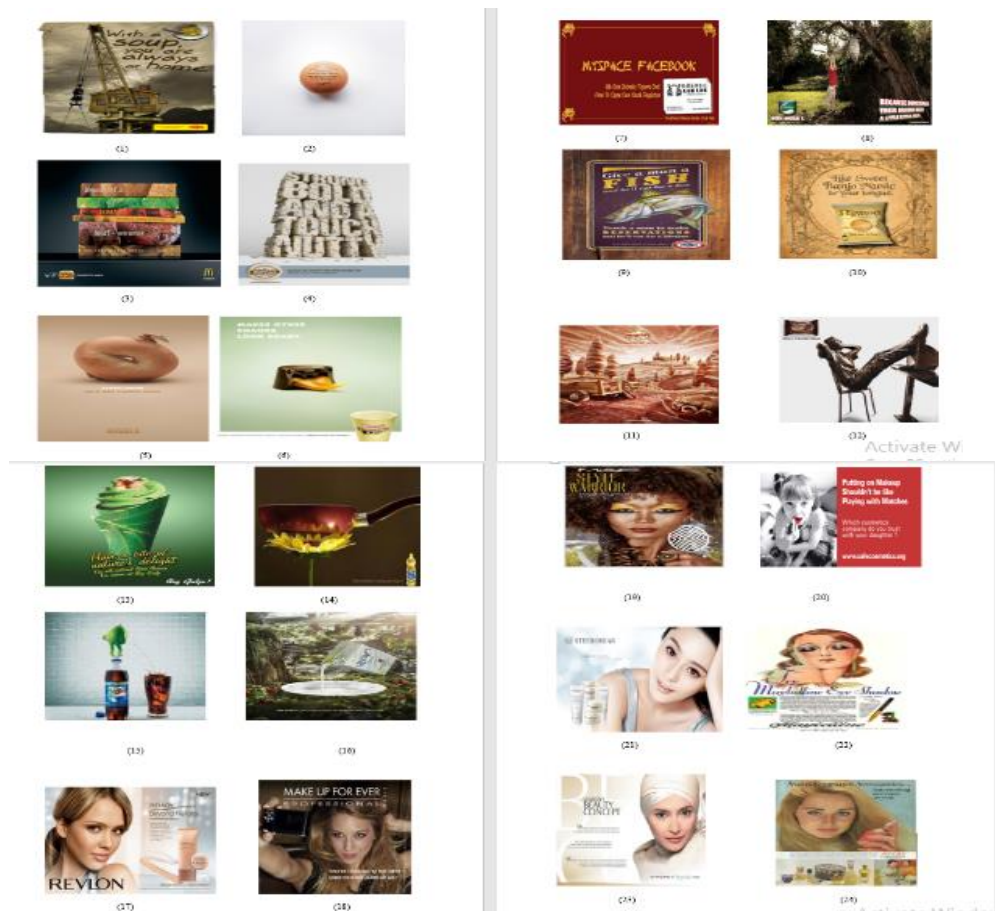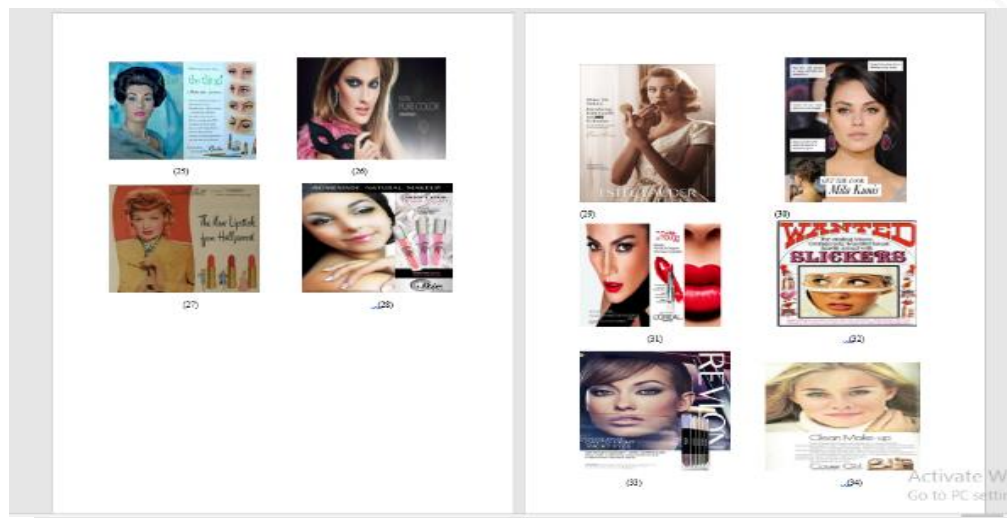
7. Recommendation

This article highlights only on the lexical level and structural level of ambiguity found on advertisements from outside Myanmar. So, it is recommended to do more articles about ambiguity found in advertisement from the local country and from the speech of famous public speakers.

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Appendix (Advertisements used in paper)

(25)   (26)

(27)   (28)

(29)   (30)

(31)   (32)

(33)   (34)

(35)   (36)

(37)   (38)

(39)   (40)

(41)   (42)

(43)   (44)

(45)   (46)

(47)   (48)

(49)   (50)

Practicing Home Visit Program for School Resilience and School Effectiveness Amid the Covid-19 Pandemic Crisis :
A case study of a primary school in Central Lombok, Indonesia

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Abstract

The purpose of the study is to unravel how the school principal, teacher, and parent from *Public Primary School of Pemepek* West Nusa *Tenggara* had experience in practicing home visits for school resilience and keeping the school effective during the outbreak of COVID-19pandemic. It aimed to explore how the sudden outbreak of the COVID- 19 pandemic led the research participants to different vulnerabilities, how the home visit was used as a resilience mechanism, and how they kept the school effective. Guided by the philosophical assumptions of interpretivism, the study considered the school principal, teacher, and parent to have subjective experiences regarding COVID- 19 and the implementation of the home visit program. And for making sense about how they had experienced in implementing home visit programs amid the pandemic subjectively, a narrative inquiry was adopted as a research method. Purposive sampling was used in which a school leader, teacher, and parent with different socio-economic backgrounds were selected from the Public Primary School of *Pemepek*. Their experiences were gathered through in-depth interviews, for which the researchers were engaged with them through the utilization of zoom in the school. The gathered experiences were further analyzed with theoretical support, following the procedure of transcribing, coding, categorization and schematization. Through the collective stories, it can be inferred that the Covid-19 becoming a reason for each research participant to rethink what is the philosophical assumption under their own position in real life, such as involving the related community to improve the school and finding a new way to build school effectiveness and maintaining the school resilience. And the last, the harmful psychological condition of all research participants that have been leading them indirectly to find home visit programs as their school way to be remained effective and being resilient during the Covid-19 pandemic outbreak

Keywords : Home Visit Program, School Resilience, School Effectiveness, Covid-19 Pandemic

Factors Influencing the Effectiveness of Quality Sub-District School Administration in Nakhonchaiburin Provinces

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Abstract

The objectives of this research were 1) to analyze the factors influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces, and 2) to examine the validity of structural equation modeling of the factors influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces. The samples were consisted of 340 school administrators of quality sub-district schools in Nakhonchaiburin provinces, and they were selected multi-stage random sampling. The instrument used for data collection was a questionnaire had the validity was between 0.80-1.00, and its reliability was 0.974. The study uses structural equation modeling (SEM) analysis. The results revealed that characteristics of the school administrators (CHAR), and collaborative networks (COLL) has direct effects on effectiveness of quality sub-district school administration. The administrative process (AP), learning management process (LMP), and characteristics of the school administrators (CHAR) has indirect effects on effectiveness of quality sub-district school administration. Moreover, the developed factor model influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces was harmonious with the empirical data.

Keywords : Influencing Factors, Effectiveness of School Administration, Quality Sub-District Schools

1. Introduction

Education is a fundamental factor that is very important for developing people with knowledge and capacity of living, necessary basic skills, good characters, readiness for working, and application of knowledge to the development of society and country. Basic education aims to develop Thai people to be perfect human beings holding Thainess with good, intelligent, and happy manners, potential for further education and careers, and principles for national unity. It focuses on being Thainess and internationalization, and encourages students to develop themselves continuously throughout their lives. Moreover, educational institutions are responsible for providing education to meet learners' learning needs as appropriate. The importance on knowledge, morality,

learning process and ability to apply knowledge obtained from integrated education is also given so as to equip the learners with desirable characteristics, namely, good people, smart people, and happy people (Runcharoen & Sripairot, 2011).

Under Section 6 of the National Education Act, B.E. 2542 and its amendments (No. 2), B.E. 2545, it states that education must be managed for developing Thai people to be perfect human beings in body, mind, intelligence, knowledge, morality, ethics and culture of living in order to be able to live with other people happily. According to Section 22, education management must be based on the principles that all learners are capable of learning and self-development, andthe learners are considered the most important. The learners, therefore, must be supported to develop themselves naturally with their full potential (Ministry of Education. 2003: 3-8). In addition, the National Education Plan B.E. 2560-2579 focuses on the education reform of the country by raising the quality of education with effectiveness and efficiency, and by reducing the educational disparities for all learners and people. Moreover, it is ensured that all Thai people receive quality education and lifelong learning, and live happily in line with the Sufficiency Economy Philosophy amidst the change of the world in the 21st century. The educational management model leading to the prosperity of individuals and society, and the management process must be adjusted and developed in accordance with the situation by focusing on strategies for enhancing performance and the country's competitiveness. The attention to the development of quality people must also be paid because this affects the quality educational management (Office of the Permanent Secretary, Ministry of Education Ministry of Education. 2016: 42). In addition, the education reform in the second decade (B.E. 2552-2561) of the Ministry of Education aims to provide education for developing Thai people to be perfect human beings with good, intelligent and happy manners. In order to achieve the effective goals, decentralization and participation is required. This is in accordance with the principles of the National Education Act B.E. 2542 and its amendments (No. 2) B.E. 2545. It is in line with the principles of the National Education Act, B.E. 2542 (1999) and its amendments (No. 2), B.E. Under this act, there should be the management of structural system and Thai education in order to have policy unity and diversity in practice. For the decentralization of powers to educational areas and schools, the Ministry of Education has been assigned to decentralize the administration and management of education in terms of academics, budgets, personnel administration, and general administration to the Board of Education Area Offices and schools directly. This gives the schools flexibility and freedom in administration. It is in accordance with the principles of school-based management (School-Based Management: SBM) in order to build a foundation and strength for schools to be able to manage quality education with accepted standards and to be developed continuously (Ministry of Education. 2003: 13).

The school is the goal of potential development and provides learners with readiness. This is a challenge to the ability of the administrators to manage the school to obtain the quality.

Quality schools will help reduce and eliminate educational crises such as different quality of educational institutes, quality of learners with unequal standards, learners with no learning process to continuously improve their work throughout their lives, and disparities in accessing education services. Therefore, it is the commitment of the Ministry of Education to make quality schools operate effectively. This is a new dimension for the development of quality education and equality in education (Chantavanich. 2004: 3). Local schools are often viewed as small ones. These schools are economically and socially unfavorable in terms of infrastructure, lack of knowledgeable and competent teachers, lack of resources for teaching and learning activities that cause inefficient teaching management. Therefore, it is the country's challenge to provide equal quality education regardless of where schools are located in the country, and these quality schools are accepted by parents and communities (Institute for the Promotion of Teaching Science and Technology. 2019: 4-5).

Based on the problems mentioned above, the Ministry of Education recognizes the importance of developing local schools to be the quality ones. Therefore, there is a policy of one sub-district, one quality school in order to develop local schools at the sub-district to become the quality schools with academic strength and readiness to develop moral, ethical, professional and sanitary aspects. These schools will also be able to provide educational services to students and communities. Moreover, this policy increases the opportunity to access quality education, reduces educational disparities, solves the problem of economic and social inequality for students in rural areas, and develops quality learners (Office of Educational Management Innovation Development Office of the Basic Education Commission Ministry of Education. 2018: 1-13).

From the importance aforementioned, the researcher studied the factors influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces in order to find out the factors influencing the effectiveness of the schools in these areas, and to propose guidelines for school administrators in planning and developing the management of quality sub-district schools in the future.

2. Research Objectives

This research consisted of two objectives:

2.1 To analyze the factors influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces

2.2 To examine the validity of structural equation modeling of the factors influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces

3. Research Conceptual Framework

The following principles, concepts, theories and previous research works relevant to the administration of educational institutions were used as the research conceptual framework. This is presented in diagram 1.
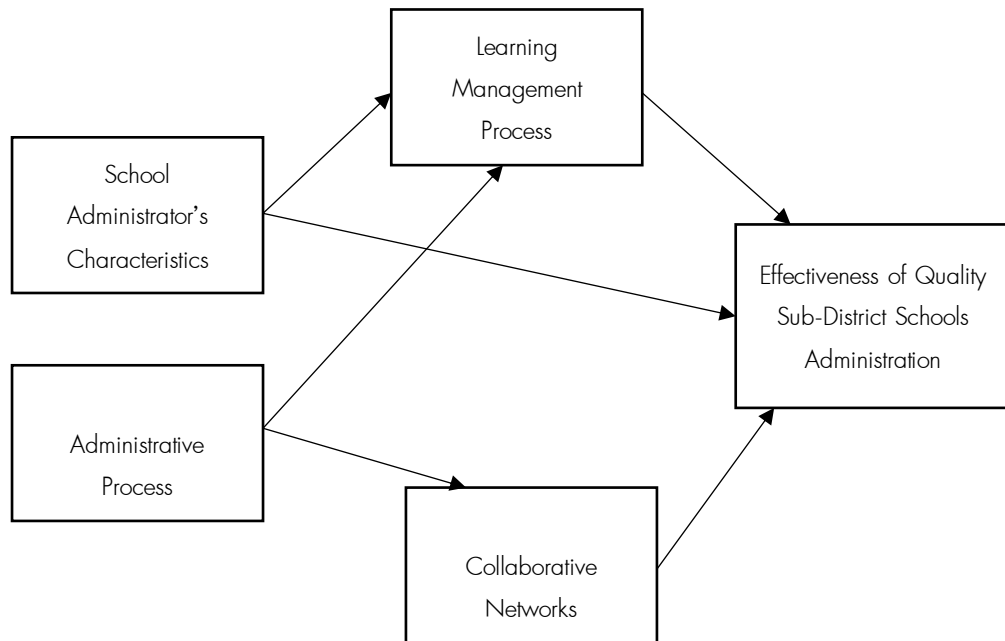
Diagram 1: Research Conceptual Framework

4. Research Methodology

4.1 Samples

The samples were composed of 340 administrators of the quality sub-district school in Nakhonchaiburin provinces under the Office of Primary Educational Service Area (OBEC). They were selected by multi-stage random sampling. From each quality sub-district 757 administrators.

4.2 Variables

The exogenous latent variable consisted of two variables in school administrators' characteristics and the administrative process, and the endogenous latent variables to learning management process, the collaborative networks, and
the effectiveness of quality sub-district school administration.

4.3 Research Instruments

The research instrument was a questionnaire has the reliability was 0.974 by using Cronbach's Alpha Coefficient. The contents validity of the instrument was examined by five expert

and had the index of item objective congruence (IOC) of 0.80-1.00. The questionnaire divided into two parts as follows:

Part 1: It is a checklist about the general information of the respondents, consisting of gender, age, and experience as a school administrator.

Part 2: The questionnaire on factors influencing the effectiveness of the good quality sub-district schools in Nakhonchaiburin provinces. It is a 5-rating scale consisting of five aspects as follows:

Section 1: Characteristics of school administrators

Section 2: Administrative process

Section 3: Learning management process

Section 4: Collaborative networks

Section 5: Effectiveness of quality sub-district school administration

4.4 Data Collection

The researcher collected the data from 340 quality sub-district school administrators in Nakhon Ratchasima, Chaiyaphum, Buriram, and Surin provinces.

4.5 Data Analysis

The analysis used structural equation modelling (SEM) using the LISREL program.

5. Research Results

The results were presented according to the research objectives as follows:

5.1 the factors influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces

The factors influencing the effectiveness of quality sub-district school administration were shown in Table 1 below:

Table 1: Coefficient Influencing of the effectiveness of the quality sub-district school administration

Cause Variable	Effect Variable								
	Learning Management Process (LMP)			Collaborative Networks (COLL)			Effectiveness of Quality Sub-district School Administration (EFFECT)		
	DE	IE	TE	DE	IE	TE	DE	IE	TE
School Administrator's characteristic (CHAR)	0.20^{**} (0.06) 3.60	- - -	0.20^{**} (0.06) 3.60	0.01^{**} (0.07) 0.18	0.10^{**} (0.00) 1.32	0.11^{**} (0.07) 1.50	0.17^{**} (0.06) 2.70	0.04^{**} (0.00) 0.67	0.21^{**} (0.06) 3.37
Administrative Process (AP)	0.78^{**} (0.07) 11.85	- - -	0.78^{**} (0.07) 11.85	0.37^{**} (0.15) 2.41	0.36^{**} (-0.07) 6.68	0.73^{**} (0.08) 9.09	0.22^{**} (0.13) 1.66	0.22^{**} (-0.06) 4.55	0.44^{**} (0.07) 6.21

Table 1: (Continue)

Cause Variable	Effect Variable								
	Learning Management Process (LMP)			Collaborative Networks (COLL)			Effectiveness of Quality Sub-district School Administration (EFFECT)		
	DE	IE	TE	DE	IE	TE	DE	IE	TE
Learning	-	-	-	0.46**	-	0.46**	0.14**	0.06**	0.20**
Management Process	-	-	-	(0.16)	-	(0.16)	(0.14)	(0.00)	(0.14)
(LMP)	-	-	-	2.86	-	2.86	0.95	0.50	1.45
Collaborative	-	-	-	-	-	-	0.15**	-	0.15**
Networks	-	-	-	-	-	-	(0.07)	-	(0.07)
(COLL)	-	-	-	-	-	-	2.27	-	2.27
R^2	0.86			0.65			0.55		

** $p \leq .01$, DE means direct influence; IE means indirect influence, and TE means total influence.

From Table 1, it was found that:

The two factors with the direct effect were found i.e. the school administrators' characteristics (CHAR) with the effect coefficient of 0.17, followed by collaborative networks (COLL) with the effect coefficient of 0.15.

