



SWUICE 2022



“ DESIGN AND IMPLEMENTATION FOR THE FUTURE IN EDUCATION ”

CONFERENCE PROCEEDINGS
THE 3RD SRINAKHARINWIROT UNIVERSITY
INTERNATIONAL CONFERENCE ON EDUCATION

MAY 12, 2022
FACULTY OF EDUCATION
SRINAKHARINWIROT UNIVERSITY, THAILAND
ISBN 978-616-296-265-3



Conference Proceedings

The 3rd Srinakharinwirot University International Conference on Education (SWUICE 2022)

“Design and Implementation for the Future in Education“

ISBN 978-616-296-265-3

MESSAGE FROM THE PRESIDENT



It is a pleasure for to welcome you all to the Third Srinakharinwirot University International Conference on Education or SWUICE 2022, and the Seventh Srinakharinwirot University National Conference on Education or SWUNICE 2022. I would like to congratulate Faculty of Education, and express my thankfulness to our organizing partners, keynote speakers, the presenters, and all of you here for making this conference possible.

Present social, economic, and political situations have brought challenges for all of us to overcome, but the challenges also bring about opportunities. For example, all of us from all over the world can join together virtually at this moment to celebrate this opportunity in sharing knowledge with the goal to promote quality education for all.

We live a rapidly changing world where one action locally can cause chain of effects both positively and negatively at global level. Thus, we need to rethink how we design and implement education delivery. To meet the Goal Number 4 of the Sustainable Development Goals in providing equitable, inclusive, quality education, we need to think about the most marginalized persons,

and respectfully empower them so that have voices and opportunities to education, which is the foundation of all developments.

I believe that by witnessing, as one of the participants, the opening ceremony of this conference, the outlook of our world's education is highly promising. There are so many enthusiastic educators and researchers who are eager to reach out to the wider communities to collaborate with international colleagues to meet the global goal. I, therefore, wish you a fruitful exchange during the two days of this conference, and hope to welcome you to Srinakharinwirot University in the near future.

Assoc. Prof. Dr. Somchai Santiwatanakul
President of Srinakharinwirot University

MESSAGE FROM THE DEAN



Greetings from Faculty of Education, Srinakharinwirot University

It is a great pleasure for me to welcome you all to the Third Srinakharinwirot University International Conference on Education, or SWUICE 2022, and the Seventh National Conference on Education, or SWU-NCE 2022.

Our Faculty of Education, Srinakharinwirot University is one of the oldest teacher training institutes in Thailand. The Advanced Teacher Training School, founded in 1949, and the College of Education, founded in 1953, have developed and become Srinakharinwirot University in 1974. Therefore, while Srinakharinwirot is committed in working towards the Sustainable Development Goals, our faculty of education is taking on an active role in contributing to SDG 4: Ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all. Quality education for all is one

of the most important goals as it helps facilitate achieving other goals by equipping all people knowledge and skills to be ready to make positive changes to their lives and their communities.

It is one of our policies to reach out to advantage students around the country who want to learn and become teachers. We also make it a priority to make our learning activities inclusive and actively engaging for all our students. This is so that that when the students become teachers, they will, in turn, make their learning activities inclusive and actively engaging for all their students. In addition, we believe in working with our international partners in exchanging knowledge and expertise so that all countries can effectively move forward together in achieving sustainable development goals.

Therefore, I would like to thank all our organizing partners, keynote speakers, presenters, and all the participants for making SWUICE 2022 possible. Most important of all, I would like to thank all the organizing committee members for their hard work and their commitment in making SWUICE 2022 a platform for international exchange and networking. I wish you all a fruitful conference, and hope that we will soon be able to meet in person at Faculty of Education, Srinakharinwirot University for the Fourth Srinakharinwirot University International Conference on Education. Once again, welcome you all and thank you!

Assistant Professor Dr.Rungtiwa Yamrung
Dean, Faculty of Education

Compiled and edited by

Faculty of Education, Srinakharinwirot University

114 Sukhumvit 23, Bangkok 10110, Thailand. Tel +66 2 649 5000

<http://swuice.edu.swu.ac.th/>

First Edition (Digital Edition)

National Library of Thailand Cataloging in Publication Data

Srinakharinwirot University. Faculty of Education.

Conference proceedings: The Third Srinakharinwirot University
International Conference on Education. -- Bangkok : Faculty of Education,
Srinakharinwirot University, 2022.

361 p.

1. Education, Higher. 2. Education -- Congresses. I. Title.

378.593

ISBN 978-616-296-265-3

Published by:

Faculty of Education, Srinakharinwirot University

114 Sukhumvit 23, Bangkok 10110, Thailand. Tel +66 2 649 5000

<http://swuice.edu.swu.ac.th/>

Editorial Committee

Srinakharinwirot University

Assistant Professor Dr. Kanokporn Vibulpatanavong	Editor
Associate Professor Dr.Chommanad Cheausuwantavee	Editorial Committee Members
Assistant Professor Dr. Chanida Mitranun	Editorial Committee Members
Dr.Cheerapat Sirirak	Editorial Committee Members
Ms.Orrawan Korkanuea	Managerial Editor
Ms.Somwan Aimvijit	Managerial Editor
Ms.Kamalaporn Sittichan	Managerial Editor
Ms. Paopanga Jitsawart	Managerial Editor

Illinois State University

Associate Professor Dr. Antonio Causarano	Editorial Committee Members
---	-----------------------------

San Pedro College, Philippines

Dr. Amseva M. Bentayao	Editorial Committee Members
Dr. Arjay Arcena	Editorial Committee Members
Dr. Janice Sawe	Editorial Committee Members
Dr. Bryan Cancio	Editorial Committee Members

Padang State University, Indonesia

Dr. Nofrion, M. Pd.	Editorial Committee Members
---------------------	-----------------------------

Reviewer Committee for the Articles**Australia:**

Professor David Evans

Austria:

Dr. Michelle Proyer

Japan:

Professor Dr. Shinya Oba

Professor Tomio Uchida

Professor Naotake Iketani

China:

Dr. Fang Ziyu

Philippines:

Professor Angilly Librea

Dr. Arjay Arcene

Dr. Amseva Bentayao

Dr. Bryan Cancio

Dr. Randy Tudy

Indonesia:

Dr. Nofrion,

Dr. Elga Andriana

Dr. Djuwari Djuwari

Dr. Marlina Muluk

Malaysia:

Dr. Suma Parahakaran

Dr. Ng Khar Thoe

Dr. Manimekalai Jambulingamis

Dr. Nalini Arumugam

Thailand:

Professor Dr. Jaitip Na-Songkhla

Associate Professor Dr. Tipparat Sittiwong

Associate Professor Dr. Skol Voracharoensri

Associate Professor Dr. Siwanit Autthawuttikul

Associate Professor Dr. Supanee Sengsri

Associate Professor Dr. Rungchatchadaporn Vehachart

Assistant Professor Dr. Gumpanat Boriboon

Assistant Professor Dr. Chatupol Yongsorn

Assistant Professor Dr. Jarintorn Wintachai

Assistant Professor Dr. Jaemjan Sriarunrasmee

Assistant Professor Dr. Chananporn Areekul

Assistant Professor Dr. Taviga Tungprapa

Assistant Professor Dr. Theeraphab Phetmalaikul

Assistant Professor Dr. Piyawan Visessuvanapoom

Assistant Professor Dr. Pornsawan Tripasai

Assistant Professor Dr. Linda Yeh

Assistant Professor Dr. Sasipin Sukbunpant

Assistant Professor Dr. Suppawan Vongsrangsap

Assistant Professor Dr. Suthawan Harnkajornsuk

Assistant Professor Dr. Sumalee Chuachai

Assistant Professor Dr. Siriparn Sriwanyong

Assistant Professor Dr. Apiwan Nuangpolmak

Assistant Professor Dr. Worawan Hemchayart

Assistant Professor Dr. Amonwan Werathammo

Assistant Professor Dr. Kanokporn Vibulpatanavong

Assistant Professor Dr. Kobsook Kongmanus

Assistant Professor Dr. Ladda Wangphasit

Assistant Professor Dr. Chakrit Ponathong

Assistant Professor Dr. Witat Fakcharoenphol

Dr. Lawrence Honkiss Platon

Dr. Jindaporn Pinpongsub

Schedule

The 3rd Srinakharinwirot University International Conference on Education (SWUICE)

ONLINE PLATFORM

Thursday 12 May 2022 (ICT – Indochina Time/Thailand Time, UTC +07.00)

Plenary Session

8:30-9:00 am
(ICT, Thailand Time)

Setting the Scene

Thai Classical Music and/or Dance (VDO)
Introduction to SWU & Faculty of Education, SWU: VDO
(Supports for audiences in entering the platform)

9:00-9:30 am
(ICT, Thailand Time)

Opening Ceremony

Dean's Welcome:

Assistant Professor Dr. Rungtiwa Yamrung
Dean, Faculty of Education
Faculty of Education, Srinakharinwirot University

Committee Chair's Report:

Assistant Professor Dr. Kanokporn Vibulpatanavong
Assistant Dean, International Relations, and Communications
Faculty of Education, Srinakharinwirot University

Opening Speech:

Associate. Professor Dr. Somchai Santiwatanakul
President, Srinakharinwirot University

Celebration and Thank You

Traditional Dance from San Pedro College, Philippines

9:30-10.30 am	Keynote Speech: <i>Lessons Learned in Leadership : What Schools Need for the Future</i>
(ICT, Thailand Time)	<p><i>Lessons Learned in Leadership: What Schools Need for the Future</i></p> <p>Associate Professor Barbara Meyer</p> <p>Associate Dean for Research and Internationalization</p> <p>College of Education, Illinois State University, USA</p>
10.30-11.30 am	Keynote Speech: <i>Everybody in! Preparing Teachers to Include All Learners</i>
(ICT, Thailand Time)	<p>Dr. Cathy Little</p> <p>Senior Lecturer, Special Education; Executive Director, Initial Teacher Education</p> <p>Sydney School of Education and Social Work, University of Sydney, Australia</p>
13.00-14.00 pm	Keynote Speech: <i>Teaching Quality Enhancement and Pursuit of Excellence: Reflections and Perspectives</i>
(ICT, Thailand Time)	<p>Professor Mark Schofield</p> <p>Dean of Teaching and Learning Development, Edge Hill University, UK</p>
14.00 pm	Presenters Meet in the Parallel Session Zoom Room to Prepare for Presentation
(ICT, Thailand Time)	
14.20 – approx. 16.30 pm	Paper Presentation
(ICT, Thailand Time)	(Each presenter will have 20 minutes including 15 minutes presentation and 5 minutes Q&A)

ORAL PRESENTATION SCHEDULE

Thursday, May 12, 2022

Presenters meet for Preparation at 14.00 pm (ICT, Thailand time)

Presentation Starts at 14.20 pm (ICT, Thailand time)

Via Zoom Meeting

Room 1:

Chairperson: Assistant Professor Dr. Gumpanat Boriboon

No	Name of Authors	University	Research Topic
1	Dr. Myla L. Isip	Don Honorio Ventura State University, Philippines	Experiences and Difficulties of Alternative Learning System (ALS) Graduates in the University: Basis for the program Assisted Learning Strategy through Peer
2	Mahmud Yunus Mustofa	Walisongo State Islamic University, Indonesia	Building Ta'awun and Tasamuh Capability in the Classroom; an Ethnography Research on Inclusive Madrasa in Indonesia
3	Assist. Prof. Ganda Febri Kurniawan	Universitas Negeri Semarang, Indonesia	Documentary History of the Revolution 1945-50 and Students' Internalization of Anti-Colonialism Knowledge
4	Thanh Duong Thi Thu	The University of Danang, Vietnam	Stress Level in Primary School Teachers (Research in the Primary Schools in Danang City, Vietnam)
5	Alwen Bentri, Abna Hidayati, Saridewi	Universitas Negeri Padang	Teaching and Learning of Social Science Based on Edutainment

ORAL PRESENTATION SCHEDULE

Thursday, May 12, 2022

Presenters meet for Preparation at 14.00 pm (ICT, Thailand time)

Presentation Starts at 14.20 pm (ICT, Thailand time)

Via Zoom Meeting

Room 2:

- Chairpersons: 1) Assistant Professor Dr. Ladda Wangphasit
2) Assistant Professor Dr. Panuwat Sirinupong

No	Name of Authors	University	Research Topic
1	Angilly C. Librea	San Pedro College, Philipines	Transition Experiences of Senior High School Teachers in the English Curriculum for K to 12
2	Assoc. Prof. Dr. Poh Wai Chia	Universiti Malaysia Terengganu, Malaysia	The Examination of the Understanding of Nature of Science among Secondary School Students Using Myth of Science Questionnaire
3	Assist. Prof. Dr. Dharm Dev Bhatta	Guilin University of Aerospace Technology, China	Paninian Pratyahara-Technique for Chinese Pinyin to Devanagari Transliteration-- Syllable Translation as An Evidence
4	Shahzadi Hina Sain	Beaconhouse Head Office, Pakistan	Effect of Project Based Learning on the Reading Skills (Pakistan)
5	Watidpan Matmool	Demonstration School, University of Phayao, Thailand	Promoting English-speaking ability in CEFR B2 level by integrating Reader-Response theory with Nonfiction teaching for EFL students By integrating Reader-Response theory with Nonfiction teaching for EFL students
6	Thidawan Wichanee	Sakon Nakhon Rajabhat University, Thailand	Teaching Vocabulary in English for Specific Purposes: Aspects of Its Implementation in Classroom

ORAL PRESENTATION SCHEDULE

Thursday, May 12, 2022

Presenters meet for Preparation at 14.00 pm (ICT, Thailand time)

Presentation Starts at 14.20 pm (ICT, Thailand time)

Via Zoom Meeting

Room 3:

- Chairpersons: 1) Assistant Professor Dr. Theeraphab Phetmalaikul
2) Assistant Professor Dr. Jaemjan Sriarunrasmee

No	Name of Authors	University	Research Topic
1	Amseva M. Bentayao	San Pedro College, Philippines	The Teacher's Beliefs and Practices in Online Teaching
2	Assist. Prof. Dr. Srinivasa Rao Dokku	PVP Siddhartha Institute of Technology, India	A Study on Impact of Mid-Day Meal Program on School Education in India: with reference to Krishna District, Andhra Pradesh, India
3	Mastoorra Hassan	University of Kashmir, India	Impact of Online Classroom Transition on Teachers Mental Health
4	Assist. Prof. Shang Yuqi	Zhujiang College, South China Agricultural University, China	Exploration and analysis of gamified interactive practice software in flipped classroom in the 21st century
5	Prof. Chen Xiaofang	Law School of Jiangnan University, China	The Proposing on the Application of Virtual Reality Technology in Mock Court Training

ORAL PRESENTATION SCHEDULE

Thursday, May 12, 2022

Presenters meet for Preparation at 14.00 pm (ICT, Thailand time)

Presentation Starts at 14.20 pm (ICT, Thailand time)

Via Zoom Meeting

Room 4:

- Chairpersons:** 1) Assistant Professor Dr. Orn-uma Charoensuk
2) Assistant Professor Dr. Taviga Tungprapa

No	Name of Authors	University	Research Topic
1	Assist. Prof. Intan Permata Hapsari	National Yunlin University of Science and Technology, Taiwan	Fostering Students' Critical Literacy Through and Android-Based English Multimedia: Is It Engaging?
2	Dr. Gaurav Agrawal	Anand Engineering College, India	Study on the Pros and Cons in the Management of Higher Education
3	Sulapha Jiraolarnmeth	Srinakharinwirot University, Thailand	The Effect of Using Loose Parts Activities on Creative Thinking of Young Children
4	Reydante M. Olavidez	Bangbowitthayakhom School, Thailand	Teaching Orientation and Performance Evaluation of Foreign Teachers in Selected Government Schools in Thailand
5	Subsiri Seniwong Na Ayudhaya	Suan Dusit University, Thailand	The Progressive Development for Aviation Business' Students in futurity by using EDFR Research Techniques for Online and Classroom Teaching

ORAL PRESENTATION SCHEDULE

Thursday, May 12, 2022

Presenters meet for Preparation at 14.00 pm (ICT, Thailand time)

Presentation Starts at 14.20 pm (ICT, Thailand time)

Via Zoom Meeting

Room 5:

- Chairpersons:** 1) Assistant Professor Dr. Pasana Chularut
2) Assistant Professor Dr. Suthawan Harnkajornsuk

No	Name of Authors	University	Research Topic
1	Bryan L. Cancio	San Pedro College, Philippines	Predictors of Academic Performance in MAPEH
2	Zohaib Hassan Sain	Superior University, Pakistan	Challenges in Quality of Education in Higher Education Institutions (HEIs) of Pakistan
3	Dr. Wassana Chakkaew	Suan Dusit University, Thailand	Future Skills for Airline Business Learners
4	Assist. Prof. LuoJiangxia	Yunnan University of Finance and Economics, China	Approaches to promoting student employability skills
5	Assoc. Prof. Dr. Pufa Savagpun	Naresuan University, Thailand	The Volatility of Faculty Member's Professional Network in Higher Education Institution of Northern Thailand
6	Luka Pongračić, Andrej Maras	Department of Social Sciences and Humanities, University of Slavonski Brod, Croatia	Evaluation of students with special educational needs about evaluation

Table of Contents

Title	Page
Message from the president	3
Message from the dean	4
Editorial Committee and Reviewer Committee for the Articles	6
Schedule	10
Oral presentation schedule	12
Full Papers	20
Experiences and Difficulties of Alternative Learning System (ALS) Graduates in the University: Basis for the program Assisted Learning Strategy through Peer <i>by Dr. Myla L. Isip</i>	21
Building Ta'awun and Tasamuh Capability in the Classroom; an Ethnography Research on Inclusive Madrasa in Indonesia <i>by Mahmud Yunus Mustofa</i>	36
Documentary History of the Revolution 1945-50 and Students' Internalization of Anti-Colonialism Knowledge <i>by Assist. Prof. Ganda Febri Kurniawan</i>	53
Stress Level in Primary School Teachers (Research in the Primary Schools in Danang City, Vietnam) <i>by Thanh Duong Thi Thu</i>	65
Teaching and Learning of Social Science Based on Edutainment <i>by Alwen Bentri, Abna Hidayati, Saridewi</i>	76
Transition Experiences of Senior High School Teachers in the English Curriculum for K to 12 <i>by Angilly C. Librea</i>	85
The Examination of the Understanding of Nature of Science among Secondary School Students Using Myth of Science Questionnaire <i>by Assoc. Prof. Dr. Poh Wai Chia</i>	106
Paninian Pratyahara-Technique for Chinese Pinyin to Devanagari Transliteration--Syllable Translation as An Evidence <i>by Assist. Prof. Dr. Dharm Dev Bhatta</i>	118
Effect of Project Based Learning on the Reading Skills (Pakistan) <i>by Shahzadi Hina Sain</i>	134
Promoting English-speaking ability in CEFR B2 level by integrating Reader-Response theory with Nonfiction teaching for EFL students By integrating Reader-Response theory with Nonfiction teaching for EFL students <i>by Watidpan Matmool</i>	155

Table of Contents

Title	Page
Teaching Vocabulary in English for Specific Purposes: Aspects of Its Implementation in Classroom by Thidawan Wichanee.....	169
The Teacher's Beliefs and Practices in Online Teaching by Amseva M. Bentayao	181
A Study on Impact of Mid-Day Meal Program on School Education in India: with reference to Krishna District, Andhra Pradesh, India by Assist. Prof. Dr. Srinivasa Rao Dokku.....	202
Impact of Online Classroom Transition on Teachers Mental Health by Mastoora Hassan	212
Exploration and analysis of gamified interactive practice software in flipped classroom in the 21st century by Assist. Prof. Shang Yuqi.....	224
The Proposing on the Application of Virtual Reality Technology in Mock Court Training by Prof. Chen Xiaofang	236
Fostering Students' Critical Literacy Through and Android-Based English Multimedia: Is It Engaging? by Assist. Prof. Intan Permata Hapsari.....	244
Study on the Pros and Cons in the Management of Higher Education by Dr. Gaurav Agrawal	261
The Effect of Using Loose Parts Activities on Creative Thinking of Young Children by Sulapha Jiraolammeth.....	267
Teaching Orientation and Performance Evaluation of Foreign Teachers in Selected Government Schools in Thailand by Reydante M. Olavidez	274
The Progressive Development for Aviation Business' Students in futurity by using EDFR Research Techniques for Online and Classroom Teaching by Subsiri Seniwong Na Ayudhaya.....	285
Predictors of Academic Performance in MAPEH by Bryan L. Cancio	294
Challenges in Quality of Education in Higher Education Institutions (HEIs) of Pakistan by Zohaib Hassan Sain.....	302

Table of Contents

Title	Page
Future Skills for Airline Business Learners <i>by</i> Dr. Wassana Chakkaew	310
Approaches to promoting student employability skills <i>by</i> Assist. Prof. LuoJiangxia.....	320
The Volatility of Faculty Member’s Professional Network in Higher Education Institution of Northern Thailand <i>by</i> Assoc. Prof. Dr. Pufa Savagpun.....	334
Evaluation of students with special educational needs about evaluation <i>by</i> Luka Pongračić, Andrej Maras	351



Full Papers

Experiences and Difficulties of Alternative Learning System (ALS) Graduates in the University : Basis for the program Assisted Learning Strategy through Peer Tutorials

Myla L. Isip^{1*} Jayfee D. Alcantara² Aileen L. Koh³

^{1,2,3}Don Honorio Ventura State University, Philippines

*mlisip@dhvsu.edu.ph

ABSTRACT

The researchers identified an apparent gap in the prior research concerning the alternative students who are enrolled in the university. The purpose of the study is to determine the experiences and difficulties of alternative students in the university. The study used a phenomenological research design. Seven participants were selected using systematic sampling who are students of a state university during the academic year 2020-2021. The interview was done through online platform with the guide of validated interview questions and the data gathered were analyzed using thematic analysis. The study showed that ALS students are experiencing difficulties to catch up and adjust on their lessons from the start they enter university and got lower grades from first year. They also experienced discrimination, challenges in coping up and were left behind. Thus, the study recommended a program to assist ALS students to cope with university schooling and be at par with other non-ALS graduates. The program is an assisted learning strategy through peer tutorials aiming to provide supplemental lectures and tutorials to address the lack of prior knowledge and the lack of mastery on basic knowledge skills

Keywords: Alternative Learning System(ALS), difficulties, peer tutorial

Introduction

Alternative education plays a vital role in the educational attainment of students who are not able to attend formal schooling. It is the hope of every student in order for them to attend again formal schooling. However, it is also a reality that

a huge number of the world population are dropouts, out-of-school youth, and even individuals who do not go to formal schooling. Most of the countries offer an alternative education for those who want to pursue their studies. There were 258 million school-age children and teenagers who did not attend school worldwide, and 781 million people who could not read or write in either language. These figures are likely to increase dramatically as the global influence of extended school closures is felt. Countries' second-chance school schemes were still under strain – and often seen as second-rate (Igarashi, Acosta, and Tenabas, 2020).

Alternative education greatly assists to decrease the population of children and teenagers who were not able to attend formal schooling. It increases the educational level of every student worldwide.

Alternative high schools were created to help students who had trouble progressing in a typical school setting achieve their educational goals. However, due to the difficulties of quantifying success in an alternative school

setting, these schools' success rates have been variable. Evaluative research is used extensively in the study of alternative school achievement. Grade point averages, as well as attendance and graduation rates, are used in most of the study into the success of alternative schools. This study looked at how 17 teachers from four alternative schools in Ontario, Canada, defined success in their classrooms. The findings show that the staff prioritized fulfilling their kids' social needs before focusing on academics. before focusing on academic markers of success (Brant, 2018).

An alternative school is a school that offers a unique curriculum and teaching methods. The Bureau of Alternative Learning System (BALS) of the Department of Education (DepEd) has devised a curriculum that combines formal and nonformal education to help OSY and underprivileged Filipino learners cope with the fast-changing workplace (Philippine Education for All, 2009). The legal basis for such schooling is determined by the state, and any need to comply with standard examinations and assessments is determined by the state. Such schools provide a diverse spectrum of learning methodologies; some are strongly religious, scientific, or philosophical in nature, while others are not depending on any kind of ideology and are formed by frustrated teachers and teachers (Printcasting, 2018).

The alternative learning system provides a basic education to the out of school children, youths and adults to improve their learning, gain knowledge and develop an understanding. It is a strategy to that government implemented system to provide an education to the students who can't afford and can't go to school. The executive order no. 356 stipulates that ALS is a crucial and vital to the learners who are dropouts because by the ALS it can help them pursue their education even it is an informal education and does not have a definite classroom. The goal of the ALS is to make the learners be educated (Tindowen, Bassig, & Cagurangan, 2017). The Alternative Learning System doesn't have a definite classroom in which the learners' classes are under the tree or near the ocean so building a classroom or centers for the students to have a learning environment or setting to feel that they are in a school. Having a definite classroom would make them bring their memories in which it will help them be focused on their learning and they will feel motivated (Henderson, Washington, Hamit, Ford & Jenkins, 2018).

According to Tomacruz (2018), the passing rates of the ALS learners are low because the knowledge they have is not enough and they need to gain and acquire more information to decrease the low rates. They also need to be understanding that even acquiring the certificate of ALS passer is not sufficient to have them employed in works.

The alternative education gives opportunities to the children, teenagers, and adults to have an access to a meaningful education that can help them in the future and for them to success. It is vital because education is important in every people's lives because without education all the people who don't go to school will suffer, they will not succeed in life and it will be hard for them. By having an access to alternative education even if it is an informal education, it can change their lives because they will gain more information and knowledge they haven't acquired before (Schwab, 2016).

In the Philippines, most Filipinos may not have the opportunity to attend and complete formal basic education (Grades 1-6 and Year 1-4) for a variety of reasons. Many students drop out of school, and others live in areas where there are no classrooms. Since every Filipino has the right to free basic education, the government creates Alternative Learning System to provide all Filipinos the opportunity to access and complete basic education in a mode that works for them (DepEd, 2016).

According to recent study, about 3.7 million teenagers aged 16-24 and 3.1 million young adults aged 25-30 did not finish junior high school and are out of school, accounting for approximately 23 percent of those, aged 15 to 30. Since completing ALS, 60% of those who passed the A&E exam enrolled in tertiary education or vocational school (The World Bank, 2018).

Alternative learning system students want to pursue their tertiary education for them to have a better educational attainment and a better work after. It is also a big challenge for them to attend university because what they have learned in Alternative Learning System is different from the formal school.

John Dewey also supports the Alternative Learning System. He emphasized the importance of prioritizing the child over the subject matter, which was favored by parents and educators. Dewey's intellectual viewpoint that education must interact with learners and their perspectives has influenced the shaping and development of informal education. He stressed that the program should be structured to make meaningful contributions to the lives of students, including the development of realistic skills required for life-long learning (Atilano as cited by Te and Moleño 2016).

According to Dep Ed Order No. 46, s. 2017 which is the framework for the pilot implementation of the alternative learning system- education and skills training (ALS-EST), it is needed for a suitable learning environment to develop an effective learning for the learners and it is designed to meet the specific needs, requirements and circumstances the learners have. As the Philippine government believes that every Filipino has the right to receive free basic education. From the parallel delivery of the basic education and skills training components, now the curriculum and the instruction integration of the alternative learning system which is an informal education program that helps the learners to acquire a certificate and competencies to a suitable employment.

It is also developed to have the learners a strong performance based and assessment or the pencil and paper test for ALS Accreditation and Equivalency test to measure the competencies acquired by the ALS learners. Receiving a free primary education is one of a person's rights in the world, even though it is a courtesy. Nonetheless, several individuals are unable to do that due to unforeseen conditions. Fortunately, the Department of Education established the ALS, which oversees both formal and non-formal education. According to study, the difference with this scheme is that they have mobile teachers and administrators who hold classes outside of classrooms to find a convenient period where they can accommodate each student's timetable and different requirements and allow students a chance to learn at their convenience (Bucanegra, D., Navarro, N., Manibo, J., 2020).

According to the Bureau of Alternative Learning system (BALS), Alternative Learning system vision is “empowerment of the Filipino with desirable knowledge, attitudes, values and skills that will enable him to think critically and creatively, act innovatively and humanely in improving the quality of his life and that of his family, community and country.”

The aim of this Alternative Learning system initiative is to help children and out-of-school youth reintegrate into the school and society and to keep them from reoffending. The implementers agree that it is important to remember that the child lives in the framework of interconnected environmental systems such as the home, education, and culture, all of which can impact or impair his or her growth and development. Thus, prevention services resolve the needs and problems of the family and the environment in order to achieve the child's full growth, recovery, and reintegration (Egcas and Garganera, 2019).

In the study of Egcas and Garganera (2019), the learners' educational attainment increased. The vast majority of students completed vocational courses as well as enrolled in and completed college. This finding was confirmed by 2015 data on Alternative Learning system passers' college enrollment and scholarship in Sagay City, where 122 Alternative Learning system passers enrolled in universities. Furthermore, the finding was supported by a 2017 report that reported that the learners' motivating factors for interacting with ALS include obtaining a high school diploma and completing their education at a college/university level.

The necessity of having a second-chance program to certify educational attainment outside the formal school system in the Philippines comes from a unique feature of the system itself. The Philippines made remarkable progress in improving the quality of basic education in the past decades, demonstrated in various indicators, but at the same time, the system has faced many challenges. One of the nearly chronic problems observed in the past decades is the high school dropout rate. The system observes a relatively high proportion of dropouts (or non-completers, interchangeably) at the secondary stage. It is also noteworthy that prior to the introduction of the K-to-12 Reform (scheduled to be implemented at full scale in mid-2016), the country's basic education is only 10 years, in which elementary (primary and intermediate) and high schools require six and four years, respectively. Thus, high school dropouts are ages 12–16, normally regarded as young teenagers who still have not acquired enough knowledge and skills to be competent in the labor market (East and Asia Pacific, 2016). East Asia and Pacific on the Rise (2020) published that the Philippines has one of the most extensive second-chance education systems in the country. In the past ten years, the Alternative Learning System, or ALS, has seen 5.5 million youth and adult learners aged 15 and up.

According to Takiko (2018) the alternative learning system is a substitute to the students which are out of school youth, dropouts, and even adults who can't even continue their schooling and it was implemented by the Deped. ALS offers programs focusing on assessments and test. The students can take the accreditation and equivalency test in which when they passed it to the Deped or the government will give them certificate that will serve as a proof that they passed the given exams. Through the ALS they can have the chance to pursue their dreams and be employed.

Now Commission on Higher Education is accepting students who graduate from Alternative Learning system under the Memorandum Order (CMO) No. 10 dated 11 June 2018, entitled Policy on Alternative Learning System Completers and Passers of the A&E Test in Relation to the Implementation of the K to 12 Basic Education Program in support of the Department of Education's Order No. 27 (DO 27) issued on 08 June 2018 in relation to the Alternative Learning System (De Vera, 2018).

In accordance to the policy papers, "passers of previous Accreditation and Equivalency (A&E) Tests high school standard, as well as the November 2017, March 2018 and upcoming 2019 Accreditation and Equivalency (A&E) Tests High School level, who are all High School Graduates of the old basic education curriculum for ALS," will now be admitted as first year students under the current higher education curricula starting with AY 2018-2019 and for subsequent academic years.

Alternative students now are diverse with the K-12 graduates in the university. Their academic performance may hinder since the Alternative Learning system is a non-formal education and the subject that they taught is different from the subjects in K-12 curriculum. Despite this, HEI's are implementing tutoring to augment the deficiency. Chen and Liu (2011) and Flores, Veiga Simao, and Carasso (2012) as mentioned by Tan and Gevera (2020) are emphasizing that tutoring is given to students for an alternative learning system to augment lessons under a limited, fast-paced class discussion like the ALS program.

The learners of Alternative Learning System, despite having acquired local connection skills, they are ill-equipped for the globalized world due to their low attainment of the required 21st-century skills even though, they have their diplomas. They are ill-equipped because they are not completely prepared in this 21st century this shown that, their learning is still lacking and they need to acquire more knowledge and skills (Tindowen, 2017). In contrast, Te and Moleno (2010) said that (ALS) graduates showed competent academic performance, showing that they had gained necessary skills, talents, and understanding and could transfer them automatically and flexibly by authentic practices (Te and Moleño, 2020).

Academic growth of students is a means of preparing the student to pursue future education. (Sanchez, as cited by Cayabyab, Jacoba, Nalanga, Tamayo, and Sabas, 2016). "The determining factors of student performance have attracted the attention of academic researchers from many areas. They have tried to determine which variables impact student performance in positive and negative direction. Research studies about this subject have been conducted by various academicians in various countries and areas". The significance of student achievement is obvious not only to students but also to colleges because it is an indicator of the success of their educational process (Al-Hadrami and Morris 2020).

The researchers identified an apparent gap in the prior research concerning the alternative students who are enrolled in the university. In addition, the prior research did not address the subject of the academic performances of the alternative students in the university. This encompasses several unexplored aspects that lately have attracted research attention in other area including A Case Study of Alternative Learning System Graduates Enrolled in Pangasinan State University, Lingayen Campus (Cayabyab, et.al, 2016), Tracer Study On

the Academic and Work Status of Alternative Learning System Graduates (Te and Moleño, 2020), and Sources of Aspirations and Self-Esteem Among Alternative Learning System (ALS) Students (Bucanegra, et al. 2020). With these studies, the difficulties of the alternative students should be explored further to provide an understanding on their difficulties, also important to look into their experiences and their struggles that may contribute to poor academic performance. Thus, this prompted the researchers to consider peer tutoring. Baleni, malatji and Wadesango (2016) mentioned that peer tutoring results to improved academic achievement for diversity of students. Furthermore, it facilitates cognitive gain to both mentors and low-performing mentees in an individualized and positive way.

Research Objectives

This study ought to determine the experiences and difficulties of alternative students in university. Specifically, it intends to answer the following questions:

1. What are the experiences of the ALS graduates in the university?
2. What are the difficulties encountered by ALS graduates in the university?
3. What program may be developed to help assist the ALS graduates in their academic undertakings?

This study is aimed to describe the experiences and difficulties of ALS students enrolled in the university. From these, a proposed assistance program is recommended for implementation after a thorough review and feed backing from the academic panel of the extension university and the In house review of the university.

Methodology

To achieve the target goal, this research study used the qualitative descriptive research. The aim of qualitative research was applied to determine and describe the experiences and difficulties of alternative students in the university. Phenomenology research design is used in the study to help the researchers understand the lived experiences of the participants. The researchers also considered their perspectives both on their academic experiences and other dealings in the mainstream.

Sampling/Participants

The researchers used sampling techniques which is purposive sampling. From the total number of alternative students in the university, a sample of seven (7) participants were selected to participate in the study. The participants in this research are college students who are graduates in Alternative Learning System, also in the same community where the research locale is and enrolled in academic year 2020-2021 in an extension campus of a university. To avoid biases and to get the exact answers, the participants were considered regardless of what courses and year level they enrolled in.

Research Tools/Instruments

The researchers used interview guide accompanied by validated guide questions in gathering data and let the participants answer the questions on their own. It is a semi-structured interview, allowing follow up questions for unclear and confusing responses. The researchers used open-ended questions to get the concrete and reliable responses coming from the participants' experiences and knowledge.

Procedure

Before the researchers began conducting the validated interview, protocols were observed, i.e sending letter of requests and consent from the administration of the university, scheduled an interview after the consent was given, communicated and built rapport on the participants. Second, the researchers set an appointment for a short orientation on what is going to happen during the interview, allowing them to also sign the informed consent form. During the interview, the researchers gave the informed consent and asked the permission of every participant if they are amenable to cover a video/picture and record, and there was an affirmation. The interview was guided by the interview protocol so that participants could be comfortable in answering, giving them also freedom to use their preferred language or their most convenient way of expressing themselves, in their vernacular language.

Ethical Considerations

To ensure the confidentiality of the data, the researchers safekept their responses/transcripts with confidentiality wherein trust is important element in our subjects and privacy is prerequisite of confidentiality. The researchers secured the sensitive information gathered from the participants and whatever the responses they were treated confidential and the interviewing place or platform was private to avoid being heard by others. All the responses were used for educational purpose only.

Data Analysis

After the researchers conducted an interview, the collected data were treated by thematic analysis. Data were transcribed and identified the key points out of the codes from the transcript. After the coding process, the researchers determined the emergent themes. Since the researchers used the qualitative research design, phenomenology in approach, so they used themes to process and understand the collected data.

Results and Discussion

This presents the narrative analyses and interpretations of the gathered data based from the specific problems of the study.

The following tables show the responses, in which the researchers encoded verbatim. Table 1 reflects the experiences of the participants in their academic undertakings, while Table 2 shows their difficulties during their stay in the university.

Table 1

Participants' Experiences (Induction of Codes)

ID		Coding
P1	There is discrimination being an ALS passer.	Discrimination
	It was quite difficult when you enter in the university.	Difficulty
	It is really a big challenge for me.	Difficulty
	There is a big adjustment for me.	Difficulty
	I did is a self-study for me to catch-up on lessons.	Low performance
P2	I didn't really excel in class.	Low performance
	The grades are not such a failure, there is progress.	Progressing
P3	I was almost got a grade of three (3). I got two point nine (2.9).	Low performance
	When I had ALS, my grades weren't that good.	Low performance
	In college of course, it's still difficult.	Difficulty
	I can say that I can catch up with the lesson they tackled or taught.	Progressing
P4	I do experience low grades in college, 1st semester.	Low performance
	College is a bit difficult.	Difficulty
	It is still hard and difficult for me to really adjust on how to gain more and excel on my grades.	Difficulty
	I can say that it was quite progressive.	Progressing
P5	ALS give me a chance to improve myself and this was my stepping stone to push my studies in college.	Opportunity
	My grades and my academic performance are improving.	Progressing
	There is a progress especially in my academic performance.	Progressing
P6	Know how to get along with people, training you how to be in college life.	Opportunity

	My grades are getting higher on others. There's an improvement.	Opportunity
P7	ALS give me an opportunity to pass all my failures in life.	Opportunity

Table 2

Participants' Difficulties (Induction of Codes)

ID		Coding
P1	Math was the difficult subject for me that is my lowest grade in my current studies.	Subject Difficulty
P2	At first, it is not going to be easy in many subjects.	Subject Difficulty
	In terms of the grades I got, I can say that they are ok and possible to pass on.	Progressing
P3	I don't have any background based on their lessons and I am not that knowledgeable with the others skills.	No prior knowledge
	I just seem to be reminiscing about my past lessons.	No prior knowledge
P4	ALS can help, but we weren't satisfied.	Dissatisfaction
	Teaching a lesson for us is not that enough	Dissatisfaction
P5	I got a grade of (3).	Low performance
	My grades are better now in college than when I was in ALS.	Progressing
P6	I got a low grade in one of my subjects.	Low performance
	I am not satisfied; I don't have enough background on my course today.	Dissatisfaction
		No prior knowledge
P7	I got a grade of three (3). I struggled a lot because some of the lessons we had before are not applicable nowadays with my course. But I am proudly saying that my grades now are still progressing.	Subject Difficulty

Table 3

SOP1. Deduction of Codes

Codes	IDs
Difficulty	P1, P3, P4
Low Performance	P1, P2, P3, P4
Progressing	P2, P3, P4, P5
Opportunity	P5, P6, P7
Discrimination	P1

This part explains the deduction concept to show how the Alternative Learning System Students described their experiences in the University.

From the sharing of the participants, the following were drawn to enrich the foregoing discussions. The experiences of the ALS graduates in the university show the following themes:

Difficulty: The participants exposed that they are having difficulties in almost all of the academic disciplines. It has been disclosed that there have not been enough of background knowledge or prior knowledge that makes it difficult for the students to catch up to succeeding lessons.

Low Performance: The participants shared that almost all of them got low grades on their 1st year 1st semester.

Progress. The participants said that they are having so many adjustments in academics but little by little they get to adjust in coping, there seemed to be a gradual progress as they getting used to schooling again. The participants mentioned that they are still doing their best on catching up on lessons. Some of the participants' responses were gradually making a progress despite being ALS graduates.

Opportunity: Some participants see the ALS program as an opportunity like being qualified to enter to higher education without having to graduate the senior high school of the K to 12 curriculum.

Discrimination: A participant felt discriminated for not allowing to choose what course to enroll. It is only allowed to enroll non-board courses as directed by the university. Thus, advised to enroll to non-board courses only.

As regards academic performance, almost all of them are having difficulties. One of the reasons the researchers believe is the new curriculum they are into. Most of them have not undergone the senior high school. They lack the prior knowledge requisite to the subjects of the new curriculum. It is also hard for them to catch up and adjust to the lessons because subjects are totally new and have not encountered them during the ALS sessions. In some cases, others just took the accreditation and equivalency exam without taking A|LS program seriously. Almost all of the participants have poor academic performance, got lower grades on their 1st semester but in their 2nd semester, they for a chance progress gradually.

Findings in the study of Cayabyab, Jacoba, Nalanga, Tamayo, and Sabas (2016) stated that four out of six respondents experienced difficulty especially in their Mathematics related disciplines subject such as

Accounting, Statistics and Algebra. Other respondents found difficulty on writing an essay and lastly, one experienced difficulty in subjects because of forgetting due to three years of absence in schooling.

Table 4

Deduction of Codes

Codes	IDs
Subject Difficulty	P1, P2, P7
No prior knowledge	P2, P3, P6
Dissatisfaction	P4, P6
Low Performance	P5, P6

This part presents the deduction concepts to show the difficulties that impact their academic performances in the University.

Out of the experiences, the foregoing difficulties were encountered;

Subject Difficulty: The participants are struggling in catching up to the lessons especially the subjects that they did not take in ALS.

No Prior knowledge: As stated in their experiences, participants believed that one of the causes to underachievement in academics is the lack of background knowledge. They got a difficulty to connect the prior knowledge to their present lessons.

Low Performance: As expected, having limited prior knowledge, the participants are struggling in coping up to the lessons, thus performed below average. In fact many of them are left behind, and cannot perform compared to others who have gone to formal schooling.