The three factors with indirect effects were found i.e. administrative process (AP) with the effect coefficient of 0.22, followed by learning management process (LMP) with the effect coefficient of 0.06, and the school administrators' characteristics (CHAR) with the effect coefficient of 0.04, respectively

The four factors with the total effect were found i.e. administrative process (AP) with the effect coefficient of 0.44, followed by the school administrators' characteristics (CHAR) with the effect coefficient of 0.21, learning management process (LMP) with the effect coefficient of 0.20, and collaborative networks (COLL) with the effect coefficient of 0.15, respectively

5.2 The results of the validity examination of the factor model influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces.
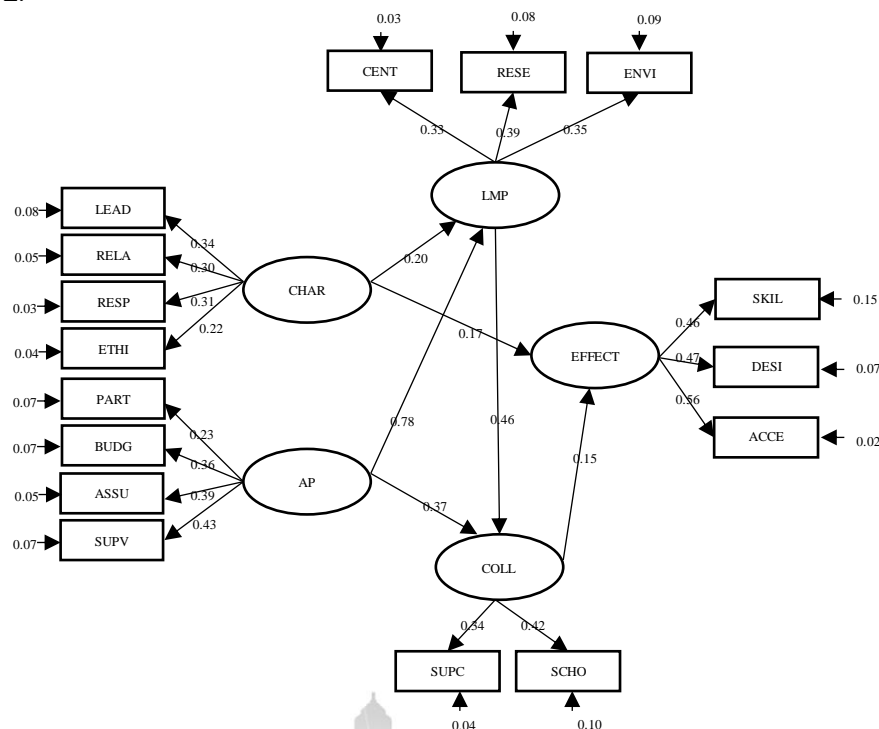
Structural model analysis in SEM begins with testing the suitability of the overall model seen based on the Goodness of Fit Index statistical indicators of the LISREL output. Overall summary of the critical values of the model fit test can be seen in the summary of Table 2.

Table 2: Model Match Test

Goodness of Fit	Cut off Value	Results	Conclusion
p-value	≥ 0.05	0.302	Good Fit
RMSEA (Root Mean square Error of Approximation)	≤ 0.05	0.014	Good Fit
CFI (Comparative Fit Index)	≥ 0.90	1.00	Good Fit
GFI (Goodness of Fit Index)	≥ 0.90	0.97	Good Fit
AGFI (Adjusted Goodness of Fit Index)	≥ 0.90	0.94	Good Fit
CN (Critical N)	> 200	429.06	Good Fit

Table 2 it was found that the structural equation model of the factors influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces was consistent with the empirical data. This could be determined from p-value = 0.302, Root Mean Square Error of Approximation (RMSEA) = 0.014, Comparative Fit Index (CFI) = 1.00, critical N. (CN) = 429.06, Goodness of Fit Measures (GFI) =0.97, and Adjusted Goodness of Fit Index (AGFI) = 0.94.

The structural model and loading factor values of the processed data are shown in diagrams 2.

χ^2 = 107.85, df = 101, p-value = 0.302, RMSEA = 0.014, CN = 429.06, CFI = 1.00
GFI = 0.97, AGFI = 0.94

6. Discussion

6.1 The factor model influencing the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces was created, and this was consistent with the empirical data. It was determined from the following values:

χ^2 = 107.85, df = 101, /df = 1.067, p-value = 0.302, RMSEA = 0.014, CN = 429.06, CFI = 1.00 GFI = 0.97, and AGFI = 0.94.

6.2 The two factors directly influencing the effectiveness of the quality sub-district school administration in these provinces were found: the school administrators' characteristics (CHAR) with the effect coefficient of 0.17, and collaborative (COLL) networks with the effect coefficient of 0.15, from the most level to the least level as the following:

6.2.1 The characteristics of the school administrators (CHAR) have a direct influence on the effectiveness of the quality sub-district school administration (EFFECT) with a positive influence of 0.17 This is because of the reasons that the effective school administrators must have leadership skills to persuade their subordinates to perform their duties to the best of their ability. The school administrators are also friendly, have a good relationship with others, are responsible for ensuring work achievement with the utmost effectiveness, and must have morality and professional ethics in working and living. This is consistent with Sergiovanni's (1998: 42) point of view that leadership behavior is an essential part of building engagement, uplifting morals, ethics and conduct of leaders and followers, and raising awareness of the school's main goals which will bring about the quality and efficiency of school management. It also is in line with Monta (2018 : 212), who explains that administrators play an important role in affecting learners' learning achievements, and their desirable characteristics according to the goals of educational management. The administrators also make parents and teachers satisfied with the quality of school education.

6.2.2 The collaborative networks (COLL), there was a direct influence on the effectiveness of the quality sub-district school administration (EFFECT) with the effect coefficient of 0.15. This has an effect on the effectiveness of the quality sub-district school administration. In other words, the support of the community in the educational management plays a very important role because the educational development requires cooperation from all sectors. It is true that the community is the first place that is close to the learners. Participation in being an educational institution committee in planning teaching and learning is an important driving force in education management. Therefore, school networks are the crucial factors affecting quality education because these networks work together in exchange of learning or resources to manage education together

in order to make their education effective with higher academic achievement. This is in accordance with Hongwilai (2016: 76) who mentions aspects of participatory education management:

1) Planning by setting vision, mission, goals, strategies and project plans of child development centers is set. It is also a process that organizations take action to achieve the desired effect in the future by making decisions in advance to choose the best way to work most effectively so as to achieve the desired results within the specified time. Moreover, this process must be carried out continuously with flexible improvement.

2) Coordination means coordinating with local people and government sectors by taking care of child development centers. The way of working should also be well managed in order to encourage personnel of various departments to work together in unity with no work conflicts or overlaps. This is to keep the work going smoothly, and it is consistent with the purpose and the policies of the organizations focusing on harmony and efficiency. 3) Resource allocation refers to the procurement and allocation of money, manpower and materials of child development centers. This includes the resources allocated to various sectors or personnel who will use the appropriate resources for achieving the organizations' goals. Therefore, it can be claimed that resource allocation is important to the quality management system.

6.3 The three factors indirectly influencing the effectiveness of the quality sub-district school administration in these provinces were found: administrative process (AP) with the effect coefficient of 0.22, followed by learning management process (LMP) with the effect coefficient of 0.06, and characteristics of the school administrators (CHAR) with the effect coefficient of 0.04, respectively. The researcher made a discussion according to the indirect influence on the effectiveness of quality sub-district school administration in Nakhonchaiburin provinces, from the most level to the least level as the following:

6.3.1 The administrative process (AP) plays an important role in driving the quality of schools. Under this process, the schools will have an action plan, a project, budget allocated by their affiliations to improve the quality of education, adequate materials and equipment for operation, and use modern and up-to-date information and communication technology. Moreover, supervision, monitoring and evaluation of the performance of various school activities are taken into account. An internal quality assurance system with educational standards to make the school's operations quality is also considered. This is in accordance with Charoensri (2007) who opines that for academic administration, schools must prepare a curriculum in accordance with the status and the needs of the community and society. Moreover, teachers, administrators, parents and community should participate in the school operations. There is a learning process that focuses on the learner-centered approach, and the educational management must be based on quality and standards. It is also in line with the National Education Act B.E. 2542 and its amendments (No. 2), B.E. 2545, Section 6. Under this second, education must be managed for developing Thai

people to be perfect human beings in body, mind, intelligence, knowledge, morality, ethics and culture of living in order to be able to live with other people happily. According to Section 22, education management must be based on the principle that all learners are capable of learning and self-development, and the learners are considered the most important. The learners, therefore, must be supported to develop themselves naturally with their full potential (Ministry of Education. 2003: 3-8).

6.3.2 For the learning management process (LMP), there was an indirect influence on the effectiveness of the quality sub-district school administration (EFFECT) with the effect coefficient of 0.06. This is due to educational institutions analyze curriculum and learning standards. There is a plan for learning management that focuses on the learner. Teachers are skilled and proficient in learning management. Research is conducted to improve teaching and learning, which is essential and important to be used to solve problems and develop learners. To enable learners to be able to seek knowledge, think critically, create a body of knowledge, have knowledge, and be able to develop learning that is suitable for learners. which will lead to the development of the quality of education and activities to promote the quality of learners to have an increase in academic achievement, increased desirable behavioral modifications. Which corresponds to the National Education Act B.E. 2542 and its amendments (No. 2), B.E. 2545, to use the research process as part of learning learners can research their interests or want to gain knowledge or solve learning problems. The research process will help learners to practice thinking, practice planning, practice operations and practice finding reasons for answering problems. By blending integrated knowledge to create a real-life learning experience and adapting the mass of experience to solve problems. Including research to improve the quality of education of educational institutions aims for executives to conduct research and bring research results into decision-making. As well as formulate policies and plans for educational institution management to become an organization that leads to quality education and is a source of quality enhancing learners' learning experiences. In accordance with Khamanee (2017 : 34-35) who states that teaching and learning management with an emphasis on integration means bringing relevant content to be related to the subject. Same and organize learning activities allowing learners to gain knowledge and understanding in a holistic manner and able to apply knowledge and understanding in daily life.

6.3.3 The characteristics of the school administrators (CHAR) have an indirect influence on the effectiveness of the quality sub-district school administration (EFFECT) with a positive influence of 0.04. It can be said that the characteristics or behavior expressed by the administrators will affect the school's educational management because they will keep encouraging and supporting teachers to develop themselves continuously in order to bring knowledge and experience obtained from the trainings to develop their instructional management. Moreover, the

administrators will allocate adequate resources to meet the needs of the students for the most effective teaching and learning management. This affects the development of students' achievements, skills, characteristics and desirable values. Consequently, the empirical results of good management will be accepted by parents and communities. This is consistent with Pradu (2021: 53) whose study is relevant to the characteristics of school administrators affecting the effectiveness of schools according to the perceptions of administrators and teachers under the Surat Thani Primary Educational Service Area Office 3. It was found that the school administrators had a role in commanding, ordering and making decisions to solve school problems. This affects the success of all tasks at schools. Moreover, the administrators must be knowledgeable, competent, and have characteristics in educational administration for leading school personnel to effectively carry out educational management to achieve the school goals. The characteristics of the school administrators can be expressed by using their knowledge, competence, and work skills for getting the job done with quality. Their characteristics are important factors that will promote and support schools to conquer a success and more efficiency of school management and to achieve the school goals set. This is in line with the concept of Santiwong (2011: 3) who states that school administrators performs duties on academic principles with their abilities, and applied strategies under the rapidly changing globalization. Therefore, they must be better than the school administrators in the previous era in managing the internal organization so as to carry out operating systems smoothly, and are able to face and overcome various crises.

7. Recommendations

7.1 School administrators should focus on the school administrator's characteristic, administrative process, learning management process, and collaborative networks.

7.2 A model should be developed by focusing on the factors influencing the effectiveness of the quality sub-district school administration in Nakhonchaiburin provinces in terms of utilization and development of sub-district schools.

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A Collocational Error Analysis in English Narrative Essay Written by English Major Students

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Abstract

Collocation has been considered as a problem of Thai students who study English as a foreign language even though they have been learning English language since they were young. This study aimed to 1. analyze and categorize types of collocational errors in English narrative essay written by English major students. 2. identify the causes of collocational errors in English narrative essay written by English major students. An essay test, coding tables, and coding guidelines were employed as the research instruments. Findings of the study revealed that the top three categories of collocational error that students produced were verb + preposition, followed by verb + noun, and noun + preposition respectively. While the highest frequency of cause of collocational errors was the ignorance of rules restrictions.

Keywords : Collocation, Error Analysis, Narrative Essay, Causes of Collocational Error

1. Introduction

English language is now considered as an important language, not only studying in schools, but also within the society. It also has become the global language (Harmer. 2001). It is used in global communications, international business, science and technology, and other international organizations. This indicates the significance of English language as one of the main mediums of communication all over the world. The augmentation of the use of English in many countries, including Thailand, influences the Thai educational system (Worasuk. 2007). Thus, necessity of Thai students to master their English skills—consists of listening, speaking, reading, and writing—is obviously increasing due to the requirement of the society.

It is unrefusable that writing is one of the skills which is hard to master on the side of the learners (Sajid. 2016). Writing is a complicated skill that even some native speakers are not good at writing (Nunan. 1999). Palmer (1981) states that to developing writing skills is not only difficult and complex, but also time consuming because some other skills of English may be needed

to be employed to write something. One of the English components that promote students' writing skill is collocation because it has been determined to be a significant part of students' L2 vocabulary enhancement that it develops in parallel with students' lexical knowledge (Bahns & Eldaw. 1993)

However, English collocations have its own characteristics that learners need to be aware; consequently, it usually causes issues for learners who study English as a foreign language or as a second language. Collocation is one of the most difficult problems for Thai students because not many of them are aware of the presence of collocations. As a result, they produce some mistakes and errors of using English collocations.

Most EFL/ ESL university students should have been familiar with using English collocations because they have been learning English language since they were young, especially Thai university students. In the contrary, although Thai university students have been exposed to English collocations for a long time, the mistakes and errors of using English collocations are frequently produced for some reasons. It is, therefore, interesting for the researcher to study about this issue. The purposes of this study are to to 1. analyze and categorize types of collocational errors in English narrative essay written by English major students. 2. identify the causes of collocational errors in English narrative essay written by English major students. By analyzing errors committed by students, the result of this study will be advantageous for future students and teachers who want to design their course for those students who have the same context and environment of learning the target language as the subjects.

2. Literature Review

2.1 Second Language Writing

Many linguists state that second language writing has been considered more important in recent years (Hyland. 2002, Matsuda. 2003, and Musa. 2016). They have discovered that second language (L2) writing is significantly different from first language (L1) writing. According to Silva (1993) second language writing involves more complex thinking skills than first language writing and it usually suffer learners to writing in their second language.

In the past ten years, EFL and ESL countries have shared the similar problems in English as a second or a foreign language writing. Kumpawan (2014) has studied about Thai students' writing and reported that the writing ability of those students did not meet the standards of the Ordinary National Education Test (ONET) in 2011. She pointed out that it can be clearly seen that Thai students' English proficiency is needed to be enhanced. The result of the study demonstrated that writing skills, from all four skills of English, seemed to be the most difficult skills to learn for Thai students. She also stated that Thai students lack practice in English writing skill

and it led to the unsuccess achieving complex tasks such as essay writing, or academic writing, especially in secondary level.

2.2 Narrative Essay

Various definitions of narrative essay have been stated by linguists for a number of years. McWhorter (2007) mentions that a narrative essay accomplishes a particular purpose by telling a story which makes it results in being interesting and getting some points across. Hack et al. (2002) states that narrative writing is a story that comes from a writer's individual experience, and it is normally created from the first-person point of view that include feelings, sensory details, and other components to attract the readers to continue reading. However, many linguists share the same idea on narrative essay that it is a method of writing to achieve a certain purpose by telling stories to readers, and this type of writing is extraordinary in terms of feelings and emotions that can be included in the writing.

2.3 Collocation

The definitions of collocation have been discussed for a long period of time, nonetheless, the consensus on its definitions focuses on a means of combining words which usually and frequently occur together, made up of individual words and sounds natural to native speakers. Collocations, according to Lewis (2000), can be divided into two main classifications: lexical collocations and grammatical collocations.

2.3.1 **Lexical collocations** consist of two content words or open class words, which include nouns, verbs, adjectives, and adverbs. Lewis has classified lexical collocations into six types, as illustrated below:

For examples:

adjective + noun	*a difficult decision*
verb + noun	*submit a report*
noun + noun	*radio station*
verb + adverb	*examine thoroughly*
adverb + adjective	*extremely inconvenient*
noun + verb	*the fog closed in*

(Lewis, 2000: p.133)

2.3.2 **Grammatical collocations** are derived from the combination of one open class word, e.g., noun, verb, adjective, etc., and one closed class, which is mainly a preposition. For examples:

adjective + preposition	*aware of*
verb + preposition	*step into*
noun + preposition	*emphasis on*

(Lewis, 2000: p.134)

2.4 Error Analysis

Error Analysis is an invaluable source of information. It gives some information on students' errors in a particular topic. The researcher will get understanding on the nature of errors when analyzing errors that students have made, and it will indicate the kind of language element that is essential for students to avoid the occurrence of errors. Ellis (2008) sums up that Error Analysis is a tool which is used to investigate how the learners acquire a second language. She also explains that there are four steps in analyzing errors. Firstly, identifying errors, the researcher must compare sentences that learners produce with what seem to be the normal or correct sentences in the target language which correspond with them. Secondly, the researcher described errors by classifying errors into categories according to classifications of collocations of Lewis (2000). Thirdly, once errors can be identified and classified, the next task is to explain why they occur. This process is called "explaining errors." The last step of error analysis is error evaluation. Evaluating errors helps learners learn second language. Some errors which consider more serious need to be focused by the teacher. Some errors, known as global errors, violate the overall structure of a sentence and for this reason may make it difficult to process. Other errors, known as local errors, affect only a single constituent in the sentence and less likely to create any processing problems.

2.5 Causes of Errors

Richard (1971) classifies the causes of errors into four categories including over generalization, ignorance of rule restrictions, incomplete application of the rules, and false concept hypothesized.

2.5.1 Overgeneralization refers to an instance where learners apply the use of previous structures or strategies in other situation of the target language. For instance, learners create a plural form by adding "s" to irregular plurals, also adding -ed to create the past form to irregular verbs.

2.5.2 Ignorance of rule restriction refers to where learners fail to observe the rules of existing structures. For example, learners create a sentence "He **made** me to go rest" rather than "He asked/ wanted me to go rest."

2.5.3 Incomplete application of rules refers to when the learners do not use a fully developed sentence or structure. For example, "You like swimming?" instead of "Do you like swimming?"

2.5.4 False hypothesis refers to faulty rule learning at various levels. This means the learners cannot distinguish between the uses of words that have similar meanings such as "tall" and "high."

3. Methodology

3.1 Participants

The samples chosen for this study comprised 32 second-year English major students, Faculty of Humanities and Social Sciences, Buriram Rajabhat University who enrolled in the course entitled 'Essay Writing' in the first semester of academic year 2021. They were selected by using simple random sampling technique.

3.2 Instruments

The research instrument consisted of narrative essay test. All participants were assigned to write a narrative essay in which consists of 400-1000 words under the writing topic "The experience that changed your life" that was provided by the researcher. The topic was selected by the researcher and had been approved and qualified by experts in terms of research instrument's reliability by experts of English.

The second research instrument was tables of coding. The researcher used one of the coding table to analyze and code errors that occur in students' narrative essay. The researcher categorized the collocational errors into two main types, which are lexical collocational errors and grammatical collocational errors, and some additional sub-categories according to Lewis (2000). Additionally, another kind of table of coding was employed to analyze and code the causes of error that were classified according to four causes of error from Richards (1971).

The last research instrument of the present study was coding guideline. Coding guideline was a tool to help research advisor and experts of English to be able to check the correctness and accuracy of researcher's coding results. Moreover, the research advisor and experts could easier understand all the coding procedures of the researcher.

3.3 Data collection

After sending the official letter to request for permission and cooperation to gather the data, 32 second-year English major students were asked to write a narrative essay in which consists of 400-1000 words. The students were not allowed to use neither online or any kinds of dictionary. After the writing was completed, the writing tasks were selected by excluding the writing that has less than 399 words, then the selected writing were used as the samples of this research.

3.4 Data Analysis

3.4.1 Coding errors

After the researcher gathered all the samples, the researcher went over all the writing to look for errors occur in the writing and mark all the errors in each paper. Then, the researcher corrected all the errors in order to figure out the types of those errors in the writing. After checking and correcting all errors, the checked versions were given to the research advisors to examine and recheck before giving out to three experts of English language to check types of errors and

the sentences corrected by the researcher. Later than that, the final coding was adapted according to the experts' recommendations.

        3.4.2 Error categorization

        After the final coding, the researcher categorized the collocational errors into two main types, which are lexical collocational errors and grammatical collocational errors, and some additional sub-categories. When all types of collocational errors were coded, the researcher counted it and analyzed it in the form of frequency and percentage.

        3.4.3 Coding causes of errors

        When categorizing the errors was completed, the researcher studied all types of errors to find out and analyze causes of the errors. Then, the research advisors were asked to check all causes coded from the researcher before proposing to the three experts of English to check the correctness of coding.

        3.4.4 Causes of error categorization

        The last process of data analysis of this research was to categorize the causes of errors. Finally, the researcher analyzed the whole categories of causes of errors and presented the results in the table of frequency and percentage.

4. Results

        Based on the research purposes, the results of data analysis were as follows:

        4.1 Collocational Errors Categorization

        When the university students' narrative essays were checked and the collocational errors were completely identified, it could be categorized as shown in Table 1:

Collocational Errors Categorization	Frequency	Percentage
1. adjective + noun	7	8.24
2. verb + noun	15	17.65
3. noun + noun	1	1.18
4. verb + adverb	9	10.58
5. adverb + adjective	0	0.00
6. noun + verb	6	7.06
7. adjective + preposition	2	2.35
8. verb + preposition	31	36.47
9. noun + preposition	14	16.47

        As shown in Table 1, the three most categories of collocational errors produced by English major students in their narrative essays were verb + preposition (f=31, 36.47%), followed

by verb + noun (f=15, 17.65%), and noun + preposition (f=14, 16.47%) respectively. On the contrary, the collocational error of adverb + adjective was reported as the lowest category of collocational error being produced.

4.2 Causes of Collocational Errors

This section presents the causes of collocational errors according to the classification of Richards (1971). After all collocational errors that the participants produced had been identified and categorized, each collocation was coded its causes as shown in the following table.

Causes of Errors	Frequency	Percentage
Overgeneralization	8	9.41
Ignorance of rules restriction	37	43.53
Incomplete application of rules	21	24.71
False hypothesis	19	22.35

Table 2 portrays the categories of causes of collocational errors produced in English major students' narrative essays. It was found that the ignorance of rules restrictions was rated as the most repeated cause of errors found in the essays (f=37, 43.53%) while overgeneralization was reported as the least repetitious cause of errors (f=8, 9.41%).

To sum up, when considering the collocational errors and their causes produced in narrative essays written by English major students, the major collocational error was reported to be verb + preposition collocation and the major cause of collocational error is the ignorance of rules restriction.

5. Discussion

This section concerns the discussion of the findings in the following points:

5.1 Types of collocational errors produced by English major students

The findings of the investigation discovered that even though Thai university students have been learning English and exposed to various English collocations, they still committed plenty of collocational mistakes and errors for some reasons. Thus, it supported the research results of Huang (2001), Mongkolchai (2008), Brashi (2009), and Wangsirisombat (2011) that EFL learners have insufficient capability in using English collocations.

The result of the study revealed that the three most common collocational errors found in the English major students' narrative writing were verb + preposition, following with verb + noun, and noun + preposition respectively. Moreover, the findings demonstrated that the learners could use noun + noun and adjective + prepositions collocations quiet well. On the contrary, verb + preposition collocations were found as the lowest effective use. While adverb + adjective was

not produced in the students' writings at all. This finding was supported by the study of Nesselhauf (2003) that all collocational errors occurring were the combination between verb + noun collocations and verb + preposition collocations. This is possibly because EFL learners lack an awareness of the existence and the knowledge of collocations, and the differences of the collocational patterns between the first and the target language.

As the results were discovered in a group of EFL students, each finding can be examined to portray an overall picture of EFL learners' collocational errors.

5.2 Causes of collocational errors

Error analysis is a linguistic analysis that focuses on the errors learners make by comparing between the errors made in the target language and that target language itself. It is also important for researchers to analyze and identify the causes of those errors in order to solve the problem straightforwardly, and to prioritize the problematic errors.

The results of the study revealed that the ignorance of rules restriction was the most common cause of collocational errors produced by English major students. This result can be implied that the learners often failed to observe the restrictions of certain structures and, consequently, they applied rules to context where they are not applicable. The following cause of collocational errors that English major students frequently produced was the incomplete application of rules. This means that the learners apply a rule in context of a sentence, although the rule is not yet complete. In other words, most of the learners failed to use a fully developed structure. Additionally, false hypothesis can also be considered as a frequent cause of errors the students produced. It means the learner do not comprehend a distinction in the target language. In this case, the participants tended to use synonyms to replace some words that overlapping meanings, causing the inappropriately use of some words. In contrast, overgeneralization is not considered as a major problematic cause of collocational error for this study.

6. Conclusion

English major students in Thailand, even at the higher level of English proficiency, still have some difficulties in using English collocations. There are still plenty of collocational errors identified in their pieces of writing. This demonstrates that English teacher in Thailand should not focus only on grammar-oriented approach, and they should pay more attention to English vocabulary acquisition in order to expand students' lexical knowledge effectively. Verb + preposition and verb + noun seem to be the most problematic types of collocation, and the importance of rules restrictions seems to be the most significant thing to teach EFL leaners, thus, all these factors should be taken into account.

7. Recommendation

7.1 This investigation was very limited in term of the number of the participants and focused only writing skills of English major students. Therefore, the findings of the study might be limited to generalize to other group of students who have similarities in English proficiency and learning context. For future research, a greater number of the samples and other skills at other levels are recommended in the future.

7.2 Further research could employ other kinds of research instrument, for instance, corpus program or English collocation tests, in order to get more precise and concise results of the study.

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Educational Strategies Aimed to Improving Student Nurse's Medication Calculation Skills : A Systemic Review

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Abstract

This quantitative research with a systematic review of the literature aims to summarize the knowledge about strategies for developing medication calculation skills of nursing students. By searching for the research reported between 2011-2021 from the database: 1) Science Direct, 2) CINAHL, 3) Web of Science, 4) Electronic Thesis Database (Thailand Library Integrated System: Thai LIS), 5) Google scholarship. It uses criteria for the selection of research that is in accordance with the objectives of the literature review according to PICo's concept (P = Participation, I = Phenomenology of Interest, Co = Context). It assess the quality of research by considering abstracts with content in accordance to include and exclude criteria. Analyzed and synthesized using descriptive statistics and presented by summarizing.

The systematic search results found that there are 10 research papers that meet 4 strategies for developing medication calculation skills found in the research papers are: 1) Traditional pedagogy strategies, 2) Technology strategies, 3) Psychomotor strategies and 4) blended strategies. However nursing students receive different benefits from teaching and learning in each strategy.

The research results can be used by researchers or anyone interested in the strategy for developing medication calculation skills obtained from synthetic analysis by reviewing literature. This systematic approach can be used as a guideline for teaching and learning that is appropriate for the context.

Keywords : Improving Medication Calculation Skills, Student Nurse, A Systemic Review

1. Introduction

According to the report, the number of deaths worldwide caused by medical errors in hospitals is 98,000 per year, with a higher incidence of death than the incidence of death from a car accident. breast cancer or AIDS and injuries from work. Most of the deaths were due to drug inaccuracies. Therefore, drug discrepancies have become a top priority. of health team

personnel who need to focus on and take corrective action (The National Coordinating Council for Medication Error Reporting and Prevention: NCC MERP, 2019).

Medication error is a preventable and avoidable event. It is an event that causes or leads to inappropriate drug use or harm to the patient, While the drug is under the responsibility of health care personnel. (NCC MERP, 2019), The incidence of medication error can occur at any stage of drug administration. Prescribing, medication copying of prescriptions, transcribing, dispensing, administrating and monitoring, prevention requires systems and procedures in place to ensure that the dosing process is accurate. (WHO, 2017; Chongjit Saneha et al., 2018), which the process of drug administration to patients involves at least 3 professional health team personnel; doctors, pharmacists and registered nurses (Supanee Senadisai and Wannapa Prapaipanich, 2021)

Nursing profession is one of the professions in the team of medical personnel, who provide the closest care to the service patients. It is responsible for medication administering to patients according to the principles of drug administration. Therefore, it is imperative that the nurses study the details of each drug in order to understand its properties, dosage, method of use, action and side effects from various medications. Carefully and comprehensively to prevent medication discrepancies (Administration error)., which is an error that occurs in the process of giving the drug to the patient that is different from the prescription. Or the error that causes the patient to receive the wrong medication from the intention of the medication user (Supanee Senadisai and Wannapa Praphaipanich, 2021). Calculating the drug is one of the important functions of the nurse profession in drug administration, to ensure accuracy. Prevent wrong dose or wrong strength error, which is a dose that is higher or lower than the dose in the prescription. which nurses must to have knowledge, an understanding of the fundamentals of medication computation. Obtained from teaching, while being a nursing student which must emphasize accuracy, accurate drug calculation skills for effective implementation in real-world situations.

Nursing students are part of a nursing team who practice in wards under the supervision of professional nurses. The drug administration is one of the roles that nursing students must treat directly to the patient. This is to ensure that drug administration is safe and in line with quality assurance standards of nursing institutions and hospitals. Causing educational institutions to open bachelor's degree programs in nursing throughout the country. Focus on teaching and learning that integrates the safety of patient care both in theory and in practice. including the content of Rational Drug Use (RDU), but the literature review also found that there was an incidence of errors in the practice of nursing students. without a clear system to prevent discrepancies from drug administration. Discrete incidence collection (Yongyuth Kaewteem, 2013) by type of medication discrepancy among nursing students, including omission error, wrong-dose error, and wrong time (Wrong-time error). The most common cause of discrepancies in drug administration among

nursing students is performance deficit, means that students have the skills and knowledge to perform safe drug administration according to criteria. But failed to perform successfully, 51.01 percent, the second most common cause was 31.89% did not meet the requirements, 26.52% lacked knowledge, and 16.92% had poor communication (Wolf, Hicks & Serembus, 2006; emphasis added). Chongjit Saneha et al., 2018), which is consistent with a Stolic (2014) literature review that found that nursing students still have deficiencies in knowledge, skills and ability to calculate drugs. which will result in drug administration errors.

From the aforementioned problems and importance, it can be seen that the preparation of basic knowledge in drug calculation and drug administration skills is essential and necessary. The World Health Organization has required all professional courses related to health services to include basic computational courses. Pharmacology Basic nursing practice, including patient nursing in various fields which must focus on practice in the process of drug preparation, drug administration and various precautions However, nursing students had little experience in giving medication. However, practice is needed to improve medication administration skills in order to prepare students to be nurses with appropriate skills for safety. And improve the quality of patient care to be more efficient. This research aims to summarize the knowledge of the study on the development of medication calculation skills of nursing students by means of a systematic research review. To apply the knowledge results to suggest guidelines for teaching and learning management in nursing students and is a suggestion for further research.

2. Objectives

To summarize the knowledge of the study on strategies for improving medication calculation skills of nursing students by means of a systematic research review, 2011-2021.

3. Population and sample studied

Population used in systematic reviews is a research study on the development of skills Calculating medicines of nursing students by defining the properties of the sample group as follows:

1. The academic article or research study in Thailand and abroad, that has been published 10 years retrospectively reported from 2011 to 2021.

2. The research study on the development of medication calculation skills in nursing students, which is the starting variable for the review.

3. The research study on strategies, methods, and outcomes from the development of drug calculation skills in nursing students. Where are the strategies, methods, and outcomes were the dependent variables of the research reviewed.

4. The academic paper or research paper (Full text) that has been reviewed by experts (Peer review).

5. The academic article or research that includes keywords used in relevant searches based on PICo concep (P = Participation, I = Phenomenology of Interest, Co = Context)

4. The exclusion criteria are as follows:

1. The academic article or research published before 2011

2. The academic article or unstudied research in nursing students

3. The that presents only an abstract or does not have access to a complete research report

5. Methods

This research is a quanlitative research. through a systematic review of the literature to analyze empirical data from relevant research; It covers topics related to the development of nursing students' drug calculation skills. from past research both domestically and internationally in order to obtain reliable educational results with the following steps

1. Searching process; The researcher searches for relevant academic articles and research articles from electronic journal database. The criteria for selecting the database are as follows: 1) It is the source of information on health sciences at the Office of Academic Resources Buriram Rajabhat University which the researcher is a member 2) The article be able to search and retrieve the full article from 2011-2021 3) The nature of the academic articles and research articles searched for have been published in the past 10 years, i.e. since the year B.E. 2011 - 2021 both Thai and English It is reviewed by experts (Peer review) and 4) There are keywords used in searching for academic articles. and related research articles according to PICO principles (P = Participation, I = Phenomenology of Interest, Co = Context).

2. Data sources; The researcher has selected data sources from electronic journal databases and meets the criteria specified by the researcher above. There are 5 databases as follows: 1) Science Direct 2) CINAHL 3) Web of Science 4) Thesis database. Electronic (Thailand Library Integrated System: Thai LIS) 5) Google scholarship

3. Process of Selection and Analysis/Synthesis of Data The researcher proceeds as follows;

3.1 The selection criteria are academic articles and research articles published in the specified database and has the following features;

3.1.1 The title corresponds to the research objectives. The researcher used the concept of PICo in the selection research is as follows:

P (Participant): the desired sample group English keywords include student nurse, nurse student, nursing student, undergraduate nursing students and the Thai language keywords include student/ nursing student/ nurse.

I (Phenomenal of Interest): Phenomenon to be studied English keyword consists of medication calculation skills, medication administration, medication administration skills, and Thai keywords include drug calculation/ drug administration/ drug administration/ drug calculation skills/ drug administration skills.

Co (Context): Context studied English keywords include hospital, faculty of nursing, nursing laboratory, simulation learning environment and Thai keywords include: hospital/ faculty of Nursing/ nursing laboratory/ simulation

3.2 Selection process; The researcher has searched for articles that have the steps to extract and analyze/synthesize the data as follows:

Step 1: Search for academic articles and research articles in the journal database system, consisting of the database selected according to the criteria has been published in the past 10 years, reviewed by experts. Full report can be accessed with keywords used to find relevant work, articles and research articles.

Step 2: Select the titles of academic and research papers that meet the inclusion criteria. and cut out according to the selection criteria

Step 3: Consider by reading abstracts of academic articles and research articles, selecting only academic articles and research articles whose content of abstracts corresponds to the inclusion and exclusion criteria according to the inclusion criteria.

Step 4: Read the content of the research in detail by selecting only academic articles and research articles. whose content is consistent with the objectives of the literature review.