Dissatisfaction: Dissatisfaction emerged as a result of the experiences encountered by the participants. Part of the difficulties was the feeling of disappointments, discontentment and failing to appreciate what have been offered to the participants in preparing them for higher education

Recommendations

Based on the findings of the study, it is concluded that participants are experiencing difficulties and challenges causing them to make a lot of adjustments to cope with academic undertakings. Prior knowledge plays a vital role in all academic disciplines, that has been realized by the participants. And this was not given by the alternative mode of education, resulting to dissatisfaction from almost all of the participants. They have

found it difficult to link that knowledge to their lectures in the university. Hence, they could not perform well in school, could not attain what is expected of them as college students. Evidences are the low in academic performances. On the other side of this, participants confirmed a big impact of ALS on their lives as the system gave them opportunities to enter higher education institutions where they experienced chances of improving their knowledge though experiencing challenges and difficulties many times. It is just seen by the researchers that these graduates are needing a scaffolding to address the limited prior knowledge they obtained from ALS, for them to be at par with the rest of the students. On this note, the researchers proposed a program that will somehow assist these students cope with their weaknesses in academics. A program that is developed in consideration of the data as disclosed by the participants and witnesses by the researchers, a research-based intervention program that is specific for them. The researchers also recommend the developed program to be implemented to ALS centers, as one of their post-secondary activities if there are, to prepare their ALS graduating students to better qualify for tertiary education. Other stakeholders like the ALS alumni and their parents as well, should be considered for feedbacking purpose. An evaluation of the program is also recommended yearly as part of the feedbacks, i.e. looking into their academic performances in all of the academic disciplines. Out of the findings, the researchers developed a program to help assist ALS graduates to be able to cope with university challenges in all academic undertakings. Based from the needs of the ALS graduates, the following program is suggested,

Title: Assisted Learning Strategy (ALS) through Peer Tutorials *Rationale:* Findings reveal that participants share a common difficulty despite enrolled in different courses and year level. Basic skills are needed for the participants to augment their daily lessons, and provision of enrichment activities would also help retain the knowledge. It is therefore recommended to suggest a program that may contribute for a better chance of academic success.

Program Description: This is a proposed program exclusively for ALS graduates regardless of year level they are in. It is designed to be in the form of peer tutorial where participants discuss among themselves as in focus group discussion, including the peer tutors who are the pre-service teachers. Topics will cover areas wherein participants see as challenging and difficult. Enrichment activities will also be provided by the peer tutors with the aid of the subject teachers.

Objectives:

- Assist ALS students in their academic weaknesses
- Provide supplemental lectures on basic concepts to address the lack of prior knowledge
- Provide enhancements or enrichment activities to daily lessons
- Complement a teaching and/or a student's learning style
- Encourage team work to address learning issues

- Facilitate engagement of concerned stakeholders to improve the program, i.e. ALS centers, DHVSU faculty and staff, parents, alumni, etc.

Topics: Daily lessons or as requested by the ALS students

Modality of instruction: Virtual Conferencing via Google Meet

Persons In-charge: Faculty and pre-service teachers (graduating students), RET coordinators of DPC

Duration/Schedule: Semestral/2hrs every Saturday

Activities: Group discussions, Tutorials, Enrichment exercises, Brainstorming

7. References

- Abad, G.R., & Galleto, P.G. (2020). Alternative learning system program's implementation landscape of a division in the Philippines. *Cypriot Journal of Educational Science*. 15(5), 1078-1088. <https://doi.org/10.18844/cjes.v15i5.5173>
- Al-Hadrami and Morris (2020). What Is the Importance of Academic Performance? IPL Organization. <https://www.ipl.org/essay/What-Is-The-Importance-Of-Academic-Performance-P3FGEUH4AJP6>
- Baleni, L., Malatji, K. and Wadesango, N.(2016). The Influence of Peer Tutoring on Students' Performance in a South African University. *J Communications*,7(1): 127-133
- Brant, A. (2018). Defining success in an alternative school setting. ResearchGate. https://www.researchgate.net/publication/327802222_Defining_success_in_an_alternative_school_setting
- Bucanegra, D., Navarro, N., Manibo, J. (2020). Sources of Aspirations and Self-Esteem Among Alternative Learning System (ALS) Students. *Asia Pacific Journal of Education, Arts and Sciences*, Volume 7, No. 2. <https://research.lpubatangas.edu.ph/wp-content/uploads/2020/06/APJEAS-2020.7.2.05.pdf?fbclid=IwAR25E-4-8jbP1sK35SFZCPc0XDD4MgQzwhmulWRPhezS3WZC-W7Ax9nba8M>
- Clay, A. H. (2019). Factors Contributing to The Success of Students in an Alternative Learning Center with an Online Curriculum: A Multiple Case Study. Digital Commons Liberty. <https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=3286&context=doctoral&fbclid=IwAR3usX4ZINaKoUMyIGd9YsyKmLKoxp8oZt1z0VC4lp0WH7Sw2PcUdogyTfA>
- Chen, C. and Liu, C. (2011). A Case Study of Peer Tutoring Program in Higher Education. *Research in Higher Education Journal*, 11(1), 16-34
- DEPED, 2016. Alternative Learning System Accreditation and Equivalency (ALS A&E) Program. <https://www.deped.gov.ph/k-to-12/inclusive-education/about-alternative-learning-system/>
- DepEd, (2017). Alternative Learning System- Education and Skills Training. Department of Education. <https://www.deped.gov.ph/als-est/handbook-for-implementers>
- De Vera, P., 2018. CHED to HEIs: Accept ALS passers for AY 2018-2019. Commission On Higher Education. <https://ched.gov.ph/ched-to-heis-accept-als-passers-for-ay-2018-2019/>
- EAST ASIA AND PACIFIC.2016. Alternative and Inclusive Learning in the Philippines. EAST ASIA AND PACIFIC. https://openknowledge.worldbank.org/bitstream/handle/10986/24713/Alternative0an0g0in0the0Philippines.pdf?sequence=1&isAlloWed=y&fbclid=IwAR3_WYxIA9inRUEF8V0CJmeTJIYjnt_vyoOS3dAgHKXpuOQjMuKQSOO0nKk
- Elger, D. (2007). Theory of performance. IL: Pacific Crest. <http://eprints.gouni.edu.ng/925/1/UKPAKA%2C%20SOCHIMA%20KANYINULIA.docx>

- Flores, M., Veiga, S. and Carrasco, V. (2012). Tutoring in Higher Education in Portugal and Spain: Lessons Learned from Six Initiatives in Place. *Internationalizing Education: Global Perspectives on Collaboration and Change*
- Iragashi, Acosta, and Tenazas (2020). Second-chance education should not be second-class: The Philippines' Alternative Learning System. *East Asia and Pacific on the Rise*. <https://blogs.worldbank.org/eastasiapacific/second-chance-education-should-not-be-second-class-philippines-alternative-learning>
- Philippine Education for All (2009)
- Printcasting, (2018). Alternative education: advantages and disadvantages.PRINCASTING.COM. https://printcasting.com/alternative-education-advantages-disadvantages/?fbclid=IwAR1q4d1CDP2F-k3Ar-63ESslluXIOuGly1OllsNjn8burqt5aZ_5dJTDxfg
- Schwab, J. R., Johnson, Z. G., Ansley, B., Houchins, D., and Varjas, K., (2016). A Literature Review of Alternative School Academic Interventions for Students With and Without Disabilities. ResearchGate. https://www.researchgate.net/publication/281303571_A_Literature_Review_of_Alternative_School
- Takiko, (2018). A second chance to develop the human capital of out-of-school youth and adults: The Philippines alternative learning system (English). The World Bank. <http://documents1.worldbank.org/curated/en/539131530792186404>
- Tan, J. and GEvera, E. (2020). Peer Tutorial: Championing Students at Risk. *International Journal of Learning, Teaching and Educational Research* Vol.19 No.5 ,pp.352-378
- Te, J., and Moleño, R. (2020). Tracer study on the academic and work status of alternative learning system (ALS) graduates. INSTABRIGHT e-GAZZETTE.https://uploads.strikinglycdn.com/files/ab97aed3-e4b1-4955-aed9-df82dcb4b09f/154%20TE_MOLENO.pdf
- The World Bank (2018). The Philippines Alternative Learning System: A Second Chance to Develop the Human Capital of Out-of-School Youth and Adults. The World Bank Group. https://www.worldbank.org/en/country/philippines/publication/the-philippines-alternative-learning-system-a-second-chance-to-develop-the-human-capital-of-out-of-school-youth-and-adults?fbclid=IwAR3K1QTZZrM9-UbA0WVmOJ9L_k1soj86SwwCV8r_NAuX2A0Cp7R_u75BEhc
- Tindowen, Bassig, Cagurangan (2017). Twenty-first-century skills of Alternative Learning System learners. *SAGE Journals Open*. 1-8. <https://journals.sagepub.com/doi/full/10.1177/2158244017726116>
- Walberg, H., J. (2021). Walberg's Theory of Educational Productivity. *Exploring Your Mind*. <https://exploringyourmind.com/walbergs-theory-of-educational-productivity/>

APPENDIX 1

Interview Guide

Date of Interview

Interview Information

Name (Optional): _____

Gender: Male Female

Title: Experiences and Difficulties of Alternative Learning System (ALS) Graduates in the University:
Basis for the program Assisted Learning Strategy through Peer Tutorials

Questions:

1. Describe what and how are the experiences during your stay in the university?
2. What challenges and difficulties have you encountered?
3. Describe your performance in any subject.

Building *Ta'awun* and *Tasamuh* Capability in the Classroom; an Ethnography Research on Inclusive Madrasa in Indonesia

Mahmud Yunus Mustofa^{*1}, Mikke Novia Indrian², Ika Setiyawati³

¹Walisongo State Islamic University Semarang, Indonesia

²Islamic State Institute of Pekalongan, Indonesia

³Islamic Elementary School of Keji, Ungaran, Indonesia

*mahmudyunusmustofa1@gmail.com

ABSTRACT

In today's schools, dealing with bullying and cultivating a sense of mutual respect among students is one of the most challenging issues. This research contributes to a better understanding of the daily interactions between students and classmates from an Islamic perspective by looking at the elements that determine the inclusive classroom culture. This study is based on data collected from students with special needs, special tutors, classroom teachers, and a school leader during ethnographic research in one of Indonesia's inclusive madrasa. This article shows that Islamic ideals in *Ta'awun* and *Tasamuh* can help students form friendships with peers from different backgrounds. These are internalized through madrasa programs and evaluations. Furthermore, an inclusive learning environment is created through engaging in regular activities with others and gaining experience and skills along the way. Classroom teachers and special tutors play a critical role in encouraging students to be helpful and respectful to one another. Additionally, we propose a dynamic approach that can improve psychological and social adjustment as well as encourage the learning of prospective students through the involvement of Islamic principles in inclusive madrasa.

Keywords: peaceful education, inclusive madrasa, mutual respect, Indonesia.

Introduction

Bullying is one of the most complex issues facing education worldwide, especially in Indonesia. Numerous studies are concerned about this issue, particularly for students with disabilities, who are more vulnerable to classroom bullying (Kloosterman et al., 2013; Oh & Moss, 2012). Indonesia is ranked fifth out of 78

nations in terms of student bullying. According to data from the Program for International Student Assessment (PISA) in 2018, 41.1% of students in Indonesia claim to have encountered bullying. The percentage of students who are bullied is significantly higher than the national average of 22.7% (OECD). Additionally, stopbullying.gov statistics indicate that 42.1 % of bullying happens in the classroom in Indonesia. This phenomenon indicates the continued importance of mutual respect among students, particularly in a classroom setting.

Within the context of the school environment, the classroom is the primary site of academic, psychological, and social growth for each student. Additionally, the classroom provides an environment in which students can establish mutual respect. Though, the classroom can remain a dangerous place for some pupils. As a result, it is vital to building mutual trust and mutually respectful relationships in the classroom. Miller (2021) argues that this relationship can be fostered in the classroom through developing trust between teachers and students, as well as between students. Meanwhile, Frederickson (2010) asserts that mutual respect fosters beneficial interactions between general education students and students with disabilities in the classroom. Carter (2011), concurring with both, contends that when students feel secure in the classroom, they are more engaged and active in their learning. As a result, Mayer's (2007) drive to establish safe and welcoming schools is a foundational notion, beginning in the classroom.

Mutual respect and tolerance, particularly in inclusive classrooms, are crucial for resolving these challenges, as they constitute one of the practices of Pancasila ideals (Mas'ud, 2021), which serve as the foundation of Indonesian society. Furthermore, this approach is consistent with Islamic ideals, most notably *Ta'awun* and *Tasamuh*. According to the Qur'an, *Ta'awun* indicates an attitude of goodness toward one another. This concept is especially significant and pertinent when applied to inclusive courses comprised of students from varied backgrounds, most notably in inclusive madrasas in Indonesia. Madrasa is a name that refers to educational institutions in Indonesia that are overseen by the Ministry of Religious Affairs of Indonesia. In Indonesia, there are now 157 inclusive madrasas with 1565 students with special needs and 437 special tutors.

Various studies on mutual respect and relationship among students in inclusive schools have produced numerous significant findings in recent years. Hegseth (2021) argues that mutual respect can be cultivated by examining the relationship between the educational system and the classroom. Several additional researchers (Iqbal et al., 2021; Kloosterman et al., 2013; Oh & Moss, 2012; Sakinah, 2019) examined students with special needs who are vulnerable to bullying at school need a safe atmosphere in the classroom. Then, Johnsons (2013) studied how bullied individuals responded to their decision to seek assistance from others. This research distinguishes itself from previous work by focusing exclusively on the development of mutual respect in the classroom, especially in inclusive madrasas, and particularly through the use of Islamic values.

Based on the preceding explanation, this article aims to fill the gaps left by previous research on how inclusive classrooms, especially madrasas in Indonesia, become safe spaces for students through the

development of mutual respect and tolerance. This study discusses the role of intervention in instilling Islamic values such as *Ta'awun* and *Tasamuh's* capability to build up mutual respect in the inclusive classroom. This paper makes the argument that teachers can foster mutual respect among students in the inclusive classroom by teaching the concepts of *Ta'awun* and *Tasamuh*. Additionally, teachers play a critical role in establishing safe classroom environments for students with special needs. This paradigm of equality and mutual respect must be further developed, particularly to establish inclusive madrasas in Indonesia.

Understanding *Ta'awun* and *Tasamuh* Capability in Islam

Ta'awun is an Islamic concept that teaches the meaning and significance of doing good to others. As stated in the Qur'an (Al-Maeda verse: 2), Islam encourages always assisting in the good and forbids assisting in the sin. This concept is reliable with collaborative skills theory in education, which facilitates students to improve in both social and academic (Osterholt & Barratt, 2011). It includes a variety of abilities, such as communication skills, team building, and the ability to work cooperatively with both regular students and students with special needs (Guzman & Schofield, 1995). Students with special needs will build confidence in an inclusive classroom environment and will indirectly contribute to the creation of a safe classroom environment as a result of this collaborative skill (Meadan & Monda-Amaya, 2008). In essence, *Ta'awun* is a helping together attitude that is motivated by Islam's spirituality. This attitude eventually becomes the natural state of mind for humans in general (Kathir, n.d.).

This principle is essential to apply, primarily in the inclusive classroom. This is because students with special needs require peer companions to learn. Peers or classmates play a critical role in the development of attitudes, skills, and socialization of students with special needs by explaining the material and accompanying them during breaks and other activities (Faiza et al., 2020). A harmonious classroom atmosphere created by instilling a spirit of mutual respect among students will make the classroom a safe and comfortable place to learn. Finally, when this attitude of helping fellow students is demonstrated, the next attitude, *Tasamuh*, will emerge. *Tasamuh* is one of the values of moderate Islam, principally *ahlu al-sunnah wa al-jama'ah*, which is necessary for the development of an ideal Muslim. *Tasamuh* is a tolerant attitude toward divergent viewpoints, acknowledgment and respect for others, and human equality. Tolerance is a nebulous and multifaceted concept. Each culture has its own, largely similar, definition of tolerance. The word "tolerance" derives from the Latin "tolerant," which means "endurance" or "resistance." Tolerance in English refers to the willingness and capacity to perceive another person or thing without objection; in French, it refers to the respect for another's liberty, way of thinking, behavior, and political and religious beliefs. To be tolerant in Chinese means to allow, tolerate, and demonstrate generosity toward others (Zhuk & Lisovskaya, n.d., p. 236).

Tolerance is defined in Arabic as forgiveness, indulgence, gentleness, condescension, favor, patience, and a favorable disposition toward others. Watson views tolerance positively as a value that contributes to classroom inclusivity (Watson, 2016). In Islam, *Tasamuh* is highly recommended to foster friendship and brotherhood. Even in the Prophet's hadith, it is stated that a person's faith is incomplete if he lacks compassion and tolerance for his Muslim brother (Watson, 2016). As a result, inclusive classes must internalize this attitude.

Inclusive Madrasa in Indonesia

Inclusive madrasa is not a new phenomenon in Indonesia. Numerous exist throughout Indonesia's regions. The government is, however, still compiling a development roadmap (Maryani, 2021). The Indonesian government has committed to playing a significant role in providing high-quality education services, particularly for children with special needs, in the Master Plan of National Inclusive Education Development 2019-2024 (2019). According to the Decree of The Minister of National Education of Indonesia Number. 70, 2009, it explains inclusive education for students with disabilities and the potential for intelligence and/or special talents, inclusive education is a system of providing education that enables all students with disabilities and the potential for intelligence and/or special talents to participate in education or learning in an educational environment alongside other students. Inclusive education integrates special and regular education into a united educational system. It likewise pursues the same objectives as general education, but in a different manner. y adapting to religious humanism (Chasanah, 2018; Rohmadi, 2012), inclusive madrasas facilitate students with special needs to benefit from the numerous advantages of social interaction and peer relationships, including friendship (McLeskey et al., 2021, p. 322). Social interaction with peers, particularly around shared interests and experiences, is also critical for the development of friendships (Rossetti & Keenan, 2018).

At least three signs point in the direction of establishing an inclusive classroom: qualified partner teachers, an inclusive curriculum, and parental participation. Regrettably, a large number of teachers continue to lack knowledge of inclusive education (Nugraheni et al., 2019). Additionally, there are still a significant number of accompanying teachers who lack the appropriate educational background, offering a challenge to the implementation of inclusive madrasas in Indonesia. Finally, inclusive madrasas are not schools that exclude students; rather, they are formal madrasas that admit students with disabilities to study alongside regular students (Ishartiwi, 2010).

Research Objectives

The research aims to explore how the *Ta'awun* and *Tasamuh* concepts can be used to build mutual respect among students in an inclusive madrasa classroom. The guiding idea is to design classes in such a way that students with disabilities feel accepted and supported. The madrasa employed in this research is MI Keji

Ungaran in Semarang, Indonesia. This institution was chosen as the location for the study for a variety of reasons. First, MI Keji is a madrasa that manages madrasas in an inclusive environment; Second, it is a madrasa with students from diverse backgrounds, including those with special needs; and to conclude, it is a madrasa that offers a variety of inclusive programs that can assist students in developing collaborative skills in inclusive classrooms. Third, this madrasa collaborates with UNICEF and the Semarang Foundation for Autism Yogasmara.

Methodology

This research is a qualitative study (Creswell, 2016) that takes an anthropological approach with educational ethnography (Beach et al., 2018). The teacher acts as a co-researcher (Mills & Morton, 2013, p. 6) to ensure that they have a complete understanding of the research object's state. This positioning brings the researcher closer to the situation and state of the research object, allowing for the collection of valid and comprehensive data. This perspective also enables us to view mutual respect as a form of cultural production (Tummons & Beach, 2020), which is the subject of the research. By observing the interactions between these objects, the inclusive class becomes the locus of research, with teachers and students acting as actors.

This study collects data through participatory observation (Spradley, 2016), with the teacher acting as a researcher. Selective observation (Musante & DeWalt, 2010; Spradley, 2016, p. 73), informal interviews (Spradley, 2016, p. 123), and documentation were used to collect data. This study gathered data throughout six months of fieldwork at an inclusive madrasa. MI Keji is a madrasa located in Ungaran, Semarang, Indonesia. It now enrolls 229 students, including 28 students with special needs. Data were collected through informal conversations, interviews, observation, and documents. This study involved two teachers and five students with disabilities. Each student is unique and may have a variety of special requirements, including Thalassemia, Mental Retardation, ADHD, Slow Learner, or Cerebral Palsy.

After acquiring the data, it is processed through the stages of data reduction, data analytics, and data verification, as demonstrated by Miles & Huberman (Miles et al., 2018). The data is summarized using the respondents' themes and narrative narratives. Data from data reduction are included in the literature in the form of interview quotes, images, and thematic tales. Following that, the data were examined in three stages. The first phase is to repeat the data collected in the field, particularly through interviews, to maintain the data's authenticity; the second step is to utilize a descriptive technique to highlight patterns and trends in the data. The third stage is interpretation, which entails generating explicit and implicit meanings from the data. To assess the data's meaning, the full dataset is read inside a contextual framework.

Results

Inclusive Education in Madrasa; Strategy and Implementation

In inclusive madrasas, the academic process begins with the admission of new students. Admission of new students is different for students with special needs than it is for other students. Interviews and initial identification are used to determine the admission of students with special needs. Following that, the second stage will be completed, which will include assessment activities classified into two categories: formal assessment and non-formal assessment. Professionals (psychologists and pediatricians) conduct formal assessments as part of the process of determining the specific needs they bear. This step entails administering tests, including IQ testing, developmental assessments, and assessments of learning styles. Teachers conduct a non-formal assessment by examining the condition of prospective students and paying attention to documents issued by professionals that are used as a basis for discussion with students' parents, including consultations with resource persons, in this case, madrasa in collaboration with the Autism Yogasmarra Foundation for profiling students with special needs, and individual learning program conducted by teachers. Teachers created unique guiding and inclusive lesson plans adapted from the Australian Agency for International Development's (AusAID) initiative to enhance inclusive education. The detail can be seen in the figure.1

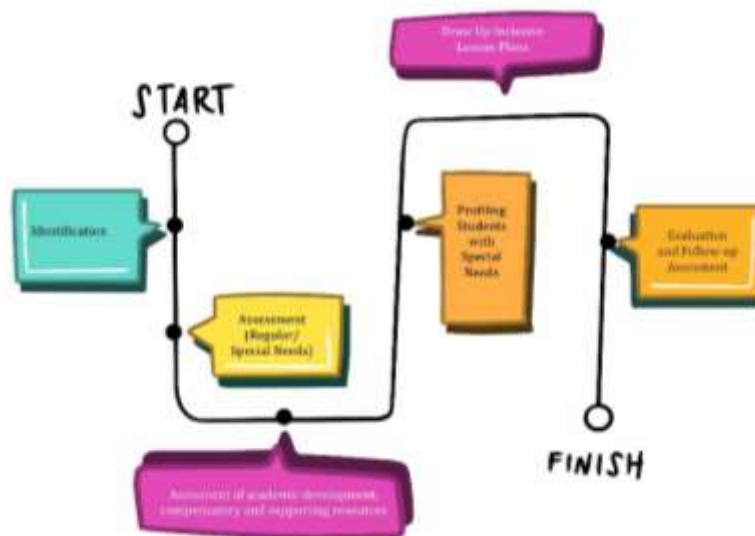


Figure 1. Service Standards for Students with Special Needs

Source: MI Keji's Curriculum Document

The curriculum employed at MI Keji is based on national curriculum standards, namely the curriculum of 2013. Meanwhile, learning services for students with special needs refer to Indonesian government regulation No. 13 of 2020 on suitable accommodation for students with disabilities, specifically by providing curriculum accommodation. For students with Special Needs who do not have intellectual barriers, use the 2013 curriculum as a whole, making modifications to the learning process (methods, approaches, and media) to allow teachers to use their creative and innovative abilities with assistance and guidance of special tutors. Meanwhile, for students

with special needs who face intellectual barriers, curriculum requirements such as adjusting basic skills or indicators by the conditions and capacities of learners are carried out in addition to modification in the learning process.

The assessment procedure is carried out as a succession of learning processes, just like it is in ordinary schools in general. The exam questions offered to students with special needs are adjusted to their talents and needs, just as they are in the learning process. Some students are willing to do repeat questions with the national curriculum in full in regular classes, students who can do national curriculum test questions but must be accompanied by special guidance teachers in the “resource room”, and students who are unable to do national curriculum test questions and must rely on special guidance teachers to complete the replay questions independently. Students with special needs who can answer all of the national curriculum test questions correctly are usually individuals who learn at a sluggish rate due to non-dyslexia and dysgraphia. Students with slow learning dyslexia and dysgraphia complete the test created by the special tutors themselves and are fully guided by the special tutors. The detail can be seen in figure.2.

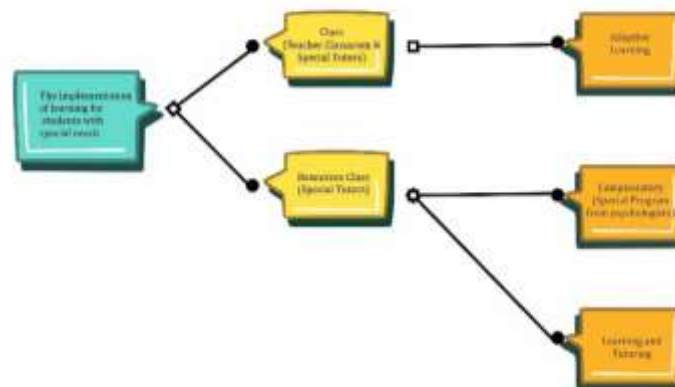


Figure 2. The Implementation of model partial inclusion for students with special needs

Source: MI Keji's Curriculum Document

Designing an Equitable Classroom in Madrasa

Equitable classrooms are critical components of designing an educational space that accommodates the needs of all students, regardless of their ability or disability. Equality in the classroom is the first step toward establishing a positive learning environment. The academic community's attitudes and abilities, including teachers and peers, are critical to the success of an inclusive class. Collaboration between class

personnel is critical to the development of an equitable class. MI Keji successfully implements the concept by creating an equal classroom environment. Teachers and students in the class develop a shared belief that all students, both regular and special needs, have equal opportunities in the classroom. Equitable classes are organized by including a variety of educational support resources for children with disabilities. Additionally, classroom facilities are designed to meet the needs of these students.

Each of the following elements demonstrates a different aspect of classroom support: *First*, administrative assistance is crucial for students with special needs to feel secure. MI Keji's *civitas academica* treats students with disabilities equally. With tolerance, effort, and without discrimination, the staff attends to all of the needs of pupils with special needs in the classroom. For example, when children face hurdles to gaining access to school amenities. The staff is always eager to work with students with disabilities to ensure that they have equal access to educational facilities as other students. *Second*, teacher support for classes is critical. In the classroom, the teacher takes on the role of a parent for students, particularly those with special needs. Teacher support is critical for the development of an inclusive classroom. MI Keji's teachers are unflinching in their commitment to providing equal attention to each child in the class. The positive social interaction between teachers and students with disabilities sends a strong message and serves as an excellent example for all students in the class about the value of equality. As teachers stated that they teach is incredibly passionate about assisting students with special needs. They not only instill knowledge but also instill value in the classroom.

“ We already treat all students as our children, both regular and special needs. We not only teach them but also set a good example by showing them what it means to love others”. *Source: Interview with the teachers.*

The researchers observed teacher-student interactions in inclusive classes. For instance, when interacting with students who have ADHD or are low learners in class, the teacher employs a humane approach to reassure these students.

Third, support from special tutors is crucial in building an unbiased class. The researcher observed that collaboration between teachers and special tutors was extremely beneficial at MI Keji. Companion teachers are an option for teachers in inclusive classes who are having difficulty interacting with students with disabilities. Both proactive behaviors are demonstrated through activities that teach students to assist one another during learning activities. For example, by sharing educational resources and assisting other students who require assistance, students can cultivate an attitude of solidarity toward one another. For example, the special tutors invited students to engage in a logic game involving Asperger's Syndrome. Even though this student has autism and a low IQ, she is still memorizing the Qur'an. As special tutors statements:

"We, as special tutors are in charge of supervising initial identification, managing the results of psychologist/doctoral assessments and non-formal assessments into profiles of students with special needs,

compiling the Program Individual Learning, and providing classroom teacher input when preparing inclusive lesson plans. When a student with special needs is present in the resource room, we can be shadow instructor who acts to support the classroom teacher, perform compensating services, and learning advice". *Source: Interview with special tutors.*

Fourth, and most importantly, peer support. The difference in attitude toward assistance between regular and special needs students. They are accustomed to assisting one another in a variety of activities. Support between the two is critical for the development of an equitable and inclusive class. Additionally, peers in the class ensure that their peers with special needs have an easier time learning. Additionally, sharing culture is emphasized in this class to foster mutual respect. As stated by the regular students:

"The teacher teaches us to appreciate others because we are all equal in Allah's eyes."

"The teacher told us to respect all of our friends without exception."

"I appreciate studying alongside my friends and helping them when they are in need. I'm willing to assist them whenever they need it."

Source: Interview with regular students

Students feel joyful and at peace in the classroom when they support one another and respect one another. They don't appear to be aware of their differences from the others. Madrasas anticipate this sentiment for children with special needs to receive a proper education. As they stated:

"Friends in class are incredibly helpful when I need them, and I am very delighted to be able to study here"

"I enjoy playing with my classmates in class, and I am frequently assisted in using stage equipment, coloring together, playing together, and much more."

Source: Interview with students with special needs.

Finally, equitable classrooms are not just for regular classes at MI Keji. This madrasa has a special class referred to as the "Kelas Sumber" (resource class). Resource classes is designed specifically to assist students with special needs. They are typically given additional personal classes with a companion teacher in the source class after learning with regular students. Not only is the source class an equitable classroom, but it is also a safe and welcoming space.

Mutual Respect in the Inclusive Classroom

Throughout the research process, it was determined that there were no instances of students bullying other students. Students with and without special needs show mutual respect and even care for one another. This is also consistent with the accompanying teacher's statement that madrasas have anti-bullying programs in place

within the school setting. The teacher fosters this mutual respect by assigning the same task to regular students and students with disabilities, such as leading school activities.

Based on observations made during the study, the teacher instilled in the students an understanding that mutual respect is a critical value in Islam. The teacher provides an interpretation of this attitude of mutual respect based on An-Nisa verse 86 of the Qur'an. In this chapter, the teacher teaches all students to show respect for their classmates. The teacher in the class also stressed the importance of mutual respect and honor by quoting the Qur'an Al-Hujurat verse 13. These two verses serve as the foundation for teachers to provide context for students to respect one another and respect one another. The virtues of mutual respect and tolerance are always internalized through the assessment of religious programs and activities in schools. Several activities, such as *tahfidz Qur'an* (memorizing the Koran), *mujadahah* (Islamic prayer), and the celebration of Islamic holidays, consistently emphasize the necessity of respecting others. Furthermore, the teacher provides clear examples by teaching kids with special needs with love. As a result of *uswatun khasanah* (good example), this will serve as a positive example for other students. Because, For madrasas, education is the right of all children without exception. As the madrasa leader stated:

“ As a society, we must be accountable for providing proper education to these special-needs students. We, as madrasa leaders, always offer evaluation and training programs for instructors and special tutors so that they can continue to improve their abilities to educate students.”

Source: Interview with madrasa leader



Even though my way of learning is different, I can succeed



Education for All



All of children have the right to school

Figure 3. Poster Education for All

Source: Researcher Documentation

In addition, we put up posters in madrasas to educate awareness of the dangers of bullying. The posters are strategically placed throughout the madrasa and assist teachers in internalizing mutual respect for others.



Figure 4. Anti-bullying poster

Source: Researcher Documentation

Figure.4 shows how the madrasa tries to instill a culture of mutual respect and anti-bullying. Bullying is prohibited in several ways, according to the poster. First, verbal bullying includes teasing, cursing, insinuating, and slandering; second, physical bullying includes hitting, pushing, tackling, and destroying things; third, social bullying includes isolating, ignoring, and avoiding; and fourth, cyber bullying includes terrorizing through social media.

Discussion

While this work may not be generalizable or applicable to other schools, there are important lessons to be drawn from the major findings. Other researchers have researched mutual respect in inclusive education (Hegseth, 2021; Maurissen et al., 2020; Miller, 2021). Through *Ta'awun* and *Tasamuh* approaches, an inclusive classroom must always instill a sense of care, respect, and acceptance of differences. Schools, in general, must foster a positive learning environment in inclusive classrooms. This positive environment was fostered through substantial contributions from staff, teachers, special teachers, stakeholders, and classroom students. Schools must be able to provide a safe and inclusive environment to eradicate the bullying and discrimination culture in education, as MI Keji has done. This school has demonstrated that the *Ta'awun* and *Tasamuh* cultures are capable of treating students with special needs equally.

The Power of Caring; Creating a Habitus

The teacher's habituation of students to develop *Ta'awun* or a helping attitude is vital. This attitude instills mutual respect in students. The *Ta'awun* attitude is reinforced in inclusive classes by the presence of a

circle of friends. This is done to meet the students' emotional and behavioral needs (Newton et al., 1996). This circle of friends also fosters an attitude of acceptance among classmates, which promotes *Tasamuh*. Schlieder explained that students develop empathy and understanding for their peers within a circle of friends. Additionally, it promotes true social inclusion by separating regular and special needs students (Schlieder et al., 2014). This *Taawun* and *Tasamuh* attitude is fostered in an inclusive classroom by the positive connection, caring, and mutual respect that exists between all class members. Thompson continues by stating that a competent teacher values having a diverse social network with students (Thompson & Byrnes, 2011). *Taawun* and *Tasamuh* imply positive feelings and respect for their classmates to foster an effective learning environment.

The power of caring implies that the inclusive classroom is a safe space for students with special needs. According to Sautner, equity acceptance requires a culture of sharing, trust, and beliefs (Sautner, 2008). This culture of sharing and helping has also developed into an obligation in Islam. In the classroom, *ta'awun* and *tasamuh* foster an attitude of mutual respect among students. This is prominent of cooperation among students or between students and teachers during classroom instruction. Van Ryzin (Van Ryzin & Roseth, 2019a, 2019b) discovered that cooperative learning can help students develop social skills such as empathy and peer relationships. Finally, this caring capacity plays a critical role in the formation of an inclusive class.

This attitude of care and assistance has developed into a habit in the classroom as a result of the teacher's efforts. According to Bourdieu's theory (Bourdieu, 1962; Garnham & Williams, 1980; R. Johnson & Bourdieu, 1993; Swartz, 2012), this habitus developed as a result of the field and actor. In this inclusive class, the habit of *ta'awun* and *tasamuh* is created by the teacher as an actor and the class as the field and then continues to become habitus. This positive habit contributes to the creation of a safe and comfortable learning environment for all academics in inclusive schools, including students with special needs. Teachers with the necessary skills and attitudes (Pit-ten Cate et al., 2018) are critical for creating inclusive classrooms that are welcoming to students with special needs.

Peaceful Education; Creating a classroom with no Discrimination

Numerous instances of students battling in class, particularly in inclusive classes, require special attention. One thing that can be done is to cultivate a tolerance-based attitude. This attitude necessitates that

students treat one another well. As a result, learning becomes more enjoyable in the classroom, as students feel secure, motivated, and, of course, respected. To create this atmosphere, teachers and students must make significant efforts. This type of education evolves into what Dr. Martin Luther King refers to as beloved education (Harris & Morrison, 2012, p. 12). This peaceful education promotes intergroup harmony (Salomon & Cairns, 2011). Because, in fact, The Fundamental Purposes of a Peace Pedagogy (Reardon, 1988).

The classroom must be a safe space of conflict between students, which Fountain refers to as a "peace zone" (Fountain, 1999). Peaceful education is primarily concerned with resolving conflicts between groups on a large scale (Salomon & Cairns, 2011), but it can also be applied in small-scale environments such as classrooms. This type of education is only possible through mutual tolerance and respect, which results in a positive relationship (D. W. Johnson & Johnson, 2010). Mutuality cannot be achieved if a competitive or individualistic attitude dominates. Rather than that, teachers must internalize values that promote integrative cooperation, debate, and negotiation, including a commitment to the common good and the well-being of others, as well as a sense of responsibility for students. This is done to establish a shared perspective and level of understanding as fellow human beings. To develop an attitude of integrity, empathy for and care for others, compassion when other members are in need, equality, and respect for diversity in students.

Finally, inclusive and safe education does not just accommodate students from diverse backgrounds. More than that, it's about developing schools capable of continuous improvement to create just, safe, and welcoming classrooms valuable to create peaceful education without discrimination. Because, "The highest result of education is tolerance" (Hellen Keller, Blind-Deaf Author, 1880-1996).

Conclusion

Bullying and harassment in the classroom, particularly toward students with special needs, are a global problem in education. Classes, as the smallest component of an educational institution, provide an excellent opportunity to foster mutual respect. Equitable class formation must occur to create an equal class and to support the learning goals of students with disabilities. Numerous factors, including support staff, peer support, teacher support, and special educator support, can all contribute to the establishment of safe and comfortable classes for students with special needs. Additionally, this attitude can be developed through exposure to the ta'awun and tasamuh taught in Islam. Teachers play a critical role in establishing inclusive classrooms that are safe, comfortable, and welcoming to students with disabilities. Students will develop mutual respect and love as a result of the Islamic approach, resulting in a peaceful education.

Acknowledgment

This research is funded by the LPDP (Indonesian Educational Endowment Fund) Scholarship Programme, Ministry of Finance, Indonesia.

References

- Beach, D., Bagley, C., & da Silva, S. M. (2018). *The Wiley handbook of ethnography of education*. John Wiley & Sons.
- Bourdieu, P. (1962). *The algerians*. Boston: Beacon Press [1962].
- Carter, B. A. (2011). A safe education for all: Recognizing and stemming harassment in music classes and ensembles. *Music Educators Journal*, 97(4), 29–32.
- Chasanah, U. (2018). Desain Pengembangan Kurikulum Madrasah Inklusif Dengan Pendekatan Humanisme Religius. *Syaikhuna: Jurnal Pendidikan Dan Pranata Islam*, 9(1), 91–119.
- Creswell, J. W. (2016). *Research design: pendekatan metode kualitatif, kuantitatif, dan campuran*. Yogyakarta: Pustaka Pelajar.
- Dominic, R. and C. F. H. (2018). *Developing a Global Indicator on Bullying of School-aged Children*. https://www.unicef-irc.org/publications/pdf/WP_2018-11.pdf
- Faiza, T. Z., Istikomah, I., & Haryanto, B. (2020). Peer Assistance Strategy in the Management of Inclusion Students in Sawocangkring Elementary School. *Proceedings of The ICECRS*, 5.
- Fountain, S. (1999). *Peace education in UNICEF*. Citeseer.
- Frederickson, N. (2010). THE GULLIFORD LECTURE: Bullying or befriending? Children's responses to classmates with special needs. *British Journal of Special Education*, 37(1), 4–12.
- Garnham, N., & Williams, R. (1980). *Pierre Bourdieu and the sociology of culture: an introduction*. Sage Publications Sage CA: Thousand Oaks, CA.
- Guzman, N., & Schofield, R. (1995). *Systemic Restructuring for Successful Inclusive Schools: Leadership and a Collaborative Evaluation Model*.
- Hanif, M. (2020). The Implementation of Tasamuh ala Ahlussunah School in Learning Islamic Education: A Case in Ma'arif High School Purbalingga, Indonesia. *International Journal of Social Science and Religion (IJSSR)*, 55–68.
- Harris, I. M., & Morrison, M. L. (2012). *Peace education*. McFarland.

- Hegseth, W. (2021). *Respect by Design: How Different Educational Systems Interact with Mutual Respect in Classrooms*.
- Iqbal, F., Senin, M. S., Nordin, M. N. Bin, & Hasyim, M. (2021). A Qualitative Study: Impact of Bullying on Children with Special Needs. *LINGUISTICA ANTVERPIENSIA*, 2, 1639–1643.
- Ishartiwi, I. (2010). Implementasi Pendidikan Inklusif Bagi Anak Berkebutuhan Khusus Dalam Sistem Persekolahan Nasional. *JPK (Jurnal Pendidikan Khusus)*, 6(2).
- Johnson, D. W., & Johnson, R. T. (2010). *16 Peace Education in the Classroom: Creating Effective Peace Education Programs*.
- Johnson, R., & Bourdieu, P. (1993). The field of cultural production: Essays on art and literature. *Cambridge: Polity*.
- Kathir, S. R. I. I. I. (n.d.). *SUSTAINING TA'AWUN DRIVEN STRATEGIC COOPERATION THROUGH TAKMIL WAL ISTIKMAL AMONG ISLAMIC PRIVATE SCHOOLS IN MALAYSIA*.
- Kementerian Pendidikan dan Kebudayaan. (2019). *RENCANA INDUK PENGEMBANGAN PENDIDIKAN INKLUSIF TINGKAT NASIONAL TAHUN 2019-2024*.
- Kloosterman, P. H., Kelley, E. A., Craig, W. M., Parker, J. D. A., & Javier, C. (2013). Types and experiences of bullying in adolescents with an autism spectrum disorder. *Research in Autism Spectrum Disorders*, 7(7), 824–832.
- Lindstrom Johnson, S., Waasdorp, T. E., Debnam, K., & Bradshaw, C. P. (2013). The role of bystander perceptions and school climate in influencing victims' responses to bullying: to retaliate or seek support? *Journal of Criminology*, 2013.
- Maryani. (2021). *Kemenag Susun Peta Jalan Madrasah Inklusif*. Kementerian Agama Republik Indonesia. <https://kemenag.go.id/read/kemenag-susun-peta-jalan-madrasah-inklusif-jpe6p>
- Mas'ud, A. (2021). *Pancasila and Religious Harmony*.
- Maurissen, L., Barber, C., & Claes, E. (2020). Classroom discussions and political tolerance towards immigrants: The importance of mutual respect and responsiveness. *Acta Politica*, 55(2), 242–266.
- Mayer, J. E. (2007). *Creating a safe and welcoming school*. International Academy of Education.
- McLeskey, J., Spooner, F., Algozzine, B., & Nancy, L. W. (2021). *Handbook of Effective Inclusive Elementary Schools: Research and Practice*. Routledge.

- Meadan, H., & Monda-Amaya, L. (2008). Collaboration to promote social competence for students with mild disabilities in the general classroom: A structure for providing social support. *Intervention in School and Clinic, 43*(3), 158–167.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2018). *Qualitative data analysis: A methods sourcebook*. Sage publications.
- Miller, M. (2021). Relationship building built on trust and mutual respect: A classroom teacher's challenge. *EdMedia+ Innovate Learning*, 463–466.
- Mills, D., & Morton, M. (2013). *Ethnography in education*. Sage.
- Musante, K., & DeWalt, B. R. (2010). *Participant observation: A guide for fieldworkers*. Rowman Altamira.
- Newton, C., Taylor, G., & Wilson, D. (1996). Circles of friends: an inclusive approach to meeting emotional and behavioral needs. *Educational Psychology in Practice, 11*(4), 41–48.
- Nugraheni, P. P., Salim, A., & Hidayatullah, M. F. (2019). Teachers' Knowledge and Understanding Toward Learning-Friendly Education for Children with Disabilities in Inclusive School. *International Journal of Multicultural and Multireligious Understanding, 6*(1), 60–65.
- OECD. (n.d.). *Program for International Student Assessment (PISA) 2018*. https://www.oecd.org/pisa/publications/PISA2018_CN_IDN.pdf
- Oh, I., & Moss, J. M. (2012). School Bullying of Students with Special Needs: Counseling Issues and Effective Interventions. *Journal Of Asia Pacific Counseling, 2*(2).
- Osterholt, D. A., & Barratt, K. (2011). A case for a collaborative classroom. *About Campus, 16*(2), 20–26.
- Pit-ten Cate, I. M., Markova, M., Krischler, M., & Krolak-Schwerdt, S. (2018). Promoting Inclusive Education: The Role of Teachers' Competence and Attitudes. *Insights into Learning Disabilities, 15*(1), 49–63.
- Reardon, B. A. (1988). *Comprehensive peace education: Educating for global responsibility*. ERIC.
- Rohmadi, S. H. (2012). *Kurikulum Berbasis Inklusi di Madrasah: Landasan Teori dan Desain Pembelajaran Perspektif Islam*.
- Rossetti, Z., & Keenan, J. (2018). The nature of friendship between students with and without severe disabilities. *Remedial and Special Education, 39*(4), 195–210.
- Sakinah, D. N. (2019). Bullying at Students with Special Needs in Inclusive Schools: Implication For Role of Special Teachers. *3rd International Conference on Special Education (ICSE 2019)*, 282–285.
- Salomon, G., & Cairns, E. (2011). *Handbook on peace education*. Psychology Press.