6. Data analysis and the statistics used

The researcher used the information obtained from the research summary form to analyze and synthesize the knowledge in detail. by general information of the research Analyzed using descriptive statistics. and presented using a summary

7. Findings

From the search results of a total of 2,525 academic articles and research articles, it was found that they were duplicates. A total of 87 related researches remained. After evaluating the quality of research used in the systematic review of the literature, 10 subjects were able to show steps. The selection of research results is shown in Figure 1. The selection process for academic articles and research articles.
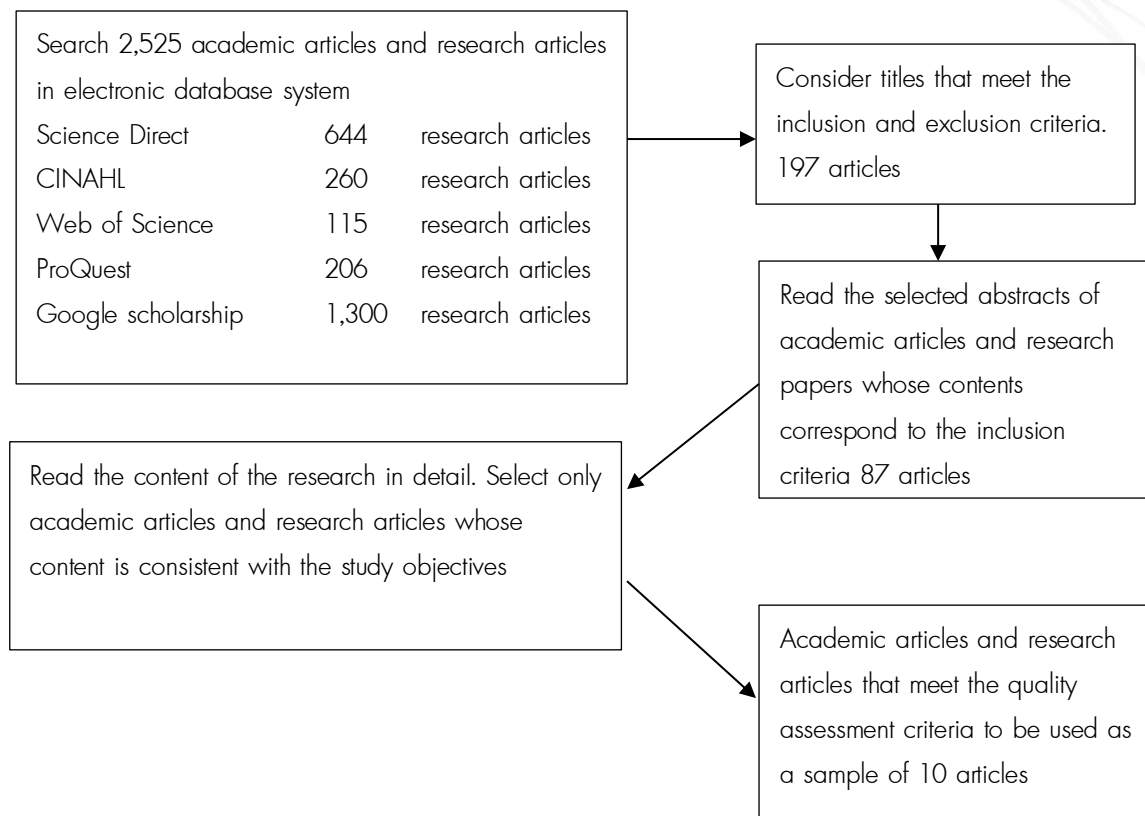
Figure 1 Selection process for academic articles and research articles

From a total of 10 academic articles and research articles, the results of the study of academic articles and research articles are shown in Table 1

Table 1 Table showing the results of the study of academic articles and research articles

Author/year	Research title	Objective	Place of research	Sample size	Type of research	Results
1. Ozunal, Boran & Saglam (2020)	Investigation of drug dose calculation skills and self ratings among nursing students.	Medication errors are important concerns in terms of patient safety. Dose calculation skills contribute to medication errors. The aim of this study is to evaluate the calculation skills and self-ratings of nursing students.	Maltepe university, Turkey	120 students nurse	Retrospective descriptive study	1. The rates of correct answers to the questions varied between 20% and 63%. 2. In their self-assessments, 26.4% of them stated that they had a sufficient dose calculation skills. 3. The rate of correct answers in self ratings among 31.9% and 25% of them stated that had a

Author/year	Research title	Objective	Place of research	Sample size	Type of research	Results
						sufficient dose of calculation skills.
2. Unver., et al, 2013	An evaluation of a course on the rational use of medication in nursing from the perspective of the students	1.Investigate the effect of using a simulated patient as a teaching method on the performance of students in medication administration. 2. Explore the students' views on the simulated patient teaching method in terms of the skills acquired in administering medication.	Tukey	85 students nurse	Quasi-experimental pre test post test	1. The mean pre-test score on the evaluation form was 24.02 ± 16.06, whereas the mean post-test score was 54.28 ± 14.54. Therefore, there was a statistically significant difference between the mean pre- and post-test scores ($p<0.01$; $t=14.35$). 2. The use of a simulated patient in a course on the rational use of medication proved effective. Furthermore, the students gave positive feedback regarding the use of the simulated patient as a teaching method.
3. Suthisa Lamchang, Thitima Suklerttrakul and Preecha Lamchang, (2019)	Development of pediatric medication administration multimedia for nursing students	(1) to develop the pediatric medication administration [PMA] multimedia resources for nursing students, and (2) to evaluate the efficacy of this PMA multimedia resource	Faculty of Nursing, Chiang Mai University, Thailand	A purposive sample included 47 senior year nursing students	Development al research	The results of this study revealed that the efficacy of PMA Multimedia materials were 89.15 / 81.33 higher than the 80 / 80 standard. Post-test learning scores were higher than pretest ($t = 12.09$, $p < .001$) and most students indicated that their overall satisfaction with the multimedia materials was at the high or highest level (46.7% and 50.0% respectively).
4. Gunes, Baran., & Yilmaz, (2016)	Mathematical and drug calculation skills of nursing students in Turkey	investigate the mathematical and drug dose calculation skills of nursing students	2 nursing schools in two different Turkish cities.	128 nursing students	A descriptive and cross-sectional design	1. The median of the mathematical skill scores was 50%, and the range was between 0% and 100%. The drug dose calculation score varied between 10% and

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Author/year	Research title	Objective	Place of research	Sample size	Type of research	Results
						100%, and the median was 60%. Of the 128 students, 36.4% scored below 60%, and 82.9% scored below 80%. 2. The nursing students have poor mathematical and drug dose calculation skills.
5.Elonen., et al, 2021	Medication calculation skills of graduating nursing students within European context	1. Evaluate the medication calculation skills of graduating nursing students in six European countries 2. Analyse the associated factors.	Finland, Germany, Iceland, Ireland, Lithuania and Spain	1,796 students, 538 managers and 1,327 patients participated	A multinational cross-sectional survey design	1.Almost all (99%) of the students performed the tablet calculation correctly, and the majority (71%) answered the fluid calculation correctly. 2. Older age, a previous degree in health care and satisfaction with their current degree program was positively associated with correct fluid calculations. 3. The patients evaluated the students' medication skills higher than the nurse managers did and the evaluations were not systematically aligned with the calculation skills tested.
6. Lancker., et al, 2016	The effectiveness of an e-learning course on medication calculation in nursing students: a clustered quasi-experimental study	Evaluate the effectiveness of an e-learning course compared with a face-to-face lecture on medication calculation.	University Centre for Nursing and Midwifery, Department of Public Health, Faculty of Medicine and Health Sciences, Ghent University, Belgium	- the e-learning course (intervention group) (seven schools; 189 students) - face-to-face lecture (control group) (six schools, 222 students)	A stratified-clustered quasi-experimental study	1. Both medication calculation courses had a positive effect on medication calculation skills. 2. Students receiving traditional face-to-face lecture improved significantly more than the students receiving the e-learning course.

Author/year	Research title	Objective	Place of research	Sample size	Type of research	Results
7. Coyne., et al, 2013	Enhancing student nurses' medication calculation knowledge; integrating theoretical knowledge into practice	This study evaluated teaching interventions that focused on improving the students' understanding of mathematical calculations, medication formulas and conceptualising medication doses.	Australian University	156, 2nd year Bachelor of Nursing students	Evaluation study with teaching interventions and Time 1 and Time 2 medication tests.	For Time 1 medication test pre interventions, the mean was 7.3 with a mode of 8 out of ten. Maths and incorrect medication formula were the most common mistake. For Time 2 medication test post interventions, the mean was 9.3 with a mode of 10. The most common reason for incorrect answer Time 2 was incorrect medication formula. The students identified that the smaller tutorial sizes and remediation of errors was the main reason for continued attendance.
8. Wright, 2012	Student nurse perceptions of how they learn drug calculation skills.	Blended learning and psychomotor skills online workbook simulated drug session maths tutorial (Optional off campus Clinical placement self learning	United Kingdom	1 group, 2nd year 60 Student Nurse	Quasi-experimental post test last day of study	From this analysis three main themes emerged; students being able to measure their skills and gain feedback about their progress; being able to learn in their 'own way' and being given opportunities for this to happen; and being focussed on the goal of being able to calculate drugs in the 'real world'. The implications of these findings are explored in relation to nurse education.
9. Stolic, 2014	Educational strategies aimed at improving student nurse's medication	The aim of this integrative review was to examine the literature available on effective education strategies for undergraduate student	Australia	Research articles on medication calculation educational strategies were considered for inclusion in this	A Systemic review literature	The review revealed educational strategies fell into four types of strategies; traditional pedagogy, technology, psychomotor skills and blended learning

Author/year	Research title	Objective	Place of research	Sample size	Type of research	Results
	calculation skills: A review of the research literature	nurses on medication dosage calculations		review. The search yielded 266 papers of which 20 meet the inclusion criteria.		
10 Navarat Waichompu, et al., (2019)	Principles in administrating high alert drug in labor room : Development of a learning model for nursing students Boromarajonani College of Nursing, Yala	study the principles and practice for administration of high alert medication in labor room with nursing students, 2) develop a learning model for administration of high alert medication in labor room for nursing students, 3) study the effectiveness of the learning model, and 4) evaluate the effectiveness of the learning model.	Boromaraj onani College of Nursing, Yala	59 nursing students in Boromarajonani College of Nursing, Yala	Research and Development	1. Overall knowledge, attitude and nursing practice regarding administration of high alert medication was at a high level (μ=3.70, σ=0.83). 2. The learning model for the principles of administrating high alert medication in labor room for the nursing students was composed of three steps including before practice, practice, and after practice (Before-Action-Review: BAR). 3. After implementing the learning model, there was no incidence of error in high alert drug administration in labor room caused by the nursing students. 4. Overall the effectiveness of the learning model was at a high level (μ=3.85, σ=0.44).

8. Discussion

Based on a systematic review of research on the study of strategies for improving drug calculation skills among nursing students from 2011 to 2021. Of the 10 studies, 2 were in Thai articles. 8 were in English articles. All articles divided into 3 quantitative studies, 4 quasi-experimental studies, 2 research and development studies and 1 literature review. The sample consisted of 2,862 nursing students. In many contexts, both in the conventional (n = 6) classroom, online or with electronic teaching devices (n = 2) and in the health care setting (n = 1), The most

were strategic studies, used in teaching and learning that is effective in increasing the skill of calculating medicines. It was found that there were 4 types of teaching-learning strategies: 1) traditional teaching strategies; 2) strategies for teaching via online systems or using electronic teaching devices; 3) practice-based teaching strategies in both real and simulated situations in nursing laboratories; and 4) blended teaching strategies.

A literature review found that nursing students had more effective drug calculation skills if the students had basic math skills. According to the survey, students with low math and drug calculation skills (Gunes, Baran., & Yilmaz; 2016, Ozunal, Boran & Saglam, 2020). It's even better to teach basic formulas in a math course first. Subsequently, he taught how to calculate drugs using a variety of methods, such as using virtual simulations. Using the application helps to calculate medicines. Teaching in real situations on the ward or using various models/programs to help in teaching and learning, such as BAR (Before-Action-Review) or OCEF (Objectively constructed evaluation form), etc. The students had better calculation skills in pill form than liquid pill form. However, nursing students benefit differently from teaching and learning in each strategy.

The expected value of research is to get guidelines for teaching and learning for students. Nurses who have been examined by qualified and up-to-date

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On the Improvement Strategies of University Leaders' Literacy in Coping with Public Opinion Pressure

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Abstract

University leaders should have three main leadership qualities: information literacy, public relations literacy and innovation literacy to deal with the pressure of public opinion. Future leaders can formulate feasible strategies to deal with public opinion pressure from the aspects of cultivating public opinion response awareness and ability, paying attention to public needs and expanding participation, actively controlling and guiding the trend of public opinion.

Keywords : Leader, Public Sentiment, Accomplishment, Strategy

Deepening the Integration of Production and Education to Boost Regional Economic Development Explore New Modes of School-enterprise Cooperation

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Abstract

As an important path and institutional arrangement for the national development of vocational education, school enterprise cooperation has always been highly valued by the state. The outline of the national medium and long-term education reform and development plan (2010-2020) clearly puts forward the talent training mode of combining work with study, school enterprise cooperation and on-the-job internship, and establishes and improves the school running mechanism dominated by the government, guided by the industry and participated by enterprises, Specify school running regulations to promote school enterprise cooperation and promote the institutionalization of school enterprise cooperation. From the origin and significance of the research, this paper analyzes the significance of school enterprise cooperation. Starting from the actual talent demand, combined with the training mode of animation professionals in Colleges and universities, this paper constructs a new mode of school enterprise cooperation conducive to the training of animation professionals. Schools and enterprises are deeply integrated, jointly develop courses and jointly cultivate talents. Build a practical teaching platform. Promote the cooperation between schools and enterprises to enter the stage of deep integration. Improve the quality of professional training.

Keywords : School Enterprise Cooperation, Animation, Talent Training Mode

Exploring Student Engagement with Corpus Feedback on English Writing

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Abstract

This study aims to explore English as Foreign Language (EFL) students' engagement with corpus feedback on English writing. Ten third-year and fourth-year EFL students of one university in Vietnam voluntered to participate in the study after being trained to use corpus as a supplementary tool to revise their products in the writing process. The participants were required to write six essays on specific topics and then corrected their errors through corpus research themselves. A mixed method approach was employed with quantitative methods to analyze the students' texts and in-depth interviews to identify how the students engaged behaviorally, cognitively and affectively with corpus in their writing development. The findings showed that while cognitive engagement was more frequently activated compared to behavioral and affective engagement with the use of corpus as a self error-correction instrument in the writing process, the EFL students also revealed their improvement and positive attitudes during their writing practices.

Keywords : EFL Student, Student Engagement, Corpus Application, Self Error Correction, Writing Proficiency

1. Introduction

1.1 Background

Writing skill is one of the four language performance skills to indicate learners' English proficiency of the target language. For EFL students, writing is considered the most challenging skill that EFL English major students are required to achieve as their expected learning outcomes after a given course. The participants of the study are EFL undergraduate students taking courses at the faculty of English in Vietnam. They are required to achieve at minimum level 5 of 6 levels included in the framework of global scale for English tests in the Vietnamese context (aligned to Common European Framework of Reference for Languages- CEFR). This requirement is still a great challenge to most of the EFL students for their graduation. Furthermore, advanced students continue to have great difficulty with native-like collocation and idiomaticity. As Kim (2009) stated that even when advanced students make few or no grammatical errors in their writing, "their work

can still sound non-native-like or unnatural, due to the differences in frequency with which a certain linguistic structure is used or to unknown conventions of the particular genre in which they are writing".

Numerous educational technology tools are available today, which help facilitate student learning in English in general, and in writing skill in particular. Students and teachers need comprehensive and authentic language resources to access information beyond what they find in textbooks or reference books. Corpus, one useful tool for checking appropriate words in composing English texts not widely known at universities while it has potential to help EFL students advance their writing competence.

1.2 Literature review

A corpus is defined as a database collection of authentic instances of language use from a wide variety of sources (Yoon & Hirvela, 2004). Biber, Conrad and Reppen (1998) simply defined corpus as "a large and principled collection of natural texts, which is compiled so that it is representative of the language in general, a dialect, or other subset of the language". According to Kim (2009), for EFL students and teachers, the use of a searchable data corpus offers an excellent resource to check whether their word choices are appropriate or acceptable. With the increased availability of computers in classrooms and at home, students now have more opportunities to access corpus tools freely while writing.

Self-correction is necessary for students to push themselves toward longitudinal learning and is an effective way to foster students' motivation for self-development, as well as help to provide them with more opportunities to learn from their own mistakes. Seeing the most frequently used linguistic items in authentic examples is often beneficial for learners, so that "it does provide a more solid basis than relying only on intuitions and accepted practice" (Biber & Reppen, 2002), allowing students to confidently choose the most suitable words and phrases.

There is a large body of research investigating students' response to corpus use. Some findings suggest that students have positive attitudes towards the application of corpus in L2 learning (Yoon & Hilvera, 2004; Kim, 2009; Baghestani, 2011). On the other hand, in some empirical studies, respondents expressed various attitudes including negative reactions towards corpus consultation (Chang, 2010; Xue-hua & Ming-ying, 2013). In Xue-hua and Ming-ying's study (2013), learners that had positive attitudes towards corpus found it useful for word use in context and for word comparison; in contrast, learners who have negative attitudes find corpus time-consuming, as they were overwhelmed with the analysis process.

As a concept in education, student engagement refers to learners' commitment to learning. Fredricks, Blumenfeld, and Paris (2004) proposed a multifaceted concept of engagement, which consists of behavioral engagement, cognitive engagement, and affective engagement. Learners' affective engagement refers to their emotional tendency towards Written Correction

Feedback (WCF) (Zhang, 2017) whereas Zhang and Yu (2018) found that L2 writers' positive tendency to affective engagement with feedback plays a contributory role in L2 grammatical accuracy. The behavioral dimension involves how learners make some changes to their writing in response to the teacher or peer-written corrective feedback. It also refers to what learners do with the WCF and how they handle feedback when they receive it from their teachers or peers (Ellis, 2010). Furthermore, Zheng and Yu (2018) argue that teachers could trace how students functioned in writing revision on correcting errors and modifying their written works. Finally, cognitive engagement is recognized as the cognitive investment in the process of WCF (Ellis, 2010).

Zhang and Hyland (2018) conducted a study on student engagement comparing teacher and automated feedback on L2 writing. The study identified the strengths and weaknesses of both types of feedback and showed how engagement is a crucial mediating variable in the perceived usefulness of feedback and the impact it has on student writing development.

1.3 Rationale

Many researchers have been successful in examining the effectiveness of corpus-based activities for students' improvement in language proficiency and their development in grammatical knowledge as well as vocabulary acquisition. Previous studies have also shown that students' attitudes towards corpus application to writing and fixing errors are generally positive. However, despite of the growth in corpus consultation in various regions around the world, there is a scarcity of research on EFL students' engagement with the use of corpus for writing development in Vietnam. Hence, this study was designed to address this gap since it investigated how EFL English major undergraduate students engaged in their writing practices with the use corpus as a self-correction tool, as well as how corpus engagement helped promote students' writing competence.