- Sautner, B. (2008). Inclusive, Safe and Caring Schools: Connecting Factors. *Developmental Disabilities Bulletin*, 36, 135–167.
- Schlieder, M., Maldonado, N., & Baltes, B. (2014). An Investigation of "Circle of Friends" Peer-Mediated Intervention for Students with Autism. *Online Submission*, 6(1), 27–40.
- Spradley, J. P. (2016). *Participant observation*. Waveland Press.
- Swartz, D. (2012). *Culture and power: The sociology of Pierre Bourdieu*. University of Chicago Press.
- Thompson, J., & Byrnes, D. (2011). A more diverse circle of friends. *Multicultural Perspectives*, 13(2), 93–99.
- Tummons, J., & Beach, D. (2020). Ethnography, materiality, and the principle of symmetry: problematising anthropocentrism and interactionism in the ethnography of education. *Ethnography and Education*, 15(3), 286–299. <https://doi.org/10.1080/17457823.2019.1683756>
- UNESCO, U. (2017). School violence and bullying: Global status report. Paris: United Nations Educational, Scientific and Cultural Organization.
- Van Ryzin, M. J., & Roseth, C. J. (2019a). Cooperative learning effects on peer relations and alcohol use in middle school. *Journal of Applied Developmental Psychology*, 64, 101059.
- Van Ryzin, M. J., & Roseth, C. J. (2019b). Effects of cooperative learning on peer relations, empathy, and bullying in middle school. *Aggressive Behavior*, 45(6), 643–651.
- Watson, K. (2016). Talking Tolerance Inside the "Inclusive" Early Childhood Classroom. *Occasional Paper Series*, 2016(36), 6.
- Zhuk, T., & Lisovskaya, T. (n.d.). Tolerance in the education of children with disabilities as an indicator of an inclusive community culture. *INCLUSIVE EDUCATION*, 230.

DOCUMENTARY HISTORY OF THE REVOLUTION 1945-50 AND STUDENTS' INTERNALIZATION OF ANTI-COLONIALISM KNOWLEDGE

Ganda Febri Kurniawan*¹

¹Faculty of Social Science, Universitas Negeri Semarang, Indonesia

*gandafk@mail.unnes.ac.id

ABSTRACT

Historical documentaries are part of learning resources that have not been explored by many teachers. This technology can trigger critical discussions in online history classes. This study aims to analyze the relevance of historical documentaries and their impact on students' knowledge of anti-colonialism. This research was done by descriptive method. Researchers involved 20 students as research participants. The data analysis applied is an interactive model. The results show that historical documentaries can bridge students' understanding of the present and the past, students can conduct criticism and in-depth discussions about historical events during the 1945 to 1950 revolution through these media. The students' understanding of anti-colonialism proved to be able to be stimulated, to encourage them to side with a humanist point of view. This research has implications for the need for the use of historical documentary technology in learning, videos with the theme of the history of the revolution have proven to make learning more relevant and interesting.

Keywords: historical documentaries, internalization, anti-colonial knowledge, technology

Introduction

Relations between Indonesia and the Netherlands continue to experience political ups and downs (Triyana, 2022). For these two countries, the past is still an obstacle for good cooperation. Some Indonesians, of course, have almost the same collective memory about the Netherlands, every one with Dutch nuances is definitely bad and evil (Heryanto, 2022). As a former colony, which has been colonized for nearly three and a half centuries, Indonesia remembers the Netherlands as a nation that has historical debts (Amin & Kurniawan, 2018; Pratama, 2018), on the other hand, for the Dutch, Indonesia is a past that has been seized and underlies a drastic shift in political life in the country (Oostindie, 2020).

The year 1945 was a turning point for Indonesia-Dutch relations, which originally had strong ties due to colonialism, at that time everything had changed. Until 1949, the Indonesians continued to fight for independence, which was under threat (Bijl, 2013; Oostindie, 2012). The Dutch, who were in the Allied Block during World War II, felt they had the right and the need to restore their power in Indonesia. The Netherlands does not understand that the proclamation has been declared since 17 August 1945 (Djunedding, 2020). Since then, Indonesia and the Netherlands have entered the most tense situation in the history of the two countries. This period of the war for independence has claimed many lives, up to three thousand Indonesians who died as a result of being shot and became victims of extreme violence.

Differences in understanding began to appear between the younger generation and the older generation, in addressing the history of the period of the war of independence or the period of revolution. The older generation seems more mature, because they receive historical narratives directly from the mouths of historical actors or war veterans. Meanwhile, the younger generation received this understanding only from textbooks and teachers through activities at school. This condition creates a dilemma. The younger generation does not have as good an understanding of history as the older generation. This is caused by several factors such as; popular culture that attracts the younger generation so that history is marginalized and teaching that relies more on a one-way delivery process by the teacher (Kurniawan, 2020; Wineburg & Reisman, 2015). Ineffective history learning has contributed irrelevant historical knowledge of the revolutionary period (Winarti, 2017). Historical documentary is a medium that is based on valid historical facts and sources. Historical documentaries are made through direct coverage of one event in a certain period (Ratmanto, 2018). This media is produced by journalists who work to record and store the recordings in cassette form. After a few years, this media has become a valuable item because it can visualize events that have occurred. Documentary history of Indonesia during the revolutionary period of 1945 to 1950 is quite easy to obtain because it has been published on the internet, its base is on YouTube. Unfortunately, not many teachers use this media to provide a deeper understanding of historical events during the revolutionary period.

Suryani (2016) her research shows that students have more interest in teachers who are able to use creative learning media. Hafizh and Yefterson (2019) in their research revealed that videos containing historical narratives attracted students' interest in learning. Susanto et al. (2021) in his findings he explained that the history of the revolutionary period was quite interesting for students to understand the Indonesian-Dutch conflict in the early days of independence. The three studies provide an illustration that the opportunity for historical documentaries to be utilized in history learning is very large. This media allows students to receive nuanced learning, in terms of novelty and story content conveyed. In addition, during the Pandemic, when most students study online, this media has a greater chance of being used, because it will encourage contextual learning.

The important contribution of this research lies in the process of proving and promoting revolutionary historical documentaries to be used in Indonesian history with a critical approach. The attitude of anti-colonialism is still relevant to be developed for students, history needs to be taught more clearly, by directing students to understand the context and values that are important to be embraced in today's life.

Research Objectives

Based on the above background, this research has a main objective, namely to analyze the relevance of historical documentary during the revolution and internalize students' anti-colonial knowledge that is contextual for today. This research also focuses on the process of proving that the historical documentary of the revolution period can be accepted by students in learning. The learning process developed through learning with historical documentaries is projected to trigger critical discussions, students can be actively involved in the process of analyzing historical facts contained in historical documentaries to be later reflected as new knowledge for them.

Methodology

This research was carried out using a descriptive method, which is a research method whose data collection process allows researchers to produce a description of the phenomenon under study (Lambert & Lambert, 2012). This method is applied with the aim of describing, explaining and validating the phenomenon that is the object of research. The phenomenon of this research is the process of using revolutionary historical documentaries and internalizing students' anti-colonial knowledge. Thus, this study attempts to describe how students form anti-colonial knowledge, how students appreciate the use of historical documentaries during the revolution as a medium and source of learning, and how critical approaches are operated in learning with historical documentaries. Then, the results of data mining will be the basis for explaining and validating the relevance of using revolutionary historical documentaries for learning.

Samplings/Participants

This study involved 20 participants, all of whom were fourth semester students at the History Education Program, Faculty of Social Sciences, Semarang State University. The student was registered to take courses in Indonesian History from the Early Period of Independence to Guided Democracy. The history of this period includes three important phases; the first was the independence revolution phase from 1945 to 1950, the second was the liberal democracy phase from 1950 to 1959, and the guided democracy phase from 1959 to 1966. The selection of participants was carried out by considering several aspects such as: gender balance, initial level of

understanding of students, student involvement in the community, and interest in the field of historical studies during the revolution period 1945 to 1950. From a total of 45 students in one batch, 20 students were finally selected who met the criteria and who were willing to be involved in the research process carried out.

Table 1

Characteristics of Participants

Characteristics	School 1	
	n	%
Male	10	50
Female	10	50

Research Tools/Instruments

In this study, there are two reliable instruments, namely: a survey instrument with ten statements and an interview instrument with ten questions. These two instruments are complementary and reinforce each other's findings. The description of the research instrument used is as follows.

Table 2

Survey items

Question 1: Initial knowledge of students?
The revolutionary period from 1945 to 1950 is interesting to study
The revolutionary period from 1945 to 1950 was traumatizing for the Indonesian people
History is taught with a critical approach to create an anti-colonial attitude
Question 2: Internalization of Anti-Colonialism Knowledge?
The knowledge of anti-colonialism obtained from historical documentaries is quite deep
The content of material in the documentary history of the revolution is comprehensive
Knowledge of anti-colonialism strengthened when critical discussions were held after the screening of historical documentaries
Humanist history is better than political nationalism
Question 3: The Relevance of Historical Documentary in Learning?
Documentary history during the revolution made me more interested in learning history
Revolutionary history documentaries provide a different learning experience
Historical documentaries give birth to nuanced learning

Tabel 3

Interview points

Question 1: Initial knowledge of students?

What do you think about the history of the revolution from 1945 to 1950?

What do you think about the use of historical documentaries from the 1945-1950 revolution as a medium and source of learning?

What do you think about anti-colonialism knowledge?

Question 2: Internalization of Anti-Colonialism Knowledge?

After studying the history of the revolutionary period through historical documentaries, what do you understand about anti-colonialism?

Why should a student have an anti-colonial attitude?

How should the history of the Indonesian independence revolution period be understood by both parties (Indonesia and the Netherlands)?

How do students disseminate anti-colonial knowledge?

Question 3: The Relevance of Historical Documentary in Learning?

Does the documentary history of the revolution give a deep message about the history of that period?

Can the documentary history of the revolution serve as a basis for critical discussion?

Are relevant historical documentaries used?

Procedure

This research was carried out in stages from planning, instrument preparation, data collection, data verification, to data analysis. Planning in research contains the activity of making learning scenarios that will be used to test the relevance of revolutionary historical documentaries in history learning activities, as well as to collect data. The data collection of this research is divided into two stages: the initial stage of data collection to answer question 1 in the survey and interviews, which are carried out before learning begins. Furthermore, after the learning was completed, further data collection was held to answer question 2 and question 3. Data verification

was carried out by operating data triangulation. In this study, data from surveys and interviews are mutually validating, if contradictory data is found, it will be part of the research findings discussed in the discussion. Triangulation serves to find the suitability of the data and arrange the data closer to the actual truth. The last stage of this research is the analysis of research data, which applies interactive techniques. The learning scenarios arranged to facilitate data collection are as follows.

Tabel 4

Lesson Study

Learning Aims	: 1. Cultivate students' knowledge of the history of anti-colonialism 2. Develop reflective understanding 3. Cultivate students' critical thinking skills	
Approach	: Humanistic	
Strategy	: <i>Discussion</i>	
Learning section	Time (Minutes)	Activities
1	5	The teacher conveys the learning objectives
2	15	The teacher conveys the stages of learning
3	20	The teacher divides students into 5 groups The teacher plays dokumenter sejarah masa revolusi The teacher instructs students to discuss and identify the aspects of anti-colonialism values based on the video
4	35	Teachers instruct students to find and collaborate knowledge sourced from books and the internet Students present their answers Responding to each other between groups
5	15	Appreciation and drawing conclusions

Data Analyses

Data analysis in this study applies interactive techniques, namely an analytical technique that emphasizes the flexibility of the data collection process and discussion (Miles et al., 2018). After the survey data

is collected, then the data is selected, displayed and strengthened by descriptive findings from the interviews. Interview data that have been collected are reviewed for their suitability with the research theme, and then marked with five codes; Students Data 1 = SD 1, Students Data 2 = SD 2, etc. Conclusions are drawn during the course of the research, as is the case with the data selection process, after the data has been collected adequately, temporary conclusions can be obtained, and after the data is completely complete, final conclusions can be obtained.

Results

Question 1: Initial knowledge of students?

The history of the independence revolution period or also known as the period of defending the republic occurred from 1945 to 1950. This period has given birth to many major events, from the Proclamation of Independence, physical battles in various regions, and international diplomacy to defend the sovereignty of the newly independent Indonesian nation. When I began to introduce this period of the independence revolution, I saw that students lacked a basic understanding of modern Indonesian history. This period has been described as a period of physical warfare, guerrilla warfare, and brutal street fighting. On the other hand, it was during this period that students began to recognize heroic events, such as: the Battle of Surabaya, the Five-Day Battle in Semarang, Palagan Ambarawa, and the Bandung Ocean of Fire Incident. All these stories are difficult to imagine for students who are no longer familiar with historical stories. The students who received these materials were on average twenty years old, they no longer lived around War Veterans who were historical actors. They only listen to stories from the teacher's material in class or from textbooks.

"War Period" is a term that comes up most often. Students make the connotation that the revolutionary period is a period of physical war, without any other effort as a way to defend sovereignty. When I started talking about historical documentaries, it seemed foreign to students, this medium was rarely used by teachers, all participants only received direct explanations about historical documentaries. According to them, this media is war coverage that is kept as a memento. War in their imagination is an interesting event, maybe like a concert. They find it very difficult to imagine a war situation, learning seems irrelevant and talking about historical documentaries is too wild, even some students interpret it as a made-up film. This incident was quite traumatizing, when I started to talk about the bloody events: kidnapping, murder, and torture received by republican fighters, SD3 stated that condition: "historical documentaries are very gripping, full of violence, history that creates trauma, but we still need to study it as a reflection for present and future." Students knew that historical documentaries contain

trauma, which is important to learn in order to free themselves from the shackles of the past. A fairly advanced and important mindset is exposed.

After the students had an overview of the history of the revolution in the historical documentary that was explained, I began to go into a more detailed discussion about the students' anti-colonial attitudes. Most of the students in the survey stated that they "don't understand" the meaning of anti-colonialism, they are only a little familiar with the term "colonialism", that alone is not enough to describe the long event of exploitation of human and natural resources on Indonesian soil. The term anti-colonialism seems so foreign and the meaning of this attitude tends to be static. Students do not understand why the history of the colonial period is studied, in classroom learning, Dutch colonialism is known as an activity, not ideologically charged. I started to introduce colonialism as the essence of the Dutch colonialism, that every colonialism that had damaged the cultural joints of the people here was caused by ideology. It can be traced from the concept of understanding Dutch colonialism againsts Indonesia, which has an impact on the inheritance of memories of violence. It could be based on the arguments of Oostindie and Triyana. This discourse provoked students to ask questions about why colonialism existed, they began to get an idea. Students' knowledge of anti-colonialism is in a very early stage. This encourages students to be pro-active in seeking additional information about colonialism and anti-colonialism.

Question 2: Internalization of Anti-Colonialism Knowledge?

I started a conversation about historical documentaries which was quite light, that this media is a source of learning. When students start dividing themselves into six groups, I ask them to focus on watching historical documentaries that are no more than twenty minutes long (Video link: <https://www.youtube.com/watch?v=kSqGQLQgmsM>).

Students listen quietly. Students observe the life of the Indonesian people in the early years of independence. The video also shows several popular republican fighters such as Soekarno and Mohammad Hatta. This video presents a fairly comprehensive overview, covering events in several areas. Halfway through the video, SD1 commented: "This video is quite interesting, as if it takes us back to that era." Students' imagination begins to wake up. After the presentation is complete, students then form a discussion in one group. They began to elaborate data and information from written sources in books or on the internet. Students are very happy, with the viewing of the video.

Knowledge of nationalism is shown directly, when in one snippet it is depicted that several soldiers of the republican fighters were captured by the Dutch and taken to one place. Students see the incident as an act that

ends in murder. Soldiers who were captured in a defenseless condition. In those days, killing was common, though it remained a barbaric behavior. When the discussion is over, the discussion group is opened more broadly. Many students give criticism on colonialism. SD2 argues: "The Dutch colonial government has given birth to deep hatred from the Indonesian people, the independence that has been declared has been fought for with all its might, and the Dutch will reclaim it." This explanation is enough to give an idea that students are starting to have an open mind and knowledge of anti-colonialism is starting to emerge.

SD3 also argues: "at this time, political nationalism is needed to show the public that Indonesia was born from a bloody history." The students were quite impressed with the documentary video that was shown, the incident had left a deep mark on the memory. Students reject, neutral nationalism. SD4 supports the opinion of SD2 and SD3 that: "neutral nationalism will only show a wise nation without courage, but political nationalism that sided with humanism will produce a brave nation."

Students get information from the internet, that the meaning of the history of Indonesia during the revolutionary period is different from what is taught in the Netherlands. Dutch history has justified the Indonesian people as criminals, Sukarno, the first President of the Republic of Indonesia was described as someone who was cunning and ambitious. SD5 argues: "Now is the time for us to review the history of the revolutionary period, we must defend anti-colonialism and we must continue to fight colonialism." This provocative sentence is proof that the product of knowledge from scientific discussion is very valuable. The anti-colonial attitude for students will lead to courage, and put someone on the right side, from a humanitarian perspective. Students also began to think that knowledge of anti-colonialism needed to be campaigned through various social media. In support of the campaign, SD6 argued: "both for the Indonesian people and the Dutch, the history of that period can be interpreted in various ways, but historical facts cannot be denied."

Question 3: The Relevance of Historical Documentary in Learning?

Documentary history during the revolution has increased students' interest in learning history. In the final stage of the discussion, students appreciate the video that is shown as a learning medium. SD2 argues: "historical documentaries are very interesting and make for a memorable learning experience, media like this is important to promote". This media promotion process can be done through learning, it is time for teachers to take advantage of historical documentaries which are currently published in various online media. Understanding the Indonesian revolution from documentary videos can develop students' historical thinking skills. Students examine the past, elaborate with other sources, and give meaning to the events being studied. Historical documentaries have

provided nuanced learning. SD3 argues: "we need more attractive learning media like this, it is easier for me to grasp the meaning of events in the past through this media."

Supporting the opinion of SD3, SD4 argues: "the independence revolution in documentary is not only abstract, I understand that every documented event is very valuable for our generation." Historical documentaries have given deep meaning to students during learning. This media has also spawned critical discussions, SD4's opinion has proven that political nationalism should be developed, but the side with humanity needs to be put forward. Judging from the enthusiasm of students, experiences gained, and impressions that appear, historical documentary media are relevant to be used in learning.

Discussion

Research proves that learning by utilizing creative media can attract students' interest in learning. This is in line with Suryani's (2016) findings that creative media encourage students to be actively involved in learning. The historical documentaries used have created a new learning atmosphere. Students give a positive impression. The new experiences that students receive in learning have formed an academic climate that is expected by many parties (Marharjono, 2020; Susilawati, 2021), especially history educators who want history lessons to penetrate and develop students' knowledge. This study also supports the opinion of Hafizh and Yefterson (2019) that videos containing historical narratives make it easier for students to construct their knowledge (Kurniawan, 2020). In teaching with documentary media, students are enthusiastic to communicate with each other and elaborate any knowledge received from various sources. This kind of character is positive in an effort to develop anti-colonial knowledge.

Critical discussion about the material content in historical documentaries has encouraged the internalization of students' anti-colonial knowledge. The students' anti-colonial attitude was formed by three elements, namely; political nationalism, siding with humanism, and a critical attitude to injustice. Colonialism for students is an imprisoning and shackled process. The past that is critically studied can give birth to a better future. This study supports the findings of Susanto et al. (2021) that the history of the revolutionary period is one of the materials that has an impact on students, especially in growing historical knowledge. In addition, students are also trained to learn to think historically, examine facts and correctly interpret these facts. The alert attitude that students have towards colonialism is very important (Winarti, 2017). Students assess, political nationalism is an integral part in maintaining the republic that must be maintained. The Dutch people's conflicting understanding of the revolutionary period was not a problem for the students. The history that must be believed is the history that is interpreted for the sake of nationalism (Wineburg & Reisman, 2015), and it all needs to be believed politically.

This understanding may not resolve the debate on both sides, but students are aware of the consequences of their attitude. This condition is increasingly convincing that historical documentaries really make learning more nuanced.

In addition, the humanistic approach to learning using historical documentary media is sufficient to strengthen the learning process to generate critical discussion. This approach makes the direction of learning clearer, and has greatly influenced students' perspectives in interpreting historical narratives obtained from documentaries. This technology has proven acceptable to students and has made learning more relevant and interesting. Finally, it can be explained that the historical documentary of the revolution period is one of the media that teachers need to use to make learning more nuanced and attractive to students, in addition to the internalization of students' anti-colonial knowledge can be strengthened by these media.

Conclusion

Historical documentaries have been proven to be positively received by students, this media is also relevant to develop students' anti-colonial knowledge. The learning process carried out with historical documentaries can give birth to critical discussions, giving students new experiences in studying the history of their nation. Students in the discussion session showed a pro-active attitude, seeking information independently and elaboratively through other sources, thus making this learning nuanced. All parts of the historical documentaries that are shown have made students believe more in anti-colonialism, political nationalism, and siding with humanism. Students are very enthusiastic in participating in learning. This media is highly recommended to give birth to nuanced learning.

References

- Amin, S., & Kurniawan, G. F. (2018). Percikan Api Revolusi di Kampung Tulung Magelang 1945. *Journal of Indonesian History*, 7(1), 71-81.
- Bijl, P. (2013). Dutch colonial nostalgia across decolonisation. *Journal of Dutch Literature*, 4(1).
- Djunedding, B. (2020). Perjuangan Tanpa Revolusi: Perspektif Baru dalam Memahami Kekerasan Periode Revolusi di Indonesia Timur 1945-1950. *Al-Qalam*, 25(3), 561-574.
- Hafizh, A., & Yefterson, R. B. (2019). Pengembangan media pembelajaran berbasis video menggunakan windows movie maker dalam pembelajaran sejarah. *Jurnal Halaqah*, 1(3), 224-245.

- Heryanto, A. (2022, 28 January). Kapan siap menghadapi "Bersiap"? Mendalami polemik periode kekerasan pasca-Proklamasi Indonesia. *The Conversation*. <https://theconversation.com/kapan-siap-menghadapi-bersiap-mendalami-polemik-periode-kekerasan-pasca-proklamasi-indonesia-175836>
- Kurniawan, G. F. (2020). Problematika pembelajaran sejarah dengan sistem daring. *Diakronika*, 20(2), 76-87.
- Lambert, V. A., & Lambert, C. E. (2012). Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, 16(4), 255-256.
- Marharjono, M. (2020). Manfaat Pembelajaran Sejarah Menggunakan Google Classroom pada Masa Pandemi COVID-19. *Ideguru: Jurnal Karya Ilmiah Guru*, 5(1), 56-63-56-63.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2018). *Qualitative data analysis: A methods sourcebook*. Sage publications.
- Oostindie, G. (2012). Postcolonial Migrants in the netherlands. *Postcolonial Migrants and Identity Politics: Europe, Russia, Japan and the United States in Comparison*, 18, 95.
- Oostindie, G. (2020). Trauma and the Last Dutch War in Indonesia, 1945-1949. In *The Cultural Trauma of Decolonization* (pp. 85-109). Springer.
- Pratama, R. A. (2018). Kecamuk Revolusi Kemerdekaan di Kuningan (1947-1950). *Jurnal Candrasangkala*, 4(2), 94-106.
- Ratmanto, A. (2018). Beyond The Historiography: Film Dokumenter Sejarah Sebagai Alternatif Historiografi di Indonesia. *SASDAYA: Gajah Mada Journal of Humanities*, 2(2), 405-414.
- Suryani, N. (2016). Pengembangan media pembelajaran sejarah berbasis it. *Jurnal Sejarah dan Budaya*, 10(2), 186-196.
- Susanto, H., Irmawati, I., Akmal, H., & Abbas, E. W. (2021). Media Film Dokumenter dan Pengaruhnya Terhadap Keterampilan Berpikir Kritis Siswa. *HISTORIA: Jurnal Program Studi Pendidikan Sejarah*, 9(1), 65-78.
- Susilawati, N. (2021). Merdeka Belajar dan Kampus Merdeka Dalam Pandangan Filsafat Pendidikan Humanisme. *Jurnal Sikola: Jurnal Kajian Pendidikan dan Pembelajaran*, 2(3), 203-219.
- Triyana, B. (2022, 12 January). Istilah "Bersiap" yang Problematik. *Historia.ID*. <https://historia.id/politik/articles/istilah-bersiap-yang-problematik-vogKK/page/1>
- Winarti, M. (2017). Mengembangkan nilai nasionalisme, patriotisme, dan toleransi melalui enrichment dalam pembelajaran sejarah tentang peranan Yogyakarta selama revolusi kemerdekaan. *Historia: Jurnal Pendidik dan Peneliti Sejarah*, 1(1), 13-22.
- Wineburg, S., & Reisman, A. (2015). Disciplinary literacy in history: A toolkit for digital citizenship. *Journal of Adolescent & Adult Literacy*, 58(8), 636-639.

STRESS LEVEL IN PRIMARY SCHOOL TEACHERS (Research in the Primary school in Danang City, Viet Nam)

Thanh Duong Thi Thu^{1*} *Phuong Thi Hang Nguyen*²

¹The University of Danang - University of Science and Education, Danang City, Vietnam

²The University of Danang - University of Science and Education, Danang City, Vietnam

*sanphamluuniemdanang@gmail.com

nthphuong@ued.udn.vn

Abstract:

Stress is a phenomenon significantly affecting primary school teachers' life quality and teaching quality. This study was conducted on 518 primary school teachers in Da Nang city, Vietnam. PSS test was used to measure stress among participants. Research results show that more than 15% of primary school teachers are highly stressed. Stress in primary school teachers is due to several main reasons: too much workload, not being satisfied with the income level, and an unfriendly working environment. The Covid -19 and online teaching also make the stress level higher. This study purpose is find out the stress status of teachers. Research results show that 81.3% of primary school teachers have signs of stress and only 3.7% of them are not under stress. Female teachers are more stressed than male teachers. The study also shows the impact of stress on the work performance of primary school teachers and proposes solutions to reduce stress for primary teachers in Da Nang, including creating a happy and friendly school atmosphere, increasing income, and supplementing equipment so that teachers have the facilities for more complete teaching.

Keywords: stress, the stress in primary school teachers, PSS test, solutions to reduce stress, covid-19

1.Introduction

Modern society entails more stress than before. Stress are being watched is a certificate of the current world. According to 2011 statistics of the International Labor Organization (ILO), about 20% of the world's population is overstressed at work. The rest in Vietnam, research, the rate of military stress across the country is more than 52%. Especially in industrial zones, 71% of workers show signs of stress.

Teachers also pointed out that occupational stress in teachers causes them to lose interest in their careers, affecting their health and personal relationships. Teachers with severe stress often find it difficult to concentrate on work; unable to control anger, often outbursts with inappropriate behavior and language, with students they

are easily irritable, frustrated... Prolonged stress will affect the interest in teaching, cause loss of confidence, reduce teaching effectiveness. High rates of teacher occupational stress have been documented globally [1]. Job stress had a significant predictive effect on work-family conflict and job burnout [2]. However, so far in Vietnam, there have only been a few specialized studies on stress in primary school teachers. In Da Nang city, up to now, there has not been any research on this issue.

Among teachers, the person under the most pressure is still the primary school teacher. The target group of students is those who have just started to come into contact with words, need to both adapt to the environment, learn and update their knowledge to ensure the requirements of the training program.

During the covid-19 pandemic, the pressure to teach and organize online classes maybe has increased the stress of primary school teachers.

It is necessary to consider the mental health factor of primary school teachers, specifically the need to assess the stress level of primary school teachers, thereby proposing and implementing stress prevention measures for primary school teachers. That's the reason why we researched the topic: Stress study in primary school teachers in Da Nang city.

2. Research content

2.1. General concept of "Stress"

According to WHO Occupational stress (or Occupational Stress) is defined as an imbalance between requirements and ability to work [3]. association or organization of a test job or skill that can be qualitative and/or solid. Work source is the qualitative, psychological, social, or organizational aspects of work that support the achievement of the target work; reduce work demands and associated physiological and mental costs; Personal growth stimulation, learning, and development [4].

2.2. Effects of stress on people's lives

Stress affects all ages, all problems in life. Research on the effects of severe stress continuously on the body has found that there are 3 stages: alarm, resistance, and exhaustion [5].

Research by Austrian endocrinologist Selye H. helps us understand the short-term impact of stressful events and the effects stress has on people. In addition, he also divided into 3 types of stress: positive stress, neutral stress, and negative stress. By 1970, after a long time of research, he divided stress into 4 types: positive stress, negative stress, excessive stress, and under stress [6].

In the UK, in the 1990s, an average of 15% to 20% of workers were so stressed that they fell ill and had to quit their jobs in factories [7].

2.3. Stress in teachers and primary school teachers

Farber (1984) notes that the chronic stress associated with teaching can compromise and derail high-quality educational methods that need to be consistently applied in schools today [6].

Research by Anderson (2004) suggests that teacher performance is a strong determinant of school effectiveness and student success, while teacher stress is a strong determinant of student success. Impact on student achievement and student failure because chronic stress can reduce teachers' ability to teach to the greatest extent [8].

In Malaysia, a study (2009) showed that the rate of occupational stress in teachers is 40%, while this rate in the group of other occupations is only 20%. In Israel, a study by Zedan (2012) showed that up to 91.3% of primary school teachers experienced different levels of occupational stress, of which 55.1% of teachers had a low level of occupational stress, 36.2% of teachers have high occupational stress [9].

In a study by Ahmad Azizah et al (2016) on 113 lecturers at a Private university in Malaysia, the rate of occupational stress in lecturers was up to 24.8% [10]. In Malaysia, another study of 551 faculty members at Putra University Malaysia in Serdang showed that the rate of occupational stress was 21.7% which was 21.0% in men and 23.0% in women [11].

In 2015, a study by Yang Wang et al. used a tool to measure the occupational stress of primary school teachers in Liaoning, China using the Karasek job content checklist (JCQ). With a sample size of 559 primary school teachers participating in the survey, the results show that the average score according to the JCQ table is high, and the study also shows that occupational stress is a cause of many disadvantages in terms of education health in primary school teachers [12].

In Vietnam, studies on the situation of occupational stress in teachers are still very limited. Author Pham Manh Ha through the study "Assessment of the level of psychological stress (stress) of lecturers at Vietnam National University, Hanoi, causes and preventive measures", has shown that the majority of university lecturers Nationally, Hanoi has mild stress with 90%, and up to 6% of lecturers have very severe stress. The study also showed that the prevalence of stress in female lecturers was 90%, while the rate of stress in male lecturers was only 88.5% [13].

A study by author Trinh Viet Then in 2016 on preschool teachers showed that the stress rate in the group of preschool teachers was 54.5%, of which 38.0% had mild stress and 13.1% had moderate stress, 2.8% had high stress and 0.6% had very high stress [14].

According to a study on occupational stress in Vu Thi Thuy's bachelor's thesis in public health, in 106 preschool teachers from 8 public semi-boarding schools in Binh Thuan province- Viet Nam, more than half (59.8%) suffer from alarming stress and 40.2% suffer from mild stress [15].

Bachelor of Public Health Tran Thi Ai Huyen (Center for Preventive Medicine, Ho Chi Minh City Department of Health) in a study conducted on 272 teachers of 8 secondary schools in Ninh Thuan province- Viet Nam, also showed that high school teachers are currently under a lot of pressure from the profession. They have to work 1.5 times more than the norm of public employees, under great pressure from teaching requirements and the quality of labor products that society requires.

Based on the definition of stress in primary school teachers in the studies of international authors such as (Hinkle LE (1977); Cassidy T. (1999); Vietnamese authors such as Nguyen Cong Khanh (2000); Nguyen Thi Hang Phuong (2009; 2011); Tran Thi Le Thu (2018). In this study, we determined that stress in primary school teachers is understood as "a state of psychological stress arising in primary school teachers during the school year." the process of teaching activities; communicating with family, friends, and students, causing teachers to have negative impacts on the teaching process, interaction, and professional development".

2.4. Effects of stress on primary school teachers

According to Anthony Y. (1993) [14], Cormier L. S. and Hackney, H. (1993) [15] manifestations of stress include difficulty sleeping, loss of appetite, headache, abdominal pain, restlessness, restless standing; not focus on work (study or work); impaired memory; confused memory; unusual feelings of happiness or sadness; Difficulty controlling behavior...

At the Workshop "Stress, health and work" organized by the Faculty of Psychology - Education, Hanoi National University, Vietnam on May 29, 2018, Prof. Dr. Elizabeth Brondolo - Professor of Clinical Psychology, University of St. John's (USA), Clinical Specialist in Post-Traumatic Stress and Bipolar Disorder, Director of the Health Research Partnership Program (CHIRP), Team Leader on Stress and Health, Subcommittee 38, American Psychological Association, Patricia Barchas Award Winner (2016), American Psychosomatic Society says the trail from stress exposure to health consequences and activation brain, body to stress.

Emotional experiences are often accompanied by changes in bodily function, which have profound and lasting effects. Effects may include effects on the brain and other bodily functions. Increased stress will lead to increased heart rate, increased blood pressure. If not reversed, short-term increases can become persistent and lead to long-lasting changes in neuroendocrine function that will induce brain changes in the stressed person.

According to Nguyen Thi Hang Phuong (2019): Doctor Lam Xuan Dien said that 9.4% of people suffer from anxiety and depression among patients who visit monthly and this rate is increasing; Dr. Pham Van Tru said that among

depressed patients who come to the hospital, 90% have anxiety disorders; 80% have sleep disturbances; 84% decreased ability to concentrate and 97% complained of decreased work ability [16]...

3. Research objects, methods, and result

3.1. Research object

To find out the stress level of primary school teachers in Da Nang city, we conducted a survey of 518 primary school teachers from primary schools in 6 districts: Hai Chau District, Thanh Khe District, Son Tra District, Ngu Hanh Son District, Lien Chieu District, Cam Le District, and Hoa Vang District, Danang. Which, there are 108 male teachers (20.8%), 406 female teachers (78%), and 07 teachers who do not share gender (0.013%).

3.2. Research Methods

- This Research used the PSS (Perceived Stress Scale) - the most widely used psychological tool to measure the stress formula. It is a measure of the degree to which the loves in one's life are rated as stressful. The question is very easy to understand and the reactive alternatives are also easy to grasp. Furthermore, the questions were general in nature and therefore relatively unspecific to any population group. The questions in PSS ask about feelings and thoughts in the past month. In each case, respondents were asked how often they felt a certain way.

- The method of document research is used to analyze, synthesize, and generalize existing views and research works on theory and practice at home and abroad, as a basis for building a theoretical framework of topics and orientations for practical research implementation.

- The research instrument: a stress assessment scale PSS including 10 questions for research subjects (results of analysis of the reliability of answers with alpha coefficient > 0.789).

- Mathematical statistical methods: This study uses SPSS 20.0 software to process, analyze, evaluate quantitatively and qualitatively the research results, ensure reliability, objectivity, and significance for analysis. research results.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.789	.760	10

Table 1: Checking the reliability of the questionnaire

3.3. Research results:

Table 1: Overview of survey participants

n %

Number of people are stress /survey participants

Survey participants	518	
Teacher have signs of stress	421	81.27
Teachers are highly stressed	78	15.06
Teachers are not under stress	19	3.67

Gender

Survey male participants	109	21.0
Survey Female participants	406	78.4
Don't share the gender	3	0.6

Primary school teacher's stress ratio by sex

Male teachers are highly stressed	16	20.5
Female teachers are highly stressed	59	75.6
Don't share the gender	3	3.8

The age of teachers are stressed

Age over 46	18	23.1
Age 41-45	17	21.8
Age 36-40	20	25.6
Age 30-35	15	19.2
Age 26-30	8	10.3

Marital status

unmarried	9	11.5
married	69	88.5

Child status

Not have child	11	14.1
Have child	67	85.9

Educational level

Bachelor's degrees	60	76.9
Master's degrees	2	2.6
Other educators	16	20.5

Working position

Management	5	6.4
Manager concurrently a teacher	0	-
Teacher	73	93.6

Working experiences

over 26 years	10	12.8
21-25 years	14	17.9
16-20 years	18	23.1
11-15 years	14	17.9
6-10 years	12	15.4
1-5 years	10	12.8

Income

5-8 million VND/month	34	43.6
8-10 million VND/month	31	39.7
10-12 million VND/month	5	6.4
Over 12 million VND/month	8	10.3

District of Residence

Hai Chau district(<i>central of Danang city</i>)	19	24.4
Thanh Khe district (<i>central of Danang city</i>)	12	15.4
Son Tra district	10	12.8
Ngu Hanh Son district	11	14.1
Cam Le district	7	9.0
Hoa Vang district	9	11.5
Lien Chieu district	10	12.8

- Among 518 participants, research results show that 78 primary school teachers (15.1%) are highly stressed; 421(81.3%) have signs of stress and only 19 (3.7%) of them are not under stress

- In the group of 78 elementary school teachers who are under stress, there are 16 male teachers (21%), 59 female teachers (76%), and 3 teachers who do not want to share about gender (4%). Thus, the percentage of female teachers experiencing stress is higher than that of male teachers.

- Teachers in the aged of 36-40 years old is having the highest rate of stress with 20 people being stressed (25.6%) Teachers in the aged of 30-35 being stressed is 15 people (19.2%) of the teachers is stressed. Teachers in the aged of 41-45 who are stressed is 17 people (accounting for 21.8% - ranked third), and Teachers in the aged of over 46 years old who are stressed is 18 people (23.1% - ranked second). Meanwhile, Teachers in the aged of 26-30 years old accounted for the lowest rate of stress (only 10.3%).

- Among the whole are under stress, the number of married people who are stressed is 69 people (88.5%), while the number of unmarried people experiencing stress is only 9 people (11.5%).

- Primary school teachers are stressed, people who have child is 67 (85.9%). The number of people who have not had children but are stressed is only 11 people (14.1%).

- Primary school teachers who are under stress, 60 people with bachelor's degrees (85.9%), while the number of people with master's degrees who are stressed is only 2 (2.6%). There are 16 people with other educators are stress (20.5%).

-Primary school teachers who are under stress, the number of people working in a stressed teacher position is 73 people (93.6%), while the number of people in a stressed management position is only 5 people (6.4%). The manager concurrently a teacher group not in a state of stress.

- Primary school teachers who are under stress, the number of people with 16-20 years of work experience stress is 18 (23.1%), the highest. Next, the number of people with a working period of 11-15 years experiencing stress is 14, equal to the number of people with a working period of 21-25 years suffering from stress (17.9%), the second-highest. The group of people who have worked for 1-5 years is stressed is 10 people, equal to the number of people who have worked for five years or more are stressed (12.8%).

-Primary school teachers who are under stress, 34 people with an income of 5-8 million VND/month are stressed (43.6%). Next, the number of people with income from 8-10 million VND/month who are stressed is 31 people (39.7%), the second-highest. And the group of people with an income of 10-12 million VND/month who suffered from stress was 05 people, (6.4%), the lowest.

- Primary school teachers who are under stress, the number of people who are teaching in Hai Chau district, the central district of the city, is stressed at 19 (24.4%), the highest. Next, the number of people who are teaching in Thanh Khe district (the second busiest district of the city) is 12 people (15.4%), the second-highest. And the number of people who are teaching in Son Tra district, Ngu Hanh Son district, Cam Le district, and Hoa Vang district have approximately the same high-stress rate, (11.5 to 14.1%) the number of people teaching. In the Lien Chieu district, stress is the lowest in this group with 7 only people (9%).

Table 2: Agree to participate in a stress prevention activity organized specifically for primary school teachers

Not very interested	3	3.8
Have a little interest	12	15.4
Can participate	30	38.5
Agree to participate	33	42.3

When polled about participating in a stress prevention activity organized specifically for primary school teachers, only 3.8% were not very interested; 15.4% have a little interest; 38/5% can participate in the activity, and up to 42.3% will participate in this activity.

4. Conclusion:

The results of the survey on the stress rate of primary school teachers in Da Nang city show that: the percentage of primary school teachers who are stressed accounted for 15.1%, the rate of teachers with slight signs of stress accounted for 83.1%. Based on this survey of the stress rate in primary school teachers, we will conduct follow-up survey activities to measure stress levels, propose measures to reduce stress, and organize stress prevention activities for teachers. primary school staff to help them reduce stress and improve the quality of teaching and quality of life.

References

- Annemaree Carroll and partner (2022). Teacher stress and burnout in Australia: examining the role of intrapersonal and environmental factors. *Social Psychology of Education*
<https://doi.org/10.1007/s11218-022-09686-7>.
- Weiguo Zhao (2022)The Relationship Between Teacher Job Stress and Burnout: A Moderated Mediation Model. *Front. Psychol.* 12:784243. Doi: 10.3389/fpsyg.2021.784243
- WHO (2019). *Occupational health*, <https://www.who.int/occupational_health/topics/stressatwp/en/>, 7/1.
- Balducci. ET al (2011). The job demands-resources model and counterproductive work behavior: The role of job-related affect. *European Journal of Work and Organizational Psychology*, 20(4), (467-496).
- Aldwin C, M. (2000). Stress, Coping, and Development: An Integrative Perspective
- Selye H. (1956). The stress of life. *McGraw-Hill, New York*.
- Cassidy T. (1999). Stress. *Cognition and health, Routledge, London*.
- B. A. Farber. (1984). Stress and burnout in suburban teachers, *The Journal of Educational Research*, Vol.77, No. 6,(325-331)
- L. W. Anderson (2004) Increasing Teacher Effectiveness, International Institute for Educational Planning, Unesco).
- Zedan. R (2012). Stress and coping strategies among elementary schools teachers in Israel. *Universal Journal of Education and General Studies*, 19, 2277.
- Ahmad Azizah et al (2016). The Prevalence of occupational stress and its association with socio-demographic factors among lecturers in a Private University in Malaysia.
- Mukosolu Okonkwo et al (2015). Prevalence of Job stress and its Associated Factors among Universiti Putra Malaysia Staff. *Malaysian Journal of Medicine and Health Sciences*, 11(1)
- Wang Yang et al (2015). *Relationship between occupational stress and burnout among Chinese teachers: a cross-sectional survey in Liaoning, China. International Archives of Occupational and Environmental Health*, 88(5), (589-597).