2. Research Objective

Though corpus is still not popularly recommended by most of the students and lecturers at the local campus, students now have more opportunities to access corpus tools as a support tool for advancement with the increased availability of computers in classrooms and at home. This study, therefore, was conducted with the aim of exploring how EFL English major students have engaged in their writing practices with the assistance of corpus to develop their writing competence. Based on the purpose of the study as mentioned above, the study was carried out to answer the two research questions:

1. How do the EFL English major students engage in their writing practices with the use of corpus as a supplementary tool?

2. How does the corpus engagement help improve their writing skills?

3. Methodology

3.1 Research design

In order to address the two research questions, this study adopted a mixed-methods approach to explore the effectiveness of corpus as an instrument supporting the students' error self-correction in EFL writing. By integrating quantitative and qualitative data, the researcher would be provided with a more comprehensive understanding of the research problem than using either method alone. In this study, quantitative data consisted of an analysis of error correction and of the progress in CEFR (Common European Framework of Reference for Languages) level reached in participants' essays from week 1 to week 6. The qualitative approach consisted of learning logs and structured interviews, which played an essential part in examining the EFL students' engagement in English writing with the assistance of corpus consultation in revising essays as well as their improvement in writing self-correction capacity.

3.2 Participants

The participants chosen for this research were 10 students studying English through the English Department at a university of foreign languages in Vietnam while the study was conducted. There were 3 third-year students and 7 fourth-year students enrolled in different sub-majors, including English Pedagogy, Interpretation, Tourism, and English Teaching for Primary Schools. They had already finished the Writing 5 course, where they learned how to write an essay properly; as a result, learning how to use corpus gave them an opportunity to evaluate whether corpus is a useful tool to help them enhance the quality of their essays. The majority of the participants (70%) considered themselves intermediate-level writers, and the remaining evaluated themselves as advanced-level or proficient-level writers. The computer skills of the participants ranged from basic to advanced level. Meeting these prerequisites established that the subjects have enough English competence and computer skills to operate the corpus properly. The students had no prior experience in using corpus to improve their writing skills or language competence before, which means the results of the study could be evaluated under more controlled parameters.

3.3 Instrument

Two corpora that were employed as the preferred choices for research are Corpus of Contemporary American English (COCA) and British National Corpus (BNC). COCA (www.english-corpora.org/coca/) was developed by Professor Mark Davies from Brigham Young University and initially launched on the Internet on February 20, 2008. It has become one of the largest freely-available corpora of English with a size of more than a billion words derived from spoken and written sources. BNC (www.english-corpora.org/bnc/) was originally developed by Oxford University Press in the 1980s - early 1990s, and it contains 100 million words of text from a wide range of genres, which can be a good resource for EFL learners as it provides numerous

examples of different usages. Both corpora possess multiple functions and features that rendered great assistance in supporting students in their writing and error-correction.

3.4 Procedure of the study

In the first run of the experiment, corpus training was required to help students use the corpus efficiently. The researchers spent two days within one week introducing two corpora, COCA and BNC, to the participants so that they could familiarize themselves with the use of corpus and its functions. In the first stage of training, the researchers introduced the basic information of two corpora platforms that were applied in this study, namely COCA and BNC. The participants received handouts during the introduction session, and after finishing the first training, they received supplementary documents via email introducing the use of COCA and BNC as well as some basic searching exercises for them to become more familiar with those corpora. In the second stage, a sample essay with highlighted error corrections was shown to the participants, and the researchers explained and demonstrated how to fix the errors by using COCA and BNC. By doing this, the participants could understand the necessary procedure to follow during the time the study was conducted. For the rest of the training, the participants were required to consult the corpus to revise another sample essay in which the error corrections were highlighted, and then the researchers would comment on their performance in using corpus on error-correction and advise them if they had any problems.

Each participant was asked to write an essay each week for 6 continuous weeks. After receiving the participants' work, the researchers highlighted the errors in their first drafts and then returned them to the participants. After receiving the comments on their errors from the researchers, the participants corrected the highlighted errors by consulting the two corpora, and wrote down the correction or new words/phrases beside the errors of the original essay. After that, they handed in the second version of their essay to the researchers. The researchers kept a record of the errors that participants had committed in the first draft and the changes they had made in the second version. At the end of the study, most of the students completed all of the essays, but some of them missed one or two essays, so the researchers collected 56 essays in total.

3.5 Data collection and analysis

To analyze how effectively participants employed the corpus to improve their writing, the researchers adopted the method of analysis of the number and types of errors from Kim's research (2009). Each correction was rated with one of three possible symbols, namely + (plus), - (minus) and 0 (zero). + (plus) indicates that the error was improved with more natural language after being revised; - (minus) indicates that the errors became worse or less natural after revision; and 0 (zero) indicates that there was no change from the initial state of the error in question. The corrections were manually numbered and categorized into different ratings.

A text analyzer tool (http://www.roadtogrammar.com/textanalysis/) was also applied to rate the level of word complexity of student texts. Participants' essays collected during the first week, when students had not been exposed to the corpus use, was compared to the essays collected in the last week of the study, when participants had practiced using corpus and became familiar with it.

In addition, all participants were required to maintain a learning log during the course of the study. Each week, students were asked to fill in a chart after making their revisions, documenting the errors made in the first draft, type of the errors, and the corrections made by consulting the corpus. Some guided questions were given to investigate participants' engagement in English writing with corpus.

Lastly, interviews were conducted to allow students to give their opinions about corpus use in detail. The interviews were carried out via Zoom and Google meeting, and each interview lasted about 20-25 minutes. The interview was recorded and transcribed for the qualitative data analysis. The respondents' answers to the interview questions were summarized and presented in the form of quotations when necessary to further clarify the students' engagement with corpus feedback on their writing products.

4. Findings

4.1 Students' engagement with corpus use in self-correction

4.1.1 Cognitive engagement

Learners' cognitive engagement with corpus use for their essay correction was demonstrated from monitoring learning process and self-improvement. According to the learning logs and the interviews, the findings revealed that the participants were cognitively oriented toward receiving feedback and revising their errors by using corpus. The participants reported that corpus was an effective supplementary instruments in helping them correct the errors themselves since COCA and BNC were considered reliable and trustworthy resources for L2 learners. *"I feel more confident in my edited essays since my sentences seemed to be more appropriate and more academic when using the two corpora."*, one student wrote in her learning log. They asserted that choosing expressions from corpus made them feel more secure as they knew those corrections would be more appropriate since native speakers used them frequently. *"Seeing if a word or a phrase was low, medium or high frequency could help me determine whether it was acceptable and frequently used by the native speakers."*, said one interviewee. Moreover, the majority of participants understood the nature of their committed errors and how to use corpus to rectify those errors. Indeed, in their second drafts, the participants successfully self-corrected 87.5% of the total errors to be more appropirate with the help of corpus consultation. They also substituted a number

of terms and phrases with more natural ones and increased their vocabulary to a more complex academic level.

Central to metacognitive strategies are self-monitoring and self-regulation, a willingness to invest time, effort and thought into revising processes. Students commented they met several challenges in using corpus as a checking and referencing tool to revise their essays. Half of the students commented on the time needed. The respondents remarked that they did not feel so confident to decide what to type in the query box to revise their errors, or they were not sure which words could be put before and which ones could go after the node word. *"The procedure to use the corpus is not so easy. When I looked up in the dictionaries or typing a word in Google, it often much easier and faster to get the results I wanted."* said one interviewee. But after that, when they familiarized themselves with the corpus tool, they could use it to solve their writing problems in a short span of time. Moreover, at the beginning, the majority of students had difficulties in query formulation and result interpretation. Some reported in their learning logs and in the interview that initially they found it challenging to choose what to type in the query box to check and correct their errors. Nevertheless, after spending time practicing and getting familiar with the corpus use, they gradually got used to utilizing corpus in their writing and revising process.

4.1.2 Behavioral engagement

The behavioral engagement concerns how learners engaged with the corpus use in error correction and can be interpreted from their training as well as their revision operations. Since all of the participants had no prior experience in using corpus to improve their writing skills as well as their language competence, the corpus training was required to help students engage in essay revision process with the corpus application before beginning the study. Due to schedule differences and the COVID-19 pandemic, it was difficult to meet all participants at the same time and in-person; therefore, the researchers decided to arrange the training sessions via Zoom and Google Meet according to the time availability of different groups of students in order to introduce the two corpora COCA and BNC to the participants and get them familiarized with their functions. Although there were some minor problems during the online training process (technical issues, lack of face-to-face communication to clearly explain some problems...), the participants still enthusiastically engaged themselves in the training sessions and did not hesitate to ask about what they did not fully understand.

Furthermore, during the writing practice phase of the study, the participants were expected to write 6 essays in 6 weeks. At the end of the study, 6 out of 10 students completed all the essays, while the remaining four submitted 5 essays. These four participants skipped the essays in the first week, reporting that using corpus to check and self-revise the errors was an arduous task for them. However, with the researchers' assistance in formulating queries and interpreting the results, and with regular practice using corpus, they eventually completed all the

tasks successfully. In terms of revision operations, all of the students incorporated all the feedback given by the researchers.

Table 4.1 Total number of error-corrections in six categories in 56 essays

All corrections	Type of errors	+		0		-	
	Word choice	116	84.1%	14	10,1%	8	5.8%
	Preposition	39	88,6%	4	9.1%	1	2,3%
264	Spelling	17	100%				
	Grammar	41	91.2%	2	0.4%	2	0.4%
	Word order	7	100%				
	Register	12	92.3%	1	7.7%		
Total		232	87.8%	21	8%	11	4.2%

The students' behavioral engagement also involves how students make self-correction to improve the quality of their essays. The findings showed a high level of behavioral engagement with students' self-correction with the support of corpus. After submitting first drafts to the researchers, who also acted as a mentor, the participants received feedback and were asked to rectify the commited errors by consulting the two corpora COCA and BNC. As shown in Table 4.1, the errors in the students' essays were categorized into 6 types of errors, including word choice, preposition, grammar, spelling, word order, and register. Of 264 errors that were identified in their drafts, 232 corrections (87.8%) were made by the students so that their words or phrases seemed to be more accurate and more natural, wherease only 21 (8%) corrections showed no improvement and 11 errors became worse or less natural after students' self-revision. Therefore, behaviorally, the participants were motivated to pay their attention to the errors detected by the researchers and then make revisions of all the errors they had committed.

4.1.3 Affective engagement

Learners' affective engagement refers to the students' emotional reactions towards the use of corpus to enhance their writing essays. Most participants did not have positive attitudes towards corpus in the first two weeks, as they had never been exposed to this tool before. One student commented on her log, *"Since this is a new concept to me, I'm still not so familiar with using corpus to search and correct the errors. It takes me quite a lot of time and efforts, and sometimes it makes me stressed when I can't find the word I need.".* However, from the third week to the last week of the study, most of the students were positively engaged with the corpus consultation used in students' self-revision processes. They agreed that corpus was a great supportive tool to help them revise their essays, and showed their interests in using corpus for error rectification. *"The more I use corpus, the more I like it.",* said an interviewee. Another student wrote

on his learning log,*"I like corpus, because it helps me a lot in writing as well as correcting the errors myself... Thanks to corpus, I could confirm my error-revision as well as learn new phrases and collocations that were useful for my writing."*

On the other hand, a few respondents did not show much fondness for corpus use. As they explained, several obstacles prevented them from a smooth experience with corpus consultation (technical problems, unknown errors, inability to fix complicated errors,...), which caused them to have a negative perception. One student expressed in the interview that he did not think it was necessary for him to use the corpus, as *"Other tools do a better job in detecting and rectifying errors compared with corpus, like Microsoft Word or Google Docs."*

4.2 Students' improvement in writing and self-correction skills

Table 4.2 Number of errors needing corrections in six categories from Week 1 to Week 6

All corrections	Type of errors	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
264	Word choice	35	28	28	20	16	12
	Preposition	12	9	5	6	6	6
	Spelling	5	4	3	2	2	1
	Grammar	9	9	9	7	6	5
	Word order	3	0	1	2	1	0
	Register	3	2	3	3	0	2
	Total	67	52	49	40	31	26

With the students' engagement with the corpus use in rectifying errors in their compositions, the results revealed the improvement in the error correction when participants utilized the two corpora to revise their essays. As illustrated in the table above, the number of errors witnessed a sharp decline when comparing the errors students committed in the first week and those spotted in the last week of the study. Using corpus continuously for 6 weeks significantly reduced the total number of errors in students' essays, from 67 to only 27. Over the same period, errors in choosing the appropriate words and phrases also fell by one third (from 35 to 12), yet still account for the highest proportion. Meanwhile, students' incorrect use of Preposition and Grammar was reduced by half, occurring only 6 and 5 times respectively in the last week. In addition, a downward trend could be clearly seen in the number of Spelling and Word order errors, while the Register errors remained unchanged over the period of the study.

Moreover, the researchers were in charge of evaluating the CERF level of students' compositions; however, as the researchers were a non-native speaker, the evaluation might not

be completely appropriate. Therefore, the Text analyzer tool was used to provide more reliable evidence for the students' improvement in their essays.

Table 4.3 The comparison of CERF levels of essays in Week 1 and Week 6

Participant	CERF level of essays in Week 1	CERF level of essays in Week 6
Student 1	B2	B2
Student 2	B1	B2
Student 3	B1	B2
Student 4	B2	C1
Student 5	B2	B2
Student 6	B1	B2
Student 7	B1	B2
Student 8	B1	B1
Student 9	B1	B2
Student 10	C1	C1

As illustrated in Table 4.3, there was significant improvement in the participants' writing competence. Specifically, 6 out of 10 students improved their writing skills with the regular use of corpus. In addition, most participants shared in their interview that they had improved their English writing to some extent, especially their collocational and prepositional knowledge. A respondent reported in the learning log, *"The corpus helps me improve and boost my writing skills a lot with more accurate language features in certain real contexts that I want to express, and that makes me feel more confident in my writing."* However, the study also revealed that the CEFR levels of 4 participants showed no improvement even when they were supported by the corpus during 6 weeks of the study. This might be due to some obstacles these students encountered during the process of using corpus in their writing or the students found that the corpus was not useful to help them enhance their writing ability. One of the four students expressed in the interview, *"I know corpus is a useful tool to check the expressions, but I think corpus would not help much if the error was easily and instantly correct right away without further research or look up in corpus. And to the fact that I am confident in my linguistic ability and in fixing my error, the chance that I use corpus would be little."*

5. Conclusion

Considering the learners' engagement with corpus use in self-revising errors, the findings revealed that EFL students were actively engaged in English writing and revising with corpus consultation. The results suggest that the participants cognitively engaged with the corpus

application in self-correcting their errors since they believed the two corpora are significant and trustworthy reference sources to aid them in enhancing their writings. This means that when learners check their corrections from the reliable sources, they understand that this kind of correction is useful and are engaged in cognitive learning. Furthermore, the vast majority of participants recognized the nature of their errors and understood how to consult the corpus to correct those errors. Their sufficient linguistic competence appeared to impact their abilities to effectively process feedback and determine appropriate revisions. Additionally, regarding to students' self-monitoring and self-regulation involved in cognitive engagement, there was a considerable change in students' reactions from skepticism to optimism during 6 weeks practicing using corpus in their revision processes, which appeared to be mainly a result of their greater familiarity with corpus consultation. This suggests that the students' cognitive engagement was extensive, which was manifested in the use of metacognitive and cognitive operations to regulate their revising time as well as formulation and interpretation skills when using corpus in essay revisions.

From the behavioral perspective, the participants showed their cooperation and enthusiasm during the course of the training as well as writing practice. They had no hesitation in asking questions and asking for assistance from the researchers to clearly understand how the corpus works as a reference-checking tool for essay revision. All of the students participating in the study focused on the detected errors and then corrected all the errors by consulting corpus, making their drafts more natural and academic. This suggests the students effectively utilized the corpus application to support their revisions to improve the quality of their compositions. This echoes previous findings that students tend to make good use of corpus consultation in reviewing their essays (Yoon & Hilvera, 2004; Kim, 2009; Bridle, 2019).

Regarding affective engagement with corpus use, overall, the participants' emotional reactions and attitudes towards corpus use were positive with a vast majority of students believing that corpus was a useful and efficient tool to help them revise their essays. The students' attitudes towards corpus changed significantly, from skepticism to optimism during 6 weeks practicing using corpus in their revision processes. Most of the participants reacted positively to their experience when using corpus in revising essays, while a few respondents seemed not to excessively depend on the corpus consultation to check and correct their errors. The finding of students' conflicting attitudes towards corpus is in line with the findings in the study of Xue-hua and Ming-ying (2013), which reported that corpus consultation does not work well for all learners.

The results of the study demonstrated an improvement in error correction when participants utilized the two corpora to edit their essays, which can be attributed to the students' engagement in correcting errors by themselves. After 6 weeks of using corpus continuously, the number of errors committed by students dropped dramatically from 67 to only 27. Students appeared to make fewer errors when they became familiar with the corpus consultation. The

significant reduction in errors provides persuasive evidence that corpus may be applied to writing as an effective and useful instrument to aid students in essay self-revision. Due to the result in error correction improvement, corpus could be considered a beneficial tool for EFL students to improve their writing themselves as several types of errors can be corrected with the use of corpus. This finding showed correspondence to the findings from the previous studies (Yoon & Hilvera, 2004; Lou & Liao, 2005; O'Sullivan & Chambers, 2006).

As Kim (2009) expressed, L2 learners frequently just translate what they wish to express from their first language into English, but when native speakers read their writing, they either cannot comprehend it or perceive it as unnatural. With the use of corpus to check the errors, find more academic words and paraphrase terms to avoid repetition, as well as organize their ideas more coherently, students showed improvement in writing quality.

6. Recommendation

The present study provides information on how the EFL English major students engaged behaviorally, cognitively and affectively in their writing practices with the use corpus as a supplementary tool to enhance their writing competence. This paper, however, involved the participation of a very small number of subjects of a local university in Vietnam. Therefore, similar studies with a larger group of participants should be supported in future research. Other academic institutions can carry out research to constitute nationwide and worldwide initiatives to pursue corpus engagement for student academic development.

In addition, with the exponential growth of computer capacity, a variety of corpora have been produced in recent years. Hence, there is an urgent need for further investigations into various types of corpora and their impact on engagement with L2 writing processes to give a comparison among different corpora and evaluate the most suitable and effective ones to apply in writing classrooms. Furthermore, future studies could adapt the corpus approach to different practical skills, such as Reading skills, or different aspects of English, including grammar, vocabulary, and collocations, to explore how language learners acquire wealth of knowledge and competences. It is also necessary to examine and clarify learners' strategies to use corpus.