Phạm Mạnh Hà (2011). **Đánh giá mức độ căng thẳng tâm lý (stress) của giảng viên ĐHQG Hà Nội, nguyên nhân và những biện pháp phòng ngừa. Đề tài nghiên cứu cấp cơ sở, Đại học KHXH và NV, QX 09.10**(Assessing the level of psychological stress (stress) of lecturers of Vietnam National University, Hanoi, causes and preventive measures. *Research project at grassroots level, University of Social Sciences and Humanities, QX 09.10*)

Vũ Thị Thúy ??? (Faculty of Public Health, University of Medicine and Pharmacy in Ho Chi Minh City)

Trịnh Việt Then (2016). **Stress ở giáo viên mầm non. Luận án tiến sĩ, Học viện khoa học xã hội.**(Stress in preschool teachers. *Doctoral thesis, Vietnam Academy of Social Sciences.*)

Anthony Y. (1993). Counseling - a problem-solving approach. Amour, *Publishing.*

Cormier L.S - Hackney, H. (1993). Needham heights, ma: Allyn and bacon. *The professional counselor: a process guide to helping (2nd ed.)*

Nguyễn Thị Hằng Phương (2019). **Thực trạng mức độ căng thẳng trong học tập của học sinh lớp 12 trên địa bàn thành phố Đà Nẵng. Tạp chí Giáo dục, Kì 2 tháng 5/2019.** (Situation of academic stress of 12th grade students in Da Nang city, Viet Nam. *Education Magazine, 2nd Semester 5/2019.*)

TEACHING AND LEARNING OF SOCIAL SCIENCE BASED ON EDUTAINMENT

Alwen Bentri^{1} Abna Hidayati² Saridewi³*

^{1,2,3}Universitas Negeri Padang, Indonesia

*alwenbentri@fip.unp.ac.id

abnahidayati@fip.unp.ac.id

saridewi@fip.unp.ac.id

Abstract

Social science learning in secondary schools has various obstacles, including abstract learning materials, dominant learning materials in the form of concepts. This article aims to find the stages of educational-based social learning and measure its effectiveness. The edutainment-based social science learning method including; 1). Orientation, 2). Implementation, and 3) evaluation stages. The effectiveness of using edutainment-based learning multimedia will be tested on Integrated Social Sciences subject for class VII at SMP Negeri 22 Padang. The trial was carried out using the Quasi Experiment method. The trial was carried out involving the control class and the experimental class with a sample of 30 students in each class. Sampling using purposive sampling technique. The experimental class (class VII1) received treatment in the form of learning using edutainment-based learning multimedia, while the control class (class VII2) studied without using the media. The instrument for learning outcomes data was obtained through a multiple choice test of 20 items related to the number, distribution and composition of the population. The data analysis technique used was the normality test using the Lilifors test and the homogeneity test using the Barlett test and hypothesis testing using the t-test with a significance level of 0.05. Based on the research conducted, it can be concluded that the use of edutainment-based learning multimedia in Integrated Social Sciences class VII at SMP Negeri 22 Padang can effectively improve student learning outcomes and make learning more enjoyable.

Keywords : Efectivity, Multimedia Learning, Edutainment, Social Science

Introduction

Social science learning is a compulsory subject for high school students. Obstacles in social science learning were found, namely very complex material that required sufficient learning resources and in its

implementation required varied and fun learning strategies so as not to give pressure and feelings of saturation to students (Deveci, I. & Cepni, 2017). The material in social science learning is complex and abstract, many of which are in the form of concepts that require further explanation by the teacher, and besides that, learning materials are new for students (Azizah et al., 2018). From several classroom management processes observed, learning is still dominantly centered on the teacher as one of the main sources of learning, as a result, students tend to be passive and less active in learning (Hadi, 2015). The social science learning process tends to be monotonous so that students feel bored in learning, as a result students are not interested in learning (Soto & Tackett, 2015). These learning constraints, of course, are things that need to be considered so that the learning objectives and the achievement of student competencies can be achieved properly. This is because the main goal of the educational process is to form graduates who are qualified, but also have a good mental attitude (Bulach, 2002) (Hidayati et al., 2014). In connection with the existing constraints, it is necessary to find a solution to prepare a learning process that facilitates learning interactions by utilizing various forms of entertainment that are already familiar to their ears. For example, television shows, games on computers or video games, movies, music, websites, multimedia devices and so on (Ahmad, 2020).

The concept of edutainment is of course also suitable to meet the motivational and emotional aspects of students during learning and during the teaching and learning process in class. A number of studies on multimedia edutainment have shown that there are a number of formats regarding edutainment, ranging from print-based, electronic and multimedia. The results of this study indicate that technology-based multimedia formats are the most dominant formats used in the concept of multimedia edutainment (Pasawano, 2015) (Hidayati et al., 2020). The results of existing research indicate that the implementation of multimedia in learning is dominantly used in science learning, in the form of learning animations with certain approaches and carried out online. The format commonly used is interactive media (Toma & Greca, 2018) (Permanasari, 2016). Whereas if further developed this multimedia-based learning media can optimize the learning process, because it enhances student interaction, facilitates, makes the learning process more interesting because it involves positive emotions in learning. Phelps (2006) says that emotions actually have an influence on students' learning motivation and can help direct the attention needed in learning.

Furthermore, emotions also affect the memory or memory of students to absorb information obtained during learning. Positive emotions will stimulate the work of the brain, which is created through comfortable conditions without pressure during classroom learning. Learning that can accommodate the creation of these positive emotions is fun learning such as learning that is packaged in the nuances of entertainment called edutainment. One of the approaches used in edutainment-based learning uses an inquiry approach. This approach is proven to improve students' understanding in learning, because it stimulates students to think

critically (Zubaidah et al., 2017) (Toma & Greca, 2018). Learning with the concept of an edutainment approach can be applied by applying media learning in the classroom. One type of media that can facilitate this is learning multimedia which has advantages over other media. The characteristics of learning multimedia include: 1) containing representative material content in the form of visual, audio and audio visual, 2) a variety of communication media in use, 3) having the power of color and object resolution language, 4) types of learning and reinforcement vary, 5) response learning and reinforcement varies, 6) develops the principle of self-evaluation in measuring learning processes and outcomes, 7) can be used classically or independently individually, 8) can be used online or offline (Pasawano, 2015) (Hidayati et al., 2020).

1. Edutainment

The concept of edutainment is education that is entertaining with the main characteristic of having an insert of humor when delivering or presenting material. In addition, multimedia is also dominated by video presentations (documentaries, animations, news, ice breaking and music videos) to better represent the different learning styles of students, namely visual, auditory and kinesthetic. In addition, interactive quizzes are also provided that can evaluate students' learning abilities in a fun way. Learning media products in the form of edutainment-based multimedia are expected that students no longer think that learning is something rigid and burdensome, but learning can also be a useful and enjoyable entertainment. This is because learning is presented in a fun way so that students hardly realize that they are learning. In line with this statement, fun learning activities with processes that do not only rely on intellectual orientation but also pay attention to the emotional aspects of students are needed in the learning process. Prashing (2007:317) suggests that:

Learning in such pleasant conditions can stimulate the brain, quickly and easily. students are able to develop a positive image quickly, show an attitude and are attentive but relaxed when learning and passionate – they want to keep learning”.

The need for the importance of developing entertainment-filled learning media is also based on the development and transition of learning using more interactive and interesting methods in the world of education in various worlds. Anikina and Yamenko (2014) provide an explanation which is translated as follows:

Recently, in the world of education in various countries, there has been a shift to learning with methods that are more interactive, interesting, and based on experience. However, both John Dewey as one of the famous philosophers in the United States, realized the importance of initiation and emotional training and emphasized that learning (ie eternal learning) is very important in the existence of human life. John Dewey also emphasized the importance of multiple problem-solving skills and abilities, as well as the need for creative development. He

believed that education should not be packaged in a tedious and unpleasant process (Dewey, John, 1897). The education theorist of the century, Nel Noddin in his work entitled "Happiness and Education" criticizes the current education system, insisting that education should refer to the essence and main goal of human life - namely happiness (Noddings, 2003). The edutainment concept packaged in multimedia is believed to provide external motivation that will help students' reasoning work and students' comfort in learning so that this will have a good impact and be directly proportional to learning outcomes and student achievement. Suyadi (2010: 228) suggests the principles of edutainment learning, namely:

Bridging the learning and teaching process which is expected to improve learning outcomes. 1. Edutainment learning takes place in a conducive and fun atmosphere based on 3 assumptions: a. Feelings of joy will accelerate learning, while negative feelings, such as threats, fear of sadness, feeling unable to slow down learning and even stop it. b. If someone uses the potential of reason and emotion accurately, it will result in a leap in learning achievement. c. By using appropriate learning methods to accommodate students' learning styles and uniqueness, learning will be optimized. 2. Placing children as the center as well as the subject of education. Learning begins with exploring and understanding children's needs. 3. Learning that is more humane.

In addition, edutainment-based social science learning is believed to be able to help solve problems that have often been a scourge in Integrated Social Studies learning, namely complex material content and tend to be learned by rote systems. This burdens students because students are not able to memorize all the content of the material if only by reading, and listening to the teacher's explanation. Therefore, students need to get a learning experience that can construct any knowledge and knowledge that they acquire in an appropriate and fun way. One effort that can be done is to present visualizations that can guide students in logicalizing the material they are learning. This is so that all students are in the right understanding and do not hold on to the imagination of each individual student. Finally, the development of this product is needed to help the limitations of teachers in designing and providing learning media according to learning needs. The presence and use of this media in schools is also expected to stimulate the concern of teachers and schools to implement a fun media learning movement.

2.Social Science

Social science is a science that is closely related to human social life. Where the existence of this knowledge certainly has a goal which is expected to have implications for skills and abilities in building a better social life. According to Alma, et al (2010:3) "the term social studies or social studies is absorbed into the Indonesian language with the term Social Sciences". According to Supardan (2015: 2) said that "The social studies are the social science simplified for pedagogical purpose." This means that social studies is seen as a study or

learning that seeks to grow and develop students' understanding which includes their physical and social environment. Supporting this theory, Rachmah (2014: 52) argues that social knowledge or social studies is a teaching field provided by schools to develop knowledge, attitudes, and social skills which contain concepts related to learning experiences that are selected and arranged within the framework of scientific study. Susanto (2013:137) further emphasized that social science, which is often abbreviated as IPS, is a social science that examines various social science disciplines and humanities as well as basic human activities that are packaged scientifically in order to provide deep insight and understanding to participants. students, especially at the primary and secondary levels. In Supriya (2012:7) it is said that the term social studies subjects began to be known in Indonesia since the 1970s and was the result of an agreement from the academic community which was formally applied in the national education system using the 1975 curriculum at first. Social studies subjects are applied at the primary and secondary education levels which are integrated from the fields of history, geography and economics as well as other fields of study or social subjects. Therefore, social studies subjects are called integrated social studies subjects as well as integrated science subjects which also contain several subjects such as biology and physics. Based on the explanation above, this is in accordance with the opinion conveyed by Suparlan (2015: 14) who said that social studies (social studies or social studies) is a science that combines a number of selected concepts from branches of social science and other sciences as well as then processed based on educational and didactic principles to be used as school-level teaching programs. "So it can be concluded that social studies is a science that is organized based on simplified social sciences and is developed based on the physical conditions and social realities of society as well as the cultural values of the nation that are especially in the student environment. With the hope that students can become members of the community who have good knowledge and understanding in attitude and are skilled in building social relations both in daily life, as a nation and as a state.

B. The Objective

This article aims to find the stages of educational-based social learning and measure its effectiveness.

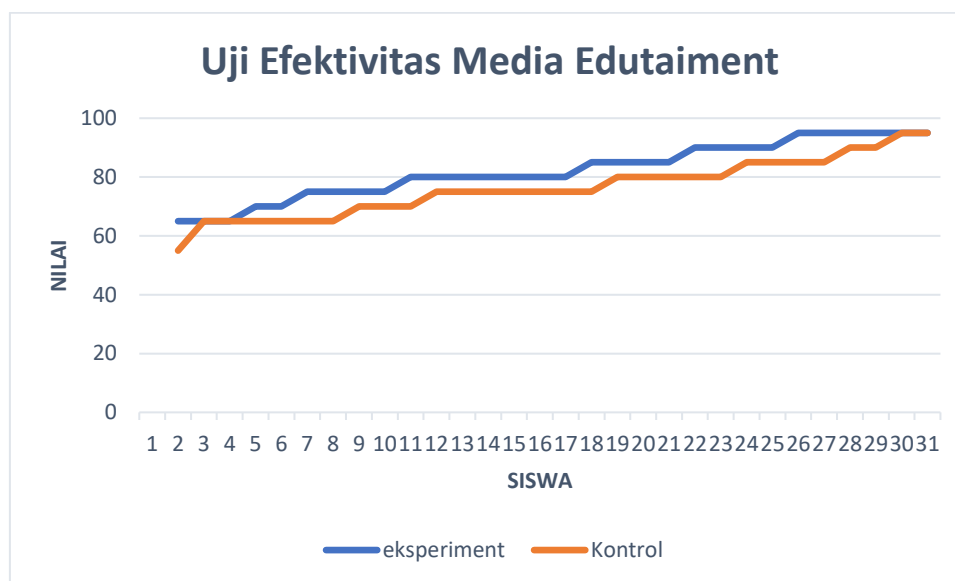
C. Method

The type of research used is quantitative research with the method of Quasi Experimental Design or quasi-experimental. The Quasi Experimental design used in this study only applies a post-test or Posttest Only Control Design. This design was used to compare 2 groups that were not correlated with randomized groupings to obtain data from each individual from both groups. The pilot location for SMP Negeri 22 Padang included 30 students in class VII1 (experimental group) and class VII2 (control class). Sampling is done by using purposive sampling technique. This technique is a research sampling by taking two classes that have almost the same

characteristics as the number of students and the average value obtained by the previous class. The instrument used to collect research data is in the form of a test of 20 multiple choice questions related to the number, distribution and composition of the population. The questions to be used refer to a grid of questions that have been validated by subject teachers at schools as material experts. The application of the test test questions for the experimental class and the control class has a difference, namely the control class is written, while the experimental class is computerized. The tests used in this research are 1) prerequisite test which includes normality test using the Liliefors test. This test aims to determine the data are normally distributed. Homogeneity test using Barlett test. The comparison test of the average value of the data which is normally distributed and homogeneous is called the t-test. The t-test formula was used to compare the uncorrelated group scores.

D. Result and Discussion

Based on trials of the use of edutainment media carried out at the pilot school, SMP N 22 Padang, the results can be seen in the following table:



From the diagram above, it can be seen that the values in the control class are lower than the experimental class. The average value in the control class is 76.33 which is lower than the experimental class, which is 82.17. The normality test was then carried out which aims to determine whether the data is normally distributed or not. Based on this test, the distribution of normal data shown is based on the following values.

Table 1. Normality Test Result in Experiment and Control Class

No.	Kelas	A	N	L _{hitung}	L _{tabel}	Keterangan
1.	Exsperiment	0,05	30	0,1278	0,161	Normal
2.	Control	0,05	30	0,1184	0,161	Normal

Based on table 1 of the normality test, it is known that the data is normally distributed as seen from $L_{count} < L_{table}$, so that further homogeneity tests are sought with the following results:

Table 2. Homogeneity Test Result in Experiment and Control Class

No.	Class	Varians	A	χ^2_{count}	χ^2_{table}	Keterangan
1.	Experiment	92,557	0,05	0,055	3,841	Homogen
2.	Control	96,437				

The results of the analysis of 2 tables with $dk = (2-1)$ are 3.841 at a significant level of 0.05. Based on the data in table 4, it can be seen that $2_{count} < 2_{table}$ ($0.055 < 3.841$). Thus it can be interpreted that the experimental group and control group data are homogeneous. Furthermore, to be able to determine the level of effectiveness, it is necessary to test using the t-test formula. Obtained data and results as follows:

Table 3. Hypothesis test preparation

No.	Aspect	Experiment Class (X_1)	Control Class (X_2)
1.	N	30	30
2.	X	82,167	76,333
3.	SD^2	92,557	96,437

Table 4. Test Results with t-test

No.	Class	Varians	t_{count}	t_{table}	Description
1	Experiment	92,557	2,285	2,000	Significant
2	Control	96,437			

Based on the data obtained using the t-test, it was obtained that t_{count} was 2,285 and t_{table} using $df=N-1=30-1=29$ with 0.05, which is 2,000. This means that t_{count} is greater than t_{table} ($2,285 > 2,000$). The results of processing and analyzing the data include effective criteria. So it can be concluded that the edutainment-based learning multimedia in the Integrated Social Sciences subject for class VII SMP that was developed is effectively used in supporting related learning. The research and the results of the data analysis of the effectiveness test that have been carried out show that the learning carried out using edutainment-based multimedia learning in the experimental class has higher learning outcomes than the learning outcomes in the control class. This means that edutainment-based learning multimedia can effectively improve student learning outcomes in Integrated Social Sciences class VII at SMP Negeri 22 Padang. Learning using learning multimedia contributes to the effectiveness

of achieving learning objectives in Integrated Social Studies subjects. The features of multimedia that other media do not have are: 1) providing feedback, 2) giving students freedom to determine learning topics, 3) providing easy systematic control in the learning process (Munir, 2009:235).

The advantages of using edutainment-based learning multimedia so that it can improve student learning outcomes is because the approach concept that is present in the form of entertainment provides learning comfort to students. This convenience makes students more ready to receive information or material and become more motivated to take part in learning. This of course will greatly assist students in mastering the learning material so that it will improve learning outcomes. Edutainment-based learning multimedia as a medium or learning resource also facilitates interaction and bridges the transfer of information to be more effective and efficient from teachers to students. This is because the learning process is not only about involving the interaction between educators and students, but it is also important to maximize the use of learning resources to help absorb information for students (Hidayati, 2019).

E. Conclusion

Based on the results of research and discussion, it is concluded that the use of edutainment-based multimedia learning in Integrated Social Studies subjects in class VII SMP Negeri 22 Padang can effectively create pleasant learning conditions so that student learning outcomes have increased.

Reference

- Anikina, Oksana V and Yakimenko, Elena V.(2014). Edutainment As A Modern Technology Of Education. Russia: National Research Tomsk Polytechnic University.
- Ahmad, N. A. (2020). Learning Reading Skills Independently Using Interactive Multimedia. 8(6), 2641–2645. <https://doi.org/10.13189/ujer.2020.080647>
- Azizah, M., Sulianto, J., & Cintang, N. (2018). Analisis Keterampilan Berpikir Kritis Siswa Sekolah Dasar pada Pembelajaran Matematika Kurikulum 2013. *Jurnal Penelitian PendidikanA & A (Semarang)*, 35(1), 61–70. <https://doi.org/10.15294/jpp.v35i1.13529>
- Bulach, C. R. (2002). Implementing a Character Education Curriculum and Assessing Its Impact on Student Behavior. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 76(2), 79–83. <https://doi.org/10.1080/00098650209604954>
- Deveci, I. & Cepni, S. (2017). Studies Conducted on Entrepreneurship in Science Education : Thematic Review of Research. *Turkish Science Education*, 14(4), 126–143. <https://doi.org/10.12973/tused.10209a>

- Hadi, R. (2015). The Integration of Character Values in the Teaching of Economics: A Case of Selected High Schools in Banjarmasin. *International Education Studies*, 8(7), 11–20.
<https://doi.org/10.5539/ies.v8n7p11>
- Hidayati, A., Efendi, R., & Saputra, A. (2020). The quality of digital literacy early childhood education teachers based on Unesco standards. *International Journal of Scientific and Technology Research*, 9(3), 3514–3517.
- Hidayati, A., Zaim, M., Darmansyah, & Rukun, K. (2014). The Development of Character Education Curriculum for Elementary Student in West Sumatera. *International Journal of Education and Research*, 2(October), 37–41. <https://doi.org/10.1080/15578771.2012.729551>
- Pasawano, T. (2015). Results of Enhanced Learning with the Edutainment Format. *Procedia - Social and Behavioral Sciences*, 176, 946–951. <https://doi.org/10.1016/j.sbspro.2015.01.563>
- Permanasari, A. (2016). STEM Education: Inovasi dalam Pembelajaran Sains. *Prosiding Seminar Nasional Pendidikan Sains, 2016–2023*.
- Soto, C. J., & Tackett, J. L. (2015). Personality Traits in Childhood and Adolescence: Structure, Development, and Outcomes. *Current Directions in Psychological Science*, 24(5), 358–362.
<https://doi.org/10.1177/0963721415589345>
- Supardan, Dadang. (2015). *Pembelajaran Ilmu Pengetahuan Sosial Perspektif Filosofi dan Kurikulum*. Jakarta : Bumi Aksara.
- Suprijono, Agus. (2010). *Cooperative Learning*. Yogyakarta. Pustaka Media.
- Rachmah, Huriah. (2014). *Pengembangan Profesi Pendidikan IPS*. Bandung: Alfabeta.
- Toma, R. B., & Greca, I. M. (2018). The effect of integrative STEM instruction on elementary students' attitudes toward science. *Eurasia Journal of Mathematics, Science and Technology Education*, 14(4), 1383–1395. <https://doi.org/10.29333/ejmste/83676>
- Zubaidah, S., Fuad, N. M., Mahanal, S., & Suarsini, E. (2017). Improving creative thinking skills of students through Differentiated Science Inquiry integrated with mind map. *Journal of Turkish Science Education*, 14(4), 77–91. <https://doi.org/10.12973/tused.10214a>
- Phelps. (2006). Emotion and Cognition : Insights from Studies of the Human Amygdala. *Annual Review of Psychology*, 57:27-53. <https://doi.org/10.1146/annurev.psych.56.091103.070234>. Diakses pada tanggal 20 Januari 2020.

Transition Experiences of Senior High School Teachers in the English Curriculum for K to 12

Angilly C. Librea

San Pedro College, Philippines

angilly_librea@spcdavao.edu.ph

ABSTRACT

the K to 12 Curriculum shift in the world and the Philippines has brought several challenges to educators, particularly the Senior High School teachers. This qualitative phenomenological study explored the transition experiences and coping mechanisms of Senior High School teachers in the English Curriculum for K to 12. Ten English Senior high school teachers and ten senior high school students were chosen to participate in the study using purposive sampling. While the primary participants were the Senior high school English teachers, students were also interviewed as part of the triangulation process. This study utilized Colaizzi's method of data analysis through in-depth interviews and focused group discussion methods. The study revealed that curricular change has been fraught with obstacles and difficulties, especially in English. As a result, Senior High School English teachers' primary problems centered on the increased academic demand, insufficient instructional materials and resources, inadequate subject-specific educational training, and courses filled with students who have only rudimentary English language abilities. However, most of these transition experiences were facilitated by teachers' efforts to do online research, acquire new strategies, develop innovative techniques, and collaborate. Given the research's results, the study suggests that the Department of Education conducts educational retooling for teachers and provides resources to these SHS teachers to guarantee the efficacy of English in the K-12 curriculum implementation.

Keywords: *transition experiences, K to 12 curriculum, curriculum shift*

Introduction

Education is at the forefront of change in society in general and is the foundation for movements of change worldwide. Mainly, the curriculum in the academic world is an ever-changing and evolving phenomenon. Annually, for teachers and students, adjustments may include changes in school organization, classrooms, class rules and procedures, performance expectations, work, peers, and other things that are different from what they are used to.

In Australia, transition into senior high school is considered a student's education. Schools with minimal focus on students' transition have a greater failure rate. In comparison, those with particular initiatives to ease the transition

have a lower dropout rate among their high school students (Legters & Kerr, 2011). For this reason, Education ministries and institutions in Australia place a premium on transition by organizing conferences, seminars, and associations to identify transition as a critical topic for teachers and children alike.

In Southeast Asia, Laos and Indonesia updated their elementary and secondary school curricula to suit changing technological, social, and global needs. To implement the K–12 curriculum, teachers and students must abandon the decades-old curriculum and adhere to the newly planned curriculum. As curricula evolve, instructional materials must also evolve since teaching and learning are very personal processes. It entails adjusting the Department of Education's mandatory English learning skills to the new curriculum for private, integrated, and public high schools (DepEd). As a result of this change in academic requirements, teachers and students will find it more challenging to adapt to many elements of their life. For English teachers, the annual pattern of modifying the school curriculum in recent years has required them to constantly change and update their tactics to keep up with the worldwide trend in English language instruction and academic pressure. Specifically, new senior high school English teachers are expressing profound anxiety about the additional responsibilities. For learners, the enhanced academic weights are far more than in the past.

In 2016, the Philippine educational system underwent a significant transition to what has become the international norm of the educational system, the K to 12 curriculum under the Republic Act No. 10533, entitled "An Act Enhancing the Philippine Basic Education System." It covers both public and private institutions of learning. However, while the K to 12 systems provide answers to the worldwide demand in education, several challenges are now faced in its implementation, primarily the English competency among the teachers and students in the senior high school. Corollary to these problems is the sentiments of the teachers and students who are the most directly affected by this transitional state.

To implement the K to 12, the teachers and students have to transition from the curriculum they used for decades and follow the newly designed curriculum regardless. As curriculum alters, instructional materials call for innovations because the teaching and learning process is a matter of curriculum response of the changing time and a matter of personal response. This change includes adapting the mandated English learning competencies in the new curriculum for private, integrated, and public high schools required by the Department of Education (DepEd). Consequently, this shift in the academic requirement makes it more difficult for teachers and students to adjust to various aspects of their lives. For English teachers, the yearly trend of changing the school curriculum these recent years has kept them adjusting and updating their strategies to cope with the global trend in English language teaching and the academic pressure in general. Specifically, senior high school English teachers who are new in the field are experiencing deep-seated anxieties about the new duties. For students, the increased academic weights are much higher than they were used to.

This study is undertaken in view of the challenging impression of the newly implemented senior high school curriculum specifically in English. Since this phenomenon is novel in the Philippine educational system, not much has been studied to explore this area, especially from qualitative data from the teachers' firsthand experiences; hence, the paper aims to fill in the gap. As ones directly affected by the curriculum transition, the researcher is motivated to shed light on the teachers' transition experiences in the Senior High School English curriculum and examine the coping strategies they consider and use to be the most effective coping mechanisms.

While teachers are mostly regarded as recipients of educational changes, researchers argue that they play a vital role in implementing the curriculum (Nunalall, 2012). Taole (2013) noted that the implementation of the curriculum could not be achieved without the significant integration of teachers in the process; hence, the teachers' involvement in curriculum implementation could steer the implementation process in the right direction. Taole (2013) stated that teachers are the primary agents in curriculum review. As a result, they have to be the primary source of analysis and evidence when a new curriculum is introduced. Teachers' views on curriculum innovation and the curriculum implementation process are essential in ensuring the success of a curriculum. Thus, it can be contended that the teachers' beliefs, conceptions, and experiences are significant in shaping and strengthening the curriculum development process in the Philippines.

Transition in the K to 12 Curriculum

As a matter of practice, the curriculum in the Philippines has been revised every ten years, and the rapid rate of change in education and the changing demand of the society necessitates a continual revisiting and updating of the curriculum to make it responsive to emerging changes in the needs of the learner and the society. Thus, the curriculum's refinement remains a work in progress. Aside from the issue of relevance, the refinement of the secondary education curriculum was guided by the need, as articulated in the Education for All Plan 2015, which aims to streamline its content to improve student mastery and contribute to the attainment of functional literacy. This became a primary consideration in the design of the curriculum, the formulation of standards, and the essential understanding from which the content of the curriculum was derived. The national and international assessments were reviewed and analyzed for their implications for teaching and learning.

The K to 12 curriculum employs learning packages as instructional material in all subjects. According to Bautista et al. (2016), developing several types of instructional materials is one of the significant steps of each curriculum planning and development procedure. Though the textbook is a widely used instructional material, it is found that different instructional materials are now being used to achieve learning outcomes or improve quality education for the benefit of both the teachers and the students. These materials include a teacher's guide, student's workbook, modules, teacher training materials, assessment materials, supplementary materials, especially for students, and resource books for the facilitators.

According to the research of Tolentino (2012), teachers experience problems in dealing with the curriculum of education. The pressures are on the part of the teacher in accomplishing the lessons expected in the whole school year, in the case of the SHS semester. She reiterated that there are existing problems in the curriculum, particularly that of school, teacher, student, and community factors. In the Philippines, students between the ages of 5 to 18 are expected to attend school. It is the primary duty of society to prepare them to become productive in the future. For the students to learn, external factors are to be considered.

Implementing a new curriculum has always posed a problem for administrators and teachers because they are the ones to implement it. The same happened with the South African school's experience. If the government decides to change the curriculum, teachers cannot refuse it but have to accept it, especially if it is introduced in all schools (Nkosi, 2014). As a result, they will not feel satisfied if they do not understand the content of this new curriculum that they are to deliver. Another implementation problem includes multiple interpretations of the curriculum and workload, and such interpretations often become a challenge that teachers face in the implementation of any new curriculum (Smit 2001; Chisholm 2003; Pudi 2006, Taole 2013) have an idea that policymakers tend to ignore teacher beliefs whereas teacher beliefs are critical because it determined what is taking place in the classroom.

Similarly, Van der Nest (2012) noted that curriculum change also necessitates a change in the teacher's responsibility. Educators have to deal with changing content knowledge and a change in academic knowledge, which challenges the effective implementation of a new curriculum. The issue of resources is also another curriculum challenge for the teachers when performing their roles of implementing the new curriculum. The role of teachers in implementing the curriculum cannot be successful without ongoing training and support (Nkosi, 2014).

Students' Academic Challenges in the Senior High School Curriculum

The first year in the SHS is a critical transition period. This is when students lay the foundation for their subsequent academic success in college. As the students entered a new environment, they were exposed to various psychosocial problems. Dissatisfaction with high school experience, disruption of life plans, coping with subject loads relating to teachers and other students, and adjusting to a new environment are common adjustment problems, especially for students who do not have a clear picture of senior high school life is all about. Attention to this period of personal and academic transition is warranted.

Transition into senior high school is a significant phase (Legters & Kerr, 2011) because it coincides with adolescent development changes. It significantly affects students since they undergo cognitive, emotional, physical, social, and psychological development changes. Adjustments may involve adapting to a new school, a new teacher, or other things different from what we are used to. Students face many adjustments in school. From year to year, there are changes in teachers, classrooms, school and class rules and procedures, performance

expectations, difficulty of the work, and peers. Investigators have argued that interpersonal relationships affect learners' academic motivation and contend that involvement, or the quality of a student's relationships with peers and teachers, is a powerful motivator.

Researchers such as Cerrone, 2012; Clark, and Hall have reported a negative impact of school transitions on academic performance. However, the outcome of school transitions on other outcomes is uncertain. Students' self-image reportedly does not change over school transitions (Cerrone, 2012), while self-esteem has declined in some studies and remained unchanged in others. Further to this, school transitions' effect on psychological symptomatology is inconclusive, although there does appear to be an increase in symptoms. Further research is required to investigate the effect of school transitions on outcomes other than academic performance (Briggs, Clark & Hall (2012).

Research Objectives

This study aimed to explore and describe the transition experiences of senior high school teachers in the English Curriculum. Specifically, this study sought to : describe and understand the senior high school teachers' transition challenges in English Curriculum; and examine the strategies that the teachers and students considered and used to be the most effective mechanisms for coping with the transition.

Methodology

This study utilized a phenomenological interpretive design as it aims to capture the meaning of the transition experiences of the senior high school teachers in the English curriculum. The phenomenological study originates from Edmund Husserl's work and characterizes human experience (Wertz, 2011). It encompasses a variety of interpretative techniques for describing, decoding, and translating phenomena (Down, Smyth, and Robinson) (2018). The researcher subscribed to an interpretive framework in examining the complexity of views rather than narrow the meaning into a few categories or ideas. Also, to enrich the data, a triangulation of In-depth and Focus Group Discussion (FGD) were employed. Wertz (2011) pointed out that validity requires multiple perspectives, and various accounts or interpretations of discourse are expected.

Sampling/ Participants

The researcher considered not the counts of the data received from the participants but rather the richness of the data. Using purposive sampling and as suggested by Miles and Hubermann (1994), the researcher interviewed ten (20) participants – ten (10) Senior High School English teachers and ten (10) grade 12 students. Five of these senior high school English teachers came from public schools, and five others came from private schools in Davao City, Philippines. Likewise, the ten senior high school students came from public and private schools. Purposively, grade 12 students were chosen because they were the pioneers to experience the transition in 2016. Although the primary goal of this research is to investigate the SHS teachers' experiences

and coping mechanisms, SHS students were also interviewed as part of the triangulation process. Hence, their responses were not discussed mainly in this paper but instead used to increase validity and create a more in-depth picture of the phenomenon investigated.

Research Tools/Instruments

This study employed a mixed method of in-depth interview and Focus Group Discussion (FGD) to reach the data saturation. Semi-structured interview questions underwent validation from three experts for refinement and were revised accordingly to fit the objectives of this study. The senior high school (SHS) teacher-participants and Senior High School student-participants were individually interviewed at different time intervals. Likewise, FGD was conducted separately on both the SHS teacher-participants and SHS student-participants as a triangulation. Golafshani's (2003) triangulation bridges issues of reliability and validity in research results.

Procedure

This research was carried out diligently following different stages, such as identifying the issue, submitting the research proposal, preparing and validating the research instrument, seeking consent, data collection, verification of textual description, data reduction, data analysis, and discussion reaching research conclusions.

In the initial process, the researcher informally interviewed her colleagues about any issue surrounding the K to 12 curriculum implementation. Then, a proposal was drafted and submitted before a panel of experts. After its approval, the research prepared the instrument; has it validated by another set of experts for refinement. The paper also went through a systematic review by the Institution's Research Ethics Committee (REC) on the conduct of the study. The researcher also received necessary approval and clearances from the Department of Education division office and school principals' offices where the SHS teachers and students belong. As part of the participants' agreement in gathering the data, the research sought consent from the students and teachers. Adequate communication and information were disclosed to the participants before the study, letting them know that their participation was voluntary so they could withdraw from participating at any time without penalty. Also, individual and parental consent were obtained respectively from the parents of students before their involvement in the study. An interview was held individually with the teachers and students-participants. After which, FGD was held separately to obtain data from the teachers and students. The researcher also ensured due diligence in the documentation process using detailed transcripts and recorded observations.

The obtained data were subjected to an audit trail allowing an observer to trace the course of the research step-by-step via the decisions made and procedures described. For verification purposes, individual textual descriptions were emailed to each participant to ensure accuracy. The transcript underwent data

reduction identifying the core significant statements, ideas, and themes. Writing the discussions and the research implications followed after.

Data Analysis

This study utilized Colaizzi's Method of Data Analysis through in-depth interviews and focus group discussions. The steps that embodied Colaizzi's process in analyzing data, as cited by Sanders (2006), include the data analysis process, the transcription process, formulation of meanings, validation of the clustered themes, integration of the results into a detailed description, polishing process by formulating the essential structure of the phenomenon and removing the redundant and misused the information, and validation of the descriptive results.

Results

The experiences of the senior high school teachers in the English curriculum

The results reveal that the curriculum shift, specifically in English, brought about a myriad of challenges experienced by teachers as direct implementers of the curriculum. Their experiences in English for K to 12 curricula were very much affected by external factors like increased academic demand, inadequate materials, insufficient training materials, minimal Students' English language skills, attitudes, and opinions.

Participants' responses revealed that increased academic demand was a problem at the outset. The learning competencies included in the English curriculum for senior high school are complicated and too cumbersome for students and teachers to deal with. They have had difficulty teaching English subjects in the SHS because of their competencies. Secondly, participants' responses revealed that inadequacy of materials was also a significant issue in their English instruction. The teachers stated that it was challenging to deliver the lessons due to this constraint in their schools.

Further, insufficient training and seminars were seen as one of the causes of the teachers' difficulties. It revealed that teachers considered themselves inadequately trained to teach English in senior high. They felt that teaching senior high school was like teaching halfway in high school and halfway in college.

The previous educational system left instructors with disparate skill sets. Certain teachers are regarded as qualified, while others are not. Thirdly, numerous participants emphasized how challenging it was to educate kids who lacked basic English and reading abilities due to the new curriculum. They were also adamant about how challenging the English curriculum shift was for students as they shared similar intense struggles that existed for them. Teachers seemed to have difficulty adjusting to the kind of students they were having in the senior high school as they were diverse, and worse, some of them were not even interested in learning English. Lastly, when

the teachers were asked to describe their transition experiences, they came up with a mixture of adverse and favorable terms. There was fear, anxiety, and confusion; on the other, exhilaration, risk-taking, excitement, improvements, and energizing. For better or for worse, change arouses emotions. This transitional change raises hope because it offers growth, and progress stirs fear of competence and power challenges.

On the other hand, the participants' responses were classified according to their situation, self, support, and coping mechanisms. Under Situation, participants had seen the implementation of the K to 12 curriculum as expected; hence, they must be implemented regardless of their unpreparedness. As a matter of a requirement than a choice, they were forced to look for ways to survive by finding more reference materials to provide themselves with the essential information to educate the subjects on how to deal with the shift. They reported spending substantial time online searching for information aligned with their teaching abilities. When teachers are required to adopt a new curriculum in all schools, they have no choice but to figure out how to make it work for them and apply it effectively. However, it seemed as if participants saw this curricular adjustment as a liability. Teachers were adaptable to change by devising strategies for coping with and easing their shift. The concept of control came up often during the interviews, resulting in a theme of coping assets.

In terms of the self, an understanding of one's coping assets and liabilities entails an awareness of one's characteristics and psychological resources, which in the case of the participants; include ego positive outlook, self-efficacy, commitment and values, and resilience. This implies that teachers feel less pessimistic about the already daunting predicament by thinking of the situation as an asset than a liability.

When participants asked about support, they found support in seminars, old mentors, co-teachers, and administrators who helped them somehow. Lastly, in most cases, teachers used collaborative strategies in teaching. Teachers saw themselves more like facilitators of learning than as a king who controls the students' learning. The participants get involved in active participation by granting students some space to discover their learning. Students appeared to be more on task and active if their teachers tasked them with group activities during class hours. Teachers believed that they could better connect their learning to previous knowledge by participating more in group work.

Discussion

The study discovered that English teachers in senior high school struggled with curriculum adjustment. They have a slew of teachable abilities, but they are losing what to do with them. They felt de-skilled when it came to teaching the new capabilities. When teachers are required to apply a new curriculum in all schools, they have no choice but to learn how to use it effectively. The "how" of implementing a new curriculum is always a source of

contention for teachers. If the government chooses to modify the curriculum, teachers cannot object; they must accept it, mainly if implemented in all schools. Consequently, they will be dissatisfied if they cannot comprehend the substance of the new curriculum they are responsible for delivering.

Kanjee and Sayed (2012) reinforce this conclusion, arguing that instructors are asked to shed their old skins and journey into a new environment with no guarantee of security or success during curriculum reform. Teachers and students have developed skepticism due to these dangerous influences and an apparent rejection of the transition as jargon - a symbolic rather than a practical reality in some locations.

Experiences of the senior high school teachers in the English Curriculum

The study unfolded that the teachers' experiences varied; however, strong themes permeated great information shared. The participants were asked about the challenges they have faced and the factors contributing to their difficulties teaching English subjects in the senior high school curriculum. The following sections discussed external factors as the dominant theme extracted from the first research question. The participants' experiences in the K to 12 curriculum were very much affected by the following factors.

1.1 External Factors

The participants indicated their difficulty with the voluminous competencies in the senior high school curriculum, specifically English. External factors appeared to be the reoccurring concerns of these teachers. Regarding this study, external factors were understood as anything that happened that teachers have no control over but affect learning interactions and situations. The three dominant external factors that influenced teachers' difficulty were the curriculum competencies, students' minimal English language skills, and availability of instructional materials. These three elements were chief influences in describing teachers' experiences of the curriculum shift.

1.1.1 Increase Academic demand

Participants' responses revealed that the learning competencies included in the English curriculum for senior high school are complicated and too cumbersome for students and teachers to deal with. To note, the purpose of the Secondary English Curriculum is to develop the four competencies: linguistic, sociolinguistic, discourse, and strategic, with emphasis on cognitive academic language proficiency. These language skills do not occur as separate units but rather as integrated units. On the other hand, in the K to 12, students are taught the macro skills in language and use them effectively in various content areas and disciplines, so too the standards specifying the competencies of each English subject. The following English subjects are

taught as individual disciplines in senior high: English for Professional and Academic Purposes (APP1), Oral Communication in Context (C1), and 21st Century Literature. Since these subjects were taught in college, teachers were bewildered, not knowing what to do. To add, the confusion was exacerbated by trying to cover too much work quickly. Participants felt frustrated because they lacked the seminar and training about implementing the new curriculum. Some teachers noted that they felt stressed out because of the necessary preparation of the lesson.

In terms of the curriculum guide, like the competencies required from the students, it's very difficult, it's very ideal like what are the needed competencies that at the end of this specific lesso... So, a lot of adjustments and all (Participant 2).

Basically, we are talking about subjects which are supposed to be junior high school students are supposed to be taken up in college subjects and these subjects although I am an English teacher but I am trained these students with the basic that they need and these ammm fairly new subjects are little bit too hard to grasp for these (Participant 4).

Teachers have had difficulty teaching English subjects in the SHS because of their competencies. To note, the purpose of the Secondary English Curriculum is to develop the four competencies: linguistic, sociolinguistic, discourse, and strategic, with emphasis on cognitive academic language proficiency. These language skills do not occur as separate units but rather as integrated units. In the K to 12, on the other hand, students are taught to learn to read, write, speak, listen, and use language effectively in various content areas and disciplines, so too the standards specifying the competencies of each English subject. In the senior high, the following English subjects: English for Professional and Academic Purposes (APP1), Oral Communication in Context (C1), and 21st Century Literature are taught as individual disciplines. In the old curriculum, these subjects were taught in college. These bring bewilderment and problems to the teachers. The confusion is exacerbated by trying to cover too much work within a short time. Participant 1 and 3 noted:

I feel frustrated in a sense that I am afraid that I may not give my best to my students since we are not able to have a seminar, too late na kasi ang seminar no. So, we were not informed about what would really be the setting of the Senior High School, I mean the environment, the teaching styles, strategies and soon (Participant 1).

Well, my feeling is sometimes the work is so stressful because you have to sleep late at night because you have to prepare the lesson for the day (Participant 3).

Maharajh, Nkosi, and Mkhize (2016) noted that changing one's routine or acquiring a new skill generates doubts and feelings of ineffectiveness, mainly when doing anything for the first time. Additionally, she suggested that Briggs and Hall's (2012)'s concern for uncertainty and delights of mastery are essential to the distinctive meaning

of educational reform. Similarly, Kanjee and Sayed (2001) noted that teachers are forced to shed their old skins and journey into an unfamiliar environment with no guarantee