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Personal Narratives : A Pedagogical Intervention in Writing

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Abstract

One neglected skill in language is writing though it has also been abused in terms of its use as a prime activity during "performance tasks". In this study personal narratives as a pedagogical intervention were used to produce a guide in writing among learners. It motivated them to improve their writing skills that recount the daily life's experiences, thoughts, and feelings that connect to local and global concerns. From this, 36 participants were selected according to the qualifications set while undergoing the Inclusion and exclusion process. Writing outputs were collected, analyzed, coded, categorized through the content analysis and the thematic approach. Themes from these narratives emerged. To ensure the validity of the results, a semi-structured interview and the focused-group discussion (FGD) were conducted to ensure the veracity and appropriateness of the guide question through the a priori code. From this, guides were laid out according to style with a focus on foreshadowing, plot twist, revelation, unexpected events, flashback, red herring, Deus ex machine, characterization, diction, syntax, tone, voice, and a combination of the kinds of communication with narratives on the lead. Personal narratives as a pedagogical intervention for learners when guided accordingly and taken with utmost care and confidentiality that gave access to the fluidity in the creation of ideas and concepts, development of their logical and critical thinking, and germinate their ability to reason about their experiences and make up own identify. Thus, writing as a language skill can be better achieved or extracted from learners.

Keywords : Life Experience, Writing Guide, Writing Style Thematic Approach, Content Analysis, Philippines

1. Introduction

Writing assess person mastery - a complex macro skill that students don't value. In writing skills, the proper use of letters, symbols, numbers, sentences, mechanics, content organization, grammar, syntax, and vocabulary is overlooked. So it was abandoned as a macro skill and writing were just done as a joke. On the other hand, at Carnegi Mellon University in the

field of writing the problems they also face are proper grammar, syntax, spelling, vocabulary, and expression of own feelings or opinions. Because of these problems, students become lazy, bored, disinterested. They can't think of things they want to write, making writing jokes, diversity of perspectives. It will also be noted that students' writings are often done only with writings that are not given importance, students cannot explain their idea well, there is a lack of and extensive use of vocabulary, and incorrect rhetoric.

In DepEd's Curriculum Guide (2015), the goal of teaching Filipino is to develop the communicative ability, comprehension skills, and literacy appreciation of students at the secondary level. Five macro skills will be developed – listening, reading, watching, speaking, and writing with the help of various approaches. Writing is a skill in the Filipino subject that will be given further discussion as a competency in the K to 12 curricula to prepare for and keep pace with the changes in the education system. Personal writing helps students to develop their competence in academic discourse when this writing strategy is also used. Launch it so that the writing has a clear meaning. If it is a genre of interpretation of an identity, it will help students to identify themselves as well as those they interact with. Personal writings are the tunnel of his beliefs, aspirations, feelings, and fiction. Of all the language skills, writing is the most difficult challenge for language teachers because students have less experience with written expression. In the field of education, teachers 'guidance is very important in improving students' writing The researcher thought of Personal Narrative in students 'writing as a research topic to help them create and develop their ideas and concepts, develop their logical and critical thinking, and develop their ability to reason and articulate. Feels. In this regard, it emerged from the study that most of those studied were in the field of writing focused but no personal narrative thesis was studied within the university as well as theses in the country.

2. Research Objectives

This research consisted of two objectives:

2.1 To discover and analyze the writing styles of the students;

2.2 To develop a writing guide for the students.

3. Methodology

3.1 Sample

The personal narratives of 36 participants were analyzed as a phenomenological study. It underwent content analysis and discovered the content of its writings. The samples were purposively chosen because of the following reasons: 1) They were personally interested in writing their narratives 2) The informants are enjoying writing their personal experiences.

3.2 Research Instrument

The research instrument also used was the semi-structured interview method. This was conducted to obtain the researchers' data from the participants from their independent responses and interaction. Developing the guide question as an instrument followed the process of de Guzman (2013) in his Interview Guide Development and it also underwent focus group discussion.

3.3 Data Collection

To gather all data Interview Guide Development was used. These are as follows: 1) concept or layer of human experience; 2) definition; 3) a priori Codes; and 4) interview questions. The generated questions were analyzed, analyzed, and organized before the Aide Memoire was developed which is still based on de Guzman (2013). The contents of the Aide Memoir are as follows: A. PREAMBLE: 1) Salutation- the brief profile of the researcher and the title of the study are introduced here. 2) Purpose- shared with the participant the purpose of the study and how to conduct the interview. 3) Motivation- mentioning the importance of learning as motivation for their participation. 4) Consent asking the participant if he or she would like to participate and respond to the study conducted. 5) Time- sharing with the participant how many hours or minutes will be spent in the interview. B RESEARCH INSTRUMENT: 1) Respondents Robotfoto- taking the demographic profile of the participants needed in the study. 2) Interview Guide Questions. C. CLOSING; 1) Feedback- in this section the participant is asked if there are any clarifications and things to add to the responses; 2) Summary- summary of the interview conducted; 3) Remarks- thank the participant for his or her participation

3.4 Data Analysis

This research is qualitative. The researcher used the Thematic Approach. By writing a personal experience of the students as reflected in the content analysis of the writing, as well as interviews were conducted with selected participants. Content analysis was also conducted in which the researcher analyzed the writings of the students. And there was an interview with the participants. It served as validation. After that, the results of the collected data were analyzed, analyzed, and interpreted according to the coding, categorization, and general theme in a thematic approach. All participants met the criteria set, including Grade 11, THNHS students, able to write Filipino, female, and male. According to Patton, (2002), there is no rule followed in taking sample size in the qualitative type of research. the sample number depends on what the researcher wants to know. Its purpose, what is there, what is needed, to still have credibility, and what to end with spare time and need. While only 10 took part in the interview which was limited to 7 from the participants due to the saturation process of the data they have already provided. At the time no new information came out was enough and this was used for the thematic approach.

4. Research Results

From this, guides were laid out according to style with a focus on foreshadowing, plot twists, revelation, unexpected events, flashback, red herring, Deus ex machine, characterization, diction, syntax, tone, voice, and combination of the different types of communication.

5. Discussion

5.1 Foreshadowing the Consequences of Possible Events

In the style of the participants, it was seen that the writings used the expression of experiences. Something natural in this text. Inferring the consequence of what is likely to happen next or foreshadowing is a creative technique by the writer to foreshadow what will happen in the next consequence or something that will happen later.

Example. It also came to the point that I blamed for our situation is like that..."

Read in Kieffer's (2019) research cited by Bae et.al (2013) its use as part of writing a narrative to the student of their past helps to develop their abilities to think of possible happen in the next.

5.2 Plot Twist This is a fun thing because it motivates how a person feels when they write the sudden changes in the whole event in the story. The events in the story serve as a guide for the readers to believe something that is often seen in the end, an unexpected event in the change taking place in the plot.

So in the idea of Witte (1994), it is said that this narrative style focuses on the plot which motivates the readers to get the attention to the climax events in a story.

5.2.1 Revelation

Revealing the full courage of their personality, the pain felt, love, and many others is a great help to better understand themselves and situations faced in life. This type of writing has made the outline colorful.

Ex.1 "I found out from my brother that there is My mother has cancer."

Gonzales (2015) proved, effectively launching this style to express feelings, not be afraid to share personality will be the way for a student to become an effective writer. That means reality is being the same as what you think or whatever is in mind in what circumstances things are.

5.2.2 Announcing Something Unexpected Happens

Ex 1. 5because my siblings since they graduated from school instead of looking for a job they are just a burden to mama and papa so now they have no benefit in their lives and they only forbid me those who don't I have a boyfriend in case you had a BF last year. "

It will be noticed that the participant used in his writing that it came out of heart and style in this type of outline. Not all participants were able to use this style so my research found only two. The use of this style in personal narrative has been substantiated by Brown (2012) and has presented the eventualities in a real-life story.

5.3 Flashback

In your writing style, let your reader guess what might happen. Allow them to separate a flashback or some evidence or dialogue that is clean and clues to something. When the outline change happens, readers should be surprised again, looking at what else happened when everything was put together. We may have flashbacks when we think of a year and remember some memory that that person was part of our lives, or we may look at something and think about when we got it, or why it was important. Many different things in our daily lives can trigger flashbacks, and we don't always know it.

Authors use flashbacks in their works for many different reasons. A major factor is to fill in the elements of one or more character backstories. Flashbacks help the reader understand certain motivations that are otherwise unclear or give recognition in other ways.
Looking back on participants' pasts can bring a smile to their laughing lips, painful memories of the past, and experiences that gave strength, and endurance to our will. Of the three participants, they varied in style the first was in the form of thrill. The color of their writing appeared more as a kind of transformation.

Example."Year two thousand seven (2017) I took a chance in Manila March 18, 2019, I first met him on Facebook. I found out his name ".

According to Belvez, et. Al (2001) the function of retrospect is to generate hope in the minds of the readers about what might happen next, thus adding dramatic tension to a story. It is intentionally employed to create excitement in mystery novels or writings, usually by providing red herrings- to distract readers, here the vigilance that can make extraordinary and bizarre events is predicted in advance so that readers will prepare a psyche for them.

5.4 Red Herring

In literature, this fall is often used in detective or suspension novels to cultivate readers or characters and encourage them to draw wrong conclusions. *Example 1 "I experienced beatings from my new classmates. They dragged me to the c.r and Locked suddenly...*

Master Class (2019) proved that the use of this style is a way to attract and entice the interest of the readers, By hinting at explanations that may not be true, the use of this technique involves the readers believing a wrong conclusion about a plot. When the participants have finished reading they will be surprised at the reality and enjoy the delusion and have learned something useful about the event and character. (masterclass.com.artucles/.ph)

5.5 Deus ex machine (God from the Machine)

According to Jhonson (2007). The literary device of Deus ex Machina originated in the tradition of Greek drama to use a machine to lower or lift the characters who played their *gods up to the stage. Ex.1 "You don't have to choose between the two of us as long as you always love me. Pleased keep me on your heart. Don't be held by someone, don't be dictated* It also emerged in the writing of the participant's experiences the use of this style. It may be that emerging new personnel can help with severe problems through unexpected personnel, objects, or circumstances. The keys to the problem are not shown or introduced at the beginning of the story, instead, it is all of a sudden. In life, we are held by any circumstances.

Prdyono, (2007). If an inexplicable concept or a divine character is introduced into a storyline to resolve its conflict and obtain an interesting outcome, The explanation given by critics for this view is the writer's sudden action of random, unsupportable, and unbelievable twists or changes with the intent of having an ending, highlighting the inherent shortcomings of the plot. Therefore, it is indisputable, and often a form of literary material.

It also emerged in the writing of the participant's experiences that the use of this style. It may be that emerging new personnel can help with severe problems through unexpected personnel, objects, or circumstances. The keys to the problem are not shown or introduced at the beginning of the story; instead, they appear all of a sudden.

5.6 Characterization

This type of characterization is also known as implicit characterization. While it takes more time to produce a character through indirect recognition, it often leaves a deeper impression on the reader than direct statements about what a character is. Here are examples of indirect personality: *Example. "Hazel sighed as to whether she was going to join our group of friends. She really should have joined. But we don't know why she doesn't like us what exactly she saw in our group."Example "As Jeff walked he was paralyzed, he carefully glanced at him, then, he suddenly stood up as if nothing had happened."*

So in the study of Mayer (2007). People have become more interested in why people do things and the way they react rather than what happens. The literature reflects this change. However, that is not to say that works written before the 19th-century lack recognition

5.7 Diction

Diction is the choice of words based on the situation happy, sad, scary, enthralling, and so on. The combination of these two helps writers to develop tone, emotion, and atmosphere in texts to arouse the spirit of interest of the readers. *"I can't explain the pain I'm feeling. Despite what is happening in my life."* In this example, it will be noticed that what he feels is incomprehensible. Mixed feelings are proof that in someone's life we lead to anxiety over our feelings caused by our life experience.

5.8 Imagination

Sight: The sunset was the most gorgeous they had ever seen; the clouds were covered with pink and gold. Smell: The scent of her hair reminded me of my late mother.

According to Aguire (2014) cited by Gonzales (2105), this type of writing is artistic. the focus here is on the imagination of the writer, although the work being written may be fictional and non-fictional. It also aims primarily to arouse the imagination, in addition to arousing the emotions of the readers. This is the kind of writing in literature. Therefore, writing poetry, novels, short fiction, plays, and short essays can be classified under this category.

5.9 Point of View

This narrator is often the protagonist of the story, and this point of view allows the reader access to the character's inner thoughts and reactions to what has occurred. All actions are processed through the narrator's perspective, and therefore this type of narrator may be unreliable. Choosing to write from an unreliable first point of view allows the reader to find out what is truth and what is an invention on the part of the narrator of the narrative perspective.

5.10 Syntax

The formation of sentences in a language in which in Filipino, the subject can precede the predicate and it can also be reversed. Most of the sentences formed are in standard order. The predicate precedes the verb. Some of the sentences formed are: *"I was just shocked by what happened in our area." "I loved my parents but..."* But some sentences precede the subjects before the predicates as follows: *"His eyes, hay..." "I dream of him but, nothing..."* In these examples, it can be seen that the participants also use two types of formation according to the syntax requirement. It can also be seen that they still know their syntax skills.

5.11 Tone

"I was hurt, at least I got my revenge, that's not what's important but education. It doesn't matter, there are more there. " In this example, we can see that the writer of his personal experience feels sad and hopeful.

Tone refers to the writer's behavior. It can be informal, serious, sadistic, sad, and motivating. Emotions, tone, purpose, and perspective are discovered in the writing of a text or essay. They can be identified by the words they use in the text. (a) Emotion: This refers to the

reader's attitude in the text. It can be joy, sadness, anger, hatred, fear, admiration, astonishment, hope, despair, courage, apprehension, frustration, annoyance, and other emotions or feelings. (b.) Tone ; refers to the attitude of the reader's creation of the text. Some works do the trick and present a serious subject. The tone can be joking or sarcastic, happy or sad, serious or satirical, used to show the true color of the experience. Thus in Style, Tone, and Mood, by Duarte (2013), emotion or mood is the general feeling or emotion generated in the reader. the author evokes the emotion of the reader through selected words at the level of detail in the act. The tone of the writer in his speech can be identified whether he has a positive or negative outlook or perspective on the subject.

5.12 Voice

The voice in literature is a format of the narrator's storytelling. It is intimate when a writer puts himself into words and gives the feeling that the character is truly human, providing a specific message the writer wants to convey. In simple words, it is an individual writing style or point of an author's pen. It is only in the voices of the writer's writing that it can be seen what a person's character is throughout the story. It is only in the way he speaks or narrates that we know what kind of person wrote a story. *"sometimes I don't go for a walk and I envy those, my friend because they are allowed to take walks. But it's okay, I can help at home."*

5.13 Symbols

Symbols represent these larger ideas or characteristics. For example, an author may use a particular color that in itself is no more than one color, but hints at a deeper meaning. *Angels brought me here, to be with you always.* According to Aguire (2014) cited by Gonzales (2105), this type of writing is artistic. the focus here is on the imagination of the writer, although the work being written may be fictional and non-fictional. It also aims primarily to arouse the imagination in using symbols. This is the kind of writing in literature. Therefore, writing poetry, novels, short stories, plays, and short essays can be classified under this category.

5.14 Discourse Combination

The participant used descriptive writing mixed with her narrative. A text is descriptive if it contains information related to the physical characteristics of an object, place, or even the characteristics of a person or group of people. It usually responds to the question, "What?" So if the two examples are examined it answers the question of what the participants used. But it helped the participants to color the entirety of their writing.

"As soon as you get off the bus you will hear the noise of people and cars, you will see young people begging, running in the street."

"Despite the happiness, is there a partner in sadness. You can only feel sad for other people because of their ridicule of sex"

6. Conclusions

The writing style is very important its use will help for students to use this style to be creative, release emotion and be honest to examine and to fully understand the life of an individual by writing using exit style. in reviewing the writings.

A personal narrative is effectively launched in writing. It has been instrumental in developing a handbook that will help guide the writing of students. There are different writing styles to be seen, and the way they write is even more obvious. The researcher found that the style that emerged was the inference of possible consequences (foreshadowing), plot twist, flashback, red herring, unexpected event, Deus ex machine, characterization (characterization), syntax, diction, tone, voice symbolism, imagination, point of view, and a combination of narrative with various types of expression. Revelation and the proclamation of an unexpected event also appear as sab components of the change in structure.

7. Recommendations

7.1 Stakeholders may consider the following for helping achieve writing proficiency and bring it closer to children who are bored with writing especially those with difficulty.

7.2 The use of personal narrative as an option and motivation in developing writing can be re-taught. written output; it is good to have a writing guide, to keep in mind and to include. And proposals as the output of this research can be used as a basis.

7.3 The guide is more useful if it is validated by more experts. It can now be distributed to schools that are having difficulty with effective writing.

7.4 Further explore its contribution to other forms of expression especially written, such as descriptive, argumentative, and expository. Also aim to apply personal narrative to other macro skills such as reading, viewing, and speaking

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Personal Growth Development of Students' Literary Appreciation

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Abstract

This study aims to determine the personal growth development of Grade 7 students in St. Paul College of Ilocos Sur on literary appreciation based on their prior knowledge, experiences, and feelings in valuing literary texts, and understanding of personal reading progress and outcome through a thematic approach. Results analyzed through reflections, interviews, and focused group discussions revealed that students have a background on the flow of text, content, readiness, and analysis. In previous experiences, reading literary works, accomplishing activities or assessments, using modern technology, and having parental guidance emerged. On prior feelings, they find reading pleasurable as a recreation activity while feeling the emotions dominating the text, sympathizing, and empathizing with the characters. In linking prior new knowledge, integration helps them develop proficiency, comprehension, and appreciation. Expanded knowledge leads to a satisfactory score evident in improved reading comprehension, appreciation, and enthusiasm. On comprehension based on outcome, showing good interpersonal relationships, maintaining enthusiasm, seeking more literary texts, being critical in life, and adapting to the environment emerged. This leads to a developed personal growth by seeing reading as bringing personal happiness and development, self-fulfillment, a challenge in learning, eagerness, hobby or passion, expanded knowledge, developed maturity, careful speech, and influencing others to read.

Keywords : Reading, Literary Text, Personal Development, Philippines

1. Introduction

In philosophy, man is considered the highest kind of animal and rational. He thinks, understands and knows how to feel and to control himself. Therefore, there are many activities that a person can do especially if it is within the school where he can develop his skills and abilities. One of these activities is reading. A person needs to read because in the process, his knowledge expands and the information in his mind increases. Furthermore, this will greatly help him in the development of himself as an individual and as a part of society. Therefore, through reading, personal development also occurs.

According to Owusu (2014), reading helps the student to further meet the needs of his mind especially when he reads texts or literature written in his community. With this, Wilkinson (2015) emphasized that reading literary works can provide comfort to all those who read. Moroever, it serves as the mirror of a place because it talks about the culture and traditions of the people. Reading literary works also reflects the virtues that people should emulate and serves as inspiration in their daily lives.

Although there are studies regarding reading comprehension (Sterzik, 2012; De Leon et al., 2014; Balck, 2016; Bilbao et al. 2016; Elleman, 2019; Meylana, 2019; Miñoza, 2019; Suson et al., 2020; and Manaog, 2020), reading habits (Chettri et al., 2013, Davidovitch et al., 2014; Erdem 2014; Cirebon 2015; Rosli, et al., 2017 and Ameyaw et al., 2018), reading skills (Bojovic 2010 and Liufeng 2010), reading intervention (Wright, 2011; Chavez, 2013 and Tam et al., 2016), reading difficulties (Genesee, 2014 and Nation, 2019), and reading success (Ecklund 2018 and Westerveld 2020) however, there are limited related studies read about the personal growth development of students in reading literary texts.

Within the classroom where literary works are studied, effective teaching is needed so that the level of understanding of the students will be fully useful and they will be able to appreciate these relevant literary works even more. Because of these observations, the researchers thought of conducting a study about the personal growth development of students in their reading of literary works.

2. Research Objectives

This research aimed to determine Personal Growth Development in the literary appreciation of Grade 7 students of St. Paul College of Ilocos Sur, High School Department. Specifically, it sought answers to the following questions:

2.1 What are the prior knowledge, experiences, and feelings of the participants in reading literary works?

2.2 How are the participants' prior knowledge, experiences, and feelings related to the text?

2.3 How did the participants understand the outcome of associating literary works with prior knowledge, experiences, and feelings?

2.4 What Personal Growth Developments were achieved by the participants in reading literary works?

3. Research Methodology

3.1 Research Design

This study employed a basic qualitative study as the research design. According to Merriam and Tisdell (2016), if the study cannot be considered as part of any qualitative research approach, it will be called a basic qualitative study. Data were collected in the form of interviews, observations, and documents and were analyzed inductively to address the problem.

3.2 Participants

The purposive sampling technique was used to capture the study participants. Ten (10) Grade 7 students were interviewed by the researcher. On the other hand, there were eight (8) Grade 7 students who participated in the Focused-Group Discussion (FGD). Moreover, all journals written by the Grade 7 students were used for document analysis.

3.3 Research Instruments

The research instrument used is the interview method. Semi-structured interviews were conducted to obtain data from the participants from their independent responses and interaction. In developing the guide question as an instrument for the semi-structured interview, de Guzman's (2013) process was followed in his Interview Guide Development which includes 1) concept or layer of human experience; 2) definition; 3) Priori Codes; and 4) interview questions. Editing and analysis of the generated questions before developing the Aide Memoire are still based on de Guzman (2013).

3.4 Method of Study

The researcher wrote a consent letter to the principal for the conduct of the study. After the approval, the researcher also wrote a consent letter to the students for the interview to obtain data. The researchers explained the process and sought the approval of the students to conduct the research. In conducting the interview and focused-group discussion, Filipino language questions were used so that the participants could easily express their observations. The participants were also allowed to use the Ilocano language so that they could express their thoughts more freely. After the interview and FGD with the selected study participants, the recorded interview and FGD were transcribed. After validation of the responses, the researchers analyzed their answers by coding.

Results of the study were accepted as a moderated generalization where the research result is only for the specified study participants and not generalized.

3.5. Ethical Considerations

The following ethical considerations were considered for this study:

3.5.1. The researchers wrote a letter of consent in hiring participants.

3.5.2. The researchers communicated the purpose of the study to the participants.

3.5.3. The information and names of the participants were treated as confidential.

4. Research Results

The results were presented according to the research objectives as follows:

4.1 Prior knowledge, experiences, and feelings of the students in reading literature

4.1.1 Prior Knowledge

It was found out that students have prior knowledge of the background of the flow of text, content, readiness, and analysis.

4.1.2 Prior Experiences

Reading literary works, accomplishing activities or assessments, using modern technology, and having parental guidance emerged as the prior experiences of the students.

4.1.3 Prior Feelings

On prior feelings, the students find reading pleasurable as a recreation activity while feeling the emotions dominating the text, sympathizing, and empathizing with the characters.

4.2 Ways in relating prior knowledge, experiences, and feelings to the literary text

In linking prior knowledge to new knowledge, experiences, and feelings, integration helps them develop proficiency, comprehension, and appreciation. Expanded knowledge leads to a satisfactory score evident in improved reading comprehension, appreciation, and enthusiasm.

4.3 The students' understanding of the outcomes in associating literary works with prior knowledge, experiences, and feelings.

On comprehension based on the outcome, showing good interpersonal relationships, maintaining enthusiasm, seeking more literary texts, being critical in life, and adapting to the environment emerged.

4.4 Personal Growth Developments occurred in reading literary works

Bringing personal happiness and development, self-fulfillment, a challenge in learning, eagerness, hobby or passion, expanded knowledge, developed maturity, careful speech, and influencing others to read are the personal growth developments that occurred in the respondents.

5. Discussion

The following points based on the research results were discussed:

5.1 On Prior Knowledge

5.1.1 Students' prior knowledge on the flow of text and content

Students were quick to process the thoughts, concepts, and content of the literary text because of the prior knowledge stored. Based on the statements of the students, it appears that they have stored knowledge in reading literary texts, particularly short stories. In general, they determine the flow of the literary works they read. This knowledge relates to the specific content (characters, setting, problems, events) of the story they are studying.

To support this, Piaget (1952) defines a schema as a cohesive, repeatable action sequence possessing component actions that are tightly interconnected and governed by a core meaning. Moreover, Wadsworth (2004) suggests that schemata (the plural of schema) be thought of as 'index cards' filed in the brain, each one telling an individual how to react to incoming stimuli or information.

5.1.2 Students' prior knowledge on readiness in reading

The students already have the knowledge on how to read. The manifestations of whether or not a student is ready for reading are when the students received a positive response to the reading texts (literary works) and they did not change or become bored with what they read.

According to Belvez (2002), it is important to first ensure students' reading readiness before teaching them formal reading. The diligence and perseverance of the teacher in teaching the student to read will be irrelevant if the students are not ready.

5.1.3 Students' prior knowledge on analysis

It was not difficult for the students to identify the superficial content of the work they read. It was quick for them to analyze the text on the following competencies: (1) characterizing the key personnel as well as the key personnel, (2) sequencing of events, (3) stating the problem and solution, (4) identifying cause and results and (5) valuing the lesson that dominates in the literary work being read.

According to the book Reading and Writing for Research by Santos et.al (2007), it is mentioned that reading skills do not only refer to the ability to recognize and capture ideas and thoughts in printed symbols and to recite them orally. Reading skills also include the skills of recognizing words, comprehension, analysis, and drawing conclusions.

5.1.4 Students' prior knowledge on assessment

Before reading literary works, it is first determined how much knowledge is already stored in the mind of the students. Diagnostic tests were conducted before reading and discussing literary works as bases in determining readers' knowledge of these works.

Based on the statements of the students, it appears from this study that in each case, most of the students get a satisfactory score on the given first test or diagnostic test. This only proves that they already have the knowledge relevant to the text just read.

This is supported by the study of Lin et.al (2011) which claims that good prior knowledge is very helpful for students to carry out learning tasks properly, to understand, and to perform in any discipline.

5.2 On Prior Experiences

5.2.1 Students' prior experiences on activities or assessments

Based on the statements of the students, it appears that students expect completion of tasks (either a short quiz or prepared activities) after reading.

This is in line with Wren's (2004) statement that forecasting is an important element of education used for instruction. This is needed to further develop lessons as well as instruction for students, even students with disabilities (Rhodes & Shanklin, 1993). Meanwhile, Yusuf (2015) argues that interactive reading activities are of great help to understand and comprehend reading texts. They also help teachers to keep track of their students in processing information gathered from texts.

5.2.2 Students' prior experiences in using modern technology

This study found out that students used modern methods so that they could learn to read a variety of texts. Therefore, a child who uses modern technologies as a means of reading is sure that it will affect his learning. Due to the exposure of students belonging to Gen Z to this technology, it is undeniable that the technology has indeed an impact on their lives particularly in their studies and reading of literary works.

This is connected with Fox's (2014) study which found out that students who are familiar with different types of technology and those who know how to manipulate it can make a faster transition to a new way of learning. Students who have a broad foundation of using them are superior to others because of their total potential. Moreover, based on a study by Stearns (2012), he found out that these innovative technologies are beneficial to address and support reading comprehension in all students who have difficulties.

5.2.3 Students' prior experiences in reading with parental guidance

In this study, it was found out that parents reading stories for their children also cause them to become obsessed with reading various texts, especially the stories that the students enjoy. Stone (2016) revealed in his study that students who received parental support and involvement within their home had higher reading comprehension scores compared to their classmates who did not receive any. This is supported by Clark (2007) in his findings that the most accurate predictor of a pupil's achievement is not parental income or social status but the extent to which parents can create a home environment that encourages learning, communicates high, yet reasonable, expectations for achievement and future careers, and where parents become involved in their children's education at the school and in the community.

5.3 On Prior Feelings

5.3.1 Find reading pleasurable as a recreation activity

This is the most dominant emotion of the students whenever they read literary works based on the learning result. Pleasure or excitement is immediately felt by students because they

have a positive experience reading works or other reading texts. This influences them to keep on reading.

According to Spagnol (2015), students who read either printed or digital books recorded a 7.44 index of their satisfaction compared to non-readers who had only a 4.20 index which creates a large gap difference.

5.3.2 Feeling the emotions dominating the text.

It turns out in this study that the emotion that also dominates the student when he/ she reads literary works depends on what emotion is reflected in the text being read. These feelings normally emerge in the text are based on the reader's association with the characters and even with the events that take place in the stories.

This was also supported in the study by Kumshick et.al (2014) which proves that reading and discussing children's literary works with emotional content helps to increase the child's emotional competence. It was also revealed that children's literature is highly responsive as a vehicle in supporting the development of emotional competence in mid-childhood.

5.3.3 Sympathizing with the characters

Each time the student places himself in every character of the story, he/ she fully understands what is happening around him especially if the events in the work are also happening in real life.

Sund (2010) argues that sympathy is a process by which a person naturally counts himself as a member of his society. Thus literature serves as a way for a person to be patient and sensitive to the events around him.

According to the study of Koopmann and Hakemulder (2015) that sympathy is a process of expressing feelings of sadness or joy to others. It is further developed by reading fictional story readings in general.

5.3.4 Empathizing with the characters

As the reader understands the characters of the stories being read, his or her understanding of other people's feelings is truly sharpened. The students became more understanding of the feeling of their fellow because of reading literary works.

This is also agreed by the study of Koopmann and Hakemulder (2015) that if the issue is the effect of reading stories on human empathy, it has a positive effect based on the various manifestations such as the ability to relate oneself to the staff, motivation for the right approach to society and having an appreciation for the society he leads.

5.4 On linking prior knowledge to new knowledge

5.4.1 Integration of the literary text to develop proficiency

In this study, it was discovered from the students that their previous knowledge, experiences, and feelings in reading literary works facilitated their understanding and comprehension of new concepts in the literary works they read.

This is confirmed by Warsnak's (2006) study where he found out that students' understanding increases if their prior knowledge is active. In addition, students also made progress in reading proficiency.

5.4.2 Integration of the literary text to develop reading comprehension

In the instances of reading in the classroom, it was observed that most of the students were even more enticed to practice it because of the positive effects of self-reading. The prior knowledge has greatly helped the student in achieving comprehension, appreciation, and ability in reading. This is also evident in the study of Paris et.al (1991) that readers are aware of how of what they read. This corresponds to the study by Presssley and Afferbach (1995) that these readers are active in coordinating the process of their awareness before, during, and after reading.

5.4.3 Integration of the literary text to develop a reading appreciation

Students connect their prior knowledge, experiences, and feelings to other situations to further deepen their understanding and appreciation of reading. Students were prepared for even more difficult tests to deepen their reading comprehension levels.

Because of the students' desire to have a high understanding of the literary works they read, they tend to solve the problems they face every time they read, in the tasks assigned by teachers, and in the short assessments. Through these processes, students will be able to practice such tests which will help them with their appreciation of reading literary works (Hailikari et al., 2008).

5.4.4 Integration of the literary text to develop enthusiasm in reading

This study reveals that prior knowledge, experiences, and feelings in reading serve as effective factors in making students enthusiastic in their reading of literary works. Having a zeal in reading literary works is a manifestation that the students have a high appreciation of the literature they are reading.

The results of this study agree with the statement of Ofsted (2011) that in schools that are successful in terms of pupils' reading, the teachers read and talk with enthusiasm and recommend books. The results are seen not only in test results but also in an enthusiasm for reading which extends beyond the classroom.

5.5 On students' understanding of the outcomes in associating literary works with prior knowledge, experiences, and feelings

5.5.1 Showing good interpersonal relationships

It is one of the manifestations that a reader understands what he is reading specifically the literary works if his relationship with his fellow men is good. It can be said that he has a broader and higher outlook in life because he is rich with previous knowledge, experiences, and feelings in reading that continues to increase.

This is in line with Prior's (2013) statement from his blog in which he cited Gregory Currie's essay entitled, "A Good Literature Will Make Us Better?" which expresses the widespread belief that reading brings about better socialization due to the development of its moral aspect. He also mentioned the study of experts that reading often makes other people better understand, empathize, and look at the world from their perspectives.

5.5.2 Maintaining enthusiasm

Based on the responses of the students, it appears that their quick understanding of the literary works they read has a big effect. Their deep understanding of these readings causes them to have more interest in reading.

This is in response to Small's (2013) blog titled "How to Engage Relucting Readers" in which he mentioned that it is difficult for children to learn to read for themselves and personal pleasure. But if it has a positive effect for them and they also experience it, they will not be far away from maintaining their enthusiasm for reading.

5.3.3 Seeking more literary texts

Because students enjoyed the benefits of reading, they developed a desire to have more literary works for them to read. The pleasure they feel when they read arises.

This is still in line with Small's (2013) blog where he mentions the strategies for maintaining enthusiasm in reading to let a reader choose the book he or she wants to read. It is also important for parents or teachers to support a child's or student's choice of reading without forgetting to monitor it as appropriate.

5.3.4 Being critical in life

Students' understanding of the literary works they read and study is a great help. Connecting what they read to real-life has been effective in further deepening their understanding and appreciation of the reading texts. The association of situations or events that took place in the work is often led by readers to become more intelligent to measure and analyze life situations. This corresponds to Prior's (2013) blog in which, he argues that a person's reading makes it part of his biography because all the books he has read have helped to shape the worldview into beliefs and life in general.

5.3.5 Adapting to the environment

It turns out from this study that the students became even smarter to adapt to the pleasant and rewarding events, circumstances, and situations in their lives. Because of their

connection to the situations in the books they read, they were able to display this quality. It only proves that there are events in the works they read that they also experience.

Therefore, prior and new knowledge, experience, and feelings they have before and after reading literary works will them understand the things around them. Students looked closely at their connection and how it could help them which makes them investigative and critical of the things they see and read.

5.5 On the Personal Growth Development of students in reading

5.5.1 Bringing personal happiness and development

It appears from this study that the students enjoy reading because they are learning to read on their own and with comprehension. They are sometimes motivated to intensify, continue, and make reading a passion because they already know how to recognize their progress.

This agrees with the BBC blog (www.bbc.co.uk) which mentions that reading for happiness supports a student's engagement and motivation to continue reading. Reading for happiness is a critical task to ensure that its practice becomes even more subtle to be a part of daily living and it will no longer be simply seen as a task within the classroom.

5.5.2 Self-fulfillment

Students felt self-fulfillment because they were satisfied with the results of their reading of literary works. Their enthusiasm for reading has a positive effect especially on achieving satisfaction in their reading.

It is still agreed from the BBC blog (www.bbc.co.uk) that there are great benefits to reading after it becomes a personal pleasure. Some of these are the sense of achievement, self-confidence, self-esteem, and self-awareness. So, all of these are generally self-fulfilling prophecies caused by reading.

5.5.3 Challenge in learning

In this study, it also appears that the students always follow the reading while their classmates do because they do not want to give up and cannot follow the reading done in the classroom.

This agrees with Jamandra's blog (2013) that a teacher's assessment and its outcome is a big factor for a student to study well. Students will be motivated to do their best in school. Reading plays an important role because it will further encourage the students to read/ study on their own.

5.5.5 Hobby or passion

A student can also practice at the right time his passion for reading which is also based on his interest and personal motivation or self-drive. This interest is the result of his efforts within the classroom. It only requires the guidance and motivation of the people around and involved in his study.

Related to the result of this study were the findings of Owusu (2014) where 62.50% of the total population of his study accepted the importance of reading and they said that it helps to express themselves better.

5.5.6 Expanded knowledge

It appears from this study to reinforce a student's purpose why he or she is reading. A student has a motivation to read for his academics which is intensified through formal education. This result is related to the study of Owusu (2014) which claims that in general, most students agreed with the view that reading has an impact on their academic performance. Hence, there is a direct relationship between habitual reading and academic performance.

5.5.7 Developed maturity

It refers to the change that happens within the students concerning their emotional and mental aspects. There was a change in how they responded to the things around them. Students' reading helped a lot to further develop their maturity because the situations and even the characters from the literary works impose a huge impact.

This is confirmed by Squires' (2014) findings that a student's reading maturity is based on the internal factors that allow him to use the information read to meet and develop his lifestyle and experience.

5.5.8 Careful speech

Also emerged as one of the personal growth developments of the students in reading literary works was their carefulness in speaking with their fellow students or to the proper way students interact with their fellow students.

Students did not forget the lessons or values that they get from what they read. They know how to have a good speech with their neighbors which is a personal development caused by reading literary works.

5.5.9 Influencing others to read

This refers to the influence of the students on his fellow in reading literary works. Due to the beautiful and positive effects of reading literary works, the students want to share them so that others will know, experience, and feel the same.

In short, students' interest in reading greatly influence and encourage others to read. It only proves that reading literary works makes a student more obsessed with reading because it influences others.

6. Conclusion

Based on the results of the study, the following conclusions were drawn:

1. Students already have prior knowledge, experiences, and feelings in valuing literary works;

2. Students made a connection of prior and new knowledge, experiences, and feelings in the appreciation of literary works;

3. The association of old and new knowledge, experiences, and feelings helped in gaining a better understanding and appreciation of the literary works; and

4. Personal growth developments happened to the students in their appreciation of literary works.

7. Recommendations

Based on the results and conclusions, the following are recommended:

1. Take steps in the Personal Growth Development of students in literary appreciation and other types of text;

2. Parents must guide their children in reading literary works and other meaningful literature as a foundation for reading;

3. Teachers must possess a broad knowledge of the students; background in reading literature;

4. Students' must consider reading literary works as a hobby;

5. Administrators must implement programs and activities to enrich reading equipment and to assist students in extensive reading; and

6. Conduct other studies on the personal growth development of students by reading literary works.

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3	รองศาสตราจารย์ประชัน	คะเนวัน	มหาวิทยาลัยราชภัฏบุรีรัมย์
4	รองศาสตราจารย์สมบัติ	ประจญศานต์	มหาวิทยาลัยราชภัฏบุรีรัมย์
5	รองศาสตราจารย์สายใจ	ทันการ	มหาวิทยาลัยราชภัฏบุรีรัมย์
6	รองศาสตราจารย์ ดร.ศิราณี	จุโฑปะมา	มหาวิทยาลัยราชภัฏบุรีรัมย์
7	รองศาสตราจารย์อรรถกร	จัตุกูล	มหาวิทยาลัยราชภัฏบุรีรัมย์
8	รองศาสตราจารย์ ดร.ปรีชา	ปาโนรัมย์	มหาวิทยาลัยราชภัฏบุรีรัมย์
9	รองศาสตราจารย์ ดร.อัครพนท์	เนื้อไม้หอม	มหาวิทยาลัยราชภัฏบุรีรัมย์
10	รองศาสตราจารย์ ดร.บุณย์เสนอ	ตรีวิเศษ	มหาวิทยาลัยราชภัฏบุรีรัมย์
11	รองศาสตราจารย์ครุปกรณ์	ละเอียดอ่อน	มหาวิทยาลัยราชภัฏบุรีรัมย์
12	รองศาสตราจารย์ประยงค์	ธรรมสุภา	มหาวิทยาลัยราชภัฏบุรีรัมย์
13	รองศาสตราจารย์อุทิศ	ทาหอม	มหาวิทยาลัยราชภัฏบุรีรัมย์
14	ผู้ช่วยศาสตราจารย์ ดร.วันทนีย์	นามสวัสดิ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
15	ผู้ช่วยศาสตราจารย์ ดร.สุพัตรา	รักการศิลป์	มหาวิทยาลัยราชภัฏบุรีรัมย์
16	ผู้ช่วยศาสตราจารย์ ดร.นวมินทร์	ประชานันท์	มหาวิทยาลัยราชภัฏบุรีรัมย์
17	ผู้ช่วยศาสตราจารย์ ดร.กระพัน	ศรีงาน	มหาวิทยาลัยราชภัฏบุรีรัมย์

18	ผู้ช่วยศาสตราจารย์ ดร.สุภาพร	ชื่นชูจิตร	มหาวิทยาลัยราชภัฏบุรีรัมย์
19	ผู้ช่วยศาสตราจารย์ ดร.นิจพร	ณ พัทลุง	มหาวิทยาลัยราชภัฏบุรีรัมย์
20	ผู้ช่วยศาสตราจารย์ ดร.นฤมล	สมคุณา	มหาวิทยาลัยราชภัฏบุรีรัมย์
21	ผู้ช่วยศาสตราจารย์ ดร.เกษสุดา	บูรณพันธ์ศักดิ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
22	ผู้ช่วยศาสตราจารย์ ดร.จิตตะวัน	กุโบลา	มหาวิทยาลัยราชภัฏบุรีรัมย์
23	ผู้ช่วยศาสตราจารย์ ดร.จันทิราพร	ศิรินนท์	มหาวิทยาลัยราชภัฏบุรีรัมย์
24	ผู้ช่วยศาสตราจารย์ ดร.ชูเกียรติ	จารัตน์	มหาวิทยาลัยราชภัฏบุรีรัมย์
25	ผู้ช่วยศาสตราจารย์ ดร.ธิติ	ปัญญาอินทร์	มหาวิทยาลัยราชภัฏบุรีรัมย์
26	ผู้ช่วยศาสตราจารย์ ดร.นฤมล	ศักดิ์ปกรณ์กานต์	มหาวิทยาลัยราชภัฏบุรีรัมย์
27	ผู้ช่วยศาสตราจารย์ ดร.ธัญญรัตน์	พุฒิพงศ์ชัยชาญ	มหาวิทยาลัยราชภัฏบุรีรัมย์
28	ผู้ช่วยศาสตราจารย์ ดร.นลินทิพย์	พิมพ์กลัด	มหาวิทยาลัยราชภัฏบุรีรัมย์
29	ผู้ช่วยศาสตราจารย์ ดร.บรรเจิด	สอนสุภาพ	มหาวิทยาลัยราชภัฏบุรีรัมย์
30	ผู้ช่วยศาสตราจารย์ ดร.เบญจพร	วรรณูปถัมภ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
31	ผู้ช่วยศาสตราจารย์ ดร.ภาวิณี	ศิลาเกษ	มหาวิทยาลัยราชภัฏบุรีรัมย์
32	ผู้ช่วยศาสตราจารย์ ดร.รพีพรรณ	พงษ์อินทร์วงศ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
33	ผู้ช่วยศาสตราจารย์ ดร.วรวัฒน์	พรหมเด่น	มหาวิทยาลัยราชภัฏบุรีรัมย์
34	ผู้ช่วยศาสตราจารย์ ดร.วริษฐ์	กิตติ์ธนารุจน์	มหาวิทยาลัยราชภัฏบุรีรัมย์
35	ผู้ช่วยศาสตราจารย์ ดร.สุชาติ	หอมจันทร์	มหาวิทยาลัยราชภัฏบุรีรัมย์
36	ผู้ช่วยศาสตราจารย์ ดร.วินิรณี	ทัศนะเทพ	มหาวิทยาลัยราชภัฏบุรีรัมย์
37	ผู้ช่วยศาสตราจารย์ ดร.วิไลรัตน์	ยาทองไชย	มหาวิทยาลัยราชภัฏบุรีรัมย์
38	ผู้ช่วยศาสตราจารย์ ดร.สถาพร	วิชัยรัมย์	มหาวิทยาลัยราชภัฏบุรีรัมย์
39	ผู้ช่วยศาสตราจารย์ ดร.สมศักดิ์	จีวัฒนา	มหาวิทยาลัยราชภัฏบุรีรัมย์
40	ผู้ช่วยศาสตราจารย์ ดร.อนล	สวนประดิษฐ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
41	ผู้ช่วยศาสตราจารย์ ดร.เทพพร	โลมารักษ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
42	ผู้ช่วยศาสตราจารย์ ดร.พิพัฒน์	สมใจ	มหาวิทยาลัยราชภัฏบุรีรัมย์
43	ผู้ช่วยศาสตราจารย์ ดร.กัลยาณี	ธีระวงศ์ภิญโญ	มหาวิทยาลัยราชภัฏบุรีรัมย์
44	ผู้ช่วยศาสตราจารย์ ดร.อมรเทพ	วันดี	มหาวิทยาลัยราชภัฏบุรีรัมย์
45	ผู้ช่วยศาสตราจารย์ ดร.เสาวรัตน์	ทศศะ	มหาวิทยาลัยราชภัฏบุรีรัมย์
46	ผู้ช่วยศาสตราจารย์ ดร.ปรัชญา	ชุมแวงวาปี	มหาวิทยาลัยราชภัฏบุรีรัมย์
47	ผู้ช่วยศาสตราจารย์ ดร.สุภาพร	ปาโมกข์	มหาวิทยาลัยราชภัฏบุรีรัมย์
48	ผู้ช่วยศาสตราจารย์ ดร.อุดมพงษ์	เกศศรีพงษ์ศา	มหาวิทยาลัยราชภัฏบุรีรัมย์
49	ผู้ช่วยศาสตราจารย์ ดร.ภาคดล	อามาตย์	มหาวิทยาลัยราชภัฏบุรีรัมย์
50	ผู้ช่วยศาสตราจารย์ ดร.กุลกันยา	ศรีสุข	มหาวิทยาลัยราชภัฏบุรีรัมย์
51	ผู้ช่วยศาสตราจารย์ ดร.อารยา	มุสิกา	มหาวิทยาลัยราชภัฏบุรีรัมย์
52	ผู้ช่วยศาสตราจารย์ ดร.เขมิกา	อารมณ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
53	ผู้ช่วยศาสตราจารย์ ดร.สินทรัพย์	ยืนยาว	มหาวิทยาลัยราชภัฏบุรีรัมย์

54	อาจารย์ ดร.โกวิท	วัชรินทรางกูร	มหาวิทยาลัยราชภัฏบุรีรัมย์
55	อาจารย์ ดร.พัชนี	กุลฑานันท์	มหาวิทยาลัยราชภัฏบุรีรัมย์
56	อาจารย์ ดร.พิสมัย	ประชานันท์	มหาวิทยาลัยราชภัฏบุรีรัมย์
57	อาจารย์ ดร.ฐิตาภรณ์	เวียงวิเศษ	มหาวิทยาลัยราชภัฏบุรีรัมย์
58	อาจารย์ ดร.คคนางค์	ช่อชู	มหาวิทยาลัยราชภัฏบุรีรัมย์
59	อาจารย์ ดร.จริยาภรณ์	ปิตาทะสังข์	มหาวิทยาลัยราชภัฏบุรีรัมย์
60	อาจารย์ ดร.ณรงค์กร	ชัยวงศ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
61	อาจารย์ ดร.เชาวลิต	สิมสวย	มหาวิทยาลัยราชภัฏบุรีรัมย์
62	อาจารย์ ดร.ณัฐพล	แสนคำ	มหาวิทยาลัยราชภัฏบุรีรัมย์
63	อาจารย์ ดร.ณิชาภัทร	มณีพันธ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
64	อาจารย์ ดร.ทิพวัลย์	แสนคำ	มหาวิทยาลัยราชภัฏบุรีรัมย์
65	อาจารย์ ดร.วิษณุ	ปัญญายงค์	มหาวิทยาลัยราชภัฏบุรีรัมย์
66	อาจารย์ ดร.ธีรารัตน์	จีระมะกร	มหาวิทยาลัยราชภัฏบุรีรัมย์
67	อาจารย์ ดร.ชูศักดิ์	ยาทองไชย	มหาวิทยาลัยราชภัฏบุรีรัมย์
68	อาจารย์ ดร.วรนุช	ภักดีเดชาเกียรติ	มหาวิทยาลัยราชภัฏบุรีรัมย์
69	อาจารย์ ดร.ศรีเพ็ญ	พลเดช	มหาวิทยาลัยราชภัฏบุรีรัมย์
70	อาจารย์ ดร.รชต	อุบลเลิศ	มหาวิทยาลัยราชภัฏบุรีรัมย์
71	อาจารย์ ดร.ดุสิต	อุทิศสุนทร	มหาวิทยาลัยราชภัฏบุรีรัมย์
72	อาจารย์ ดร.พนาสินธุ์	ศรีวิเศษ	มหาวิทยาลัยราชภัฏบุรีรัมย์
73	อาจารย์ดร.สุธีกิตติ์	ฝอดสูงเนิน	มหาวิทยาลัยราชภัฏบุรีรัมย์

Commentators

1. International Level (Oral Presentation Session)

1	Professor Dr. R. Michael Smith		Niagara University, U.S.A.
2	Professor Dr.Ted Yu-Chung Liu		National Pingtung University, Republic of China (Taiwan)
3	Professor Dr. Mario P. Obrero		University or f Northern Philippines
4	Professor Dr. Irom Gambhir Singh		Manipur University, India
5	Professor Dr. Ilhan Cagirgan		Akdeniz University, Turkey
6	Professor Ni Ni Hlaing		University of Distance Education, Mandalay, Myanmar
7	Professor Saw Pyone Naing		Sagaing University of Education Sagaing, Myanmar
8	Dr. Bao Kham		University of Foreign Languages, Hue University, Vietnam
9	Dr. Ashok Thorat		Institute of Advanced Studies in English, India
10	Associate Professor Dr. Anchalee	Wannaruk	Suranaree University of Technology
11	Associate Professor Dr. Pragasit	Sitthitikul	Thammasat University
12	Associate Professor Dr. Sombat	Kotchasit	Valaya Alongkron Rajabhat University under the Royal Patronage
13	Associate Professor Dr. Sompor	Duanyai	Ubon Ratchathani Rajabhat University
14	Associate Professor Dr. Juthatip	Smithmaitrie	Prince of Songkla University
15	Associate Professor Dr. Jarous	Sawangtap	Independent Scholar
16	Associate Professor Dr. Akkarapon	Nuemaihom	Buriram Rajabhat University
17	Assistant Professor Dr. Chongrak	Liangpanit	Khonkaen University
18	Assistant Professor Dr. Nawamin	Prachanant	Buriram Rajabhat University
19	Assistant Professor Dr. Chookiat	Jarat	Buriram Rajabhat University
20	Assistant Professor Dr. Surachai	Piyanukool	Buriram Rajabhat University
21	Assistant Professor Dr. Kampeeraphap	Intanoo	Buriram Rajabhat University
22	Assistant Professor Dr. Amorntheap	Wande	Buriram Rajabhat University

2. National Level (Oral Presentation Session)

1	รองศาสตราจารย์ ดร.ทรงศักดิ์	ภูสีอ่อน	มหาวิทยาลัยมหาสารคาม
2	รองศาสตราจารย์ ดร.ประสาท	เนืองเฉลิม	มหาวิทยาลัยมหาสารคาม
3	รองศาสตราจารย์ ดร.เกรียงศักดิ์	โชควรกุล	มหาวิทยาลัยราชภัฏชัยภูมิ
4	รองศาสตราจารย์ ดร.ปาริชา	มารี เคน	มหาวิทยาลัยกาฬสินธุ์
5	รองศาสตราจารย์ ดร.ศิราณี	จุโฑปะมา	มหาวิทยาลัยราชภัฏบุรีรัมย์
6	รองศาสตราจารย์ ดร.จุรีพร	จันทร์พาณิชย์	นักวิชาการอิสระ
7	รองศาสตราจารย์ ดร.อาลัย	จันทร์พาณิชย์	นักวิชาการอิสระ
8	รองศาสตราจารย์ ดร.สายใจ	ทันการ	มหาวิทยาลัยราชภัฏบุรีรัมย์
9	รองศาสตราจารย์สมบัติ	ประจญศานต์	มหาวิทยาลัยราชภัฏบุรีรัมย์
10	รองศาสตราจารย์อุทิศ	ทาหอม	มหาวิทยาลัยราชภัฏบุรีรัมย์
11	ผู้ช่วยศาสตราจารย์ ดร.ณัฐพล	ภูมิสะอาด	มหาวิทยาลัยมหาสารคาม
12	ผู้ช่วยศาสตราจารย์ ดร.ละมุล	วิเศษ	มหาวิทยาลัยมหาสารคาม
13	ผู้ช่วยศาสตราจารย์ ดร.วิเศษ	ชิณวงษ์	มหาวิทยาลัยราชภัฏสุรินทร์
14	ผู้ช่วยศาสตราจารย์ ดร.กระพัน	ศรีงาน	มหาวิทยาลัยราชภัฏบุรีรัมย์
15	ผู้ช่วยศาสตราจารย์ ดร.นฤมล	ศักดิ์ปกรณ์กานต์	มหาวิทยาลัยราชภัฏบุรีรัมย์
16	ผู้ช่วยศาสตราจารย์ ดร.นลินทิพย์	พิมพ์กลัด	มหาวิทยาลัยราชภัฏบุรีรัมย์
17	ผู้ช่วยศาสตราจารย์ ดร.จันทิราพร	ศิรินนท์	มหาวิทยาลัยราชภัฏบุรีรัมย์
18	ผู้ช่วยศาสตราจารย์ ดร.สมศักดิ์	จีวัฒนา	มหาวิทยาลัยราชภัฏบุรีรัมย์
19	ผู้ช่วยศาสตราจารย์ ดร.เบญจพร	วรรณูปถัมภ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
20	ผู้ช่วยศาสตราจารย์ ดร.สถาพร	วิชัยรัมย์	มหาวิทยาลัยราชภัฏบุรีรัมย์
21	ผู้ช่วยศาสตราจารย์ ดร.รพีพรรณ	พงษ์อินทร์วงศ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
22	ผู้ช่วยศาสตราจารย์ ดร.เกษสุดา	บูรณพันศักดิ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
23	ผู้ช่วยศาสตราจารย์ ดร.สุชาติ	หอมจันทร์	มหาวิทยาลัยราชภัฏบุรีรัมย์
24	ผู้ช่วยศาสตราจารย์ ดร.วินิรณี	ทัศนะเทพ	มหาวิทยาลัยราชภัฏบุรีรัมย์
25	อาจารย์ ดร.โกวิท	วัชรินทรางกูร	มหาวิทยาลัยราชภัฏบุรีรัมย์
26	อาจารย์ ดร.จริยาภรณ์	ปิตาทะสังข์	มหาวิทยาลัยราชภัฏบุรีรัมย์

3. National Level (Poster Presentation Session)

1	ผู้ช่วยศาสตราจารย์ ดร.เทพพร	โลมารักษ์	มหาวิทยาลัยราชภัฏบุรีรัมย์
2	ผู้ช่วยศาสตราจารย์ ดร.สุชาดา	สานุสันต์	มหาวิทยาลัยราชภัฏบุรีรัมย์

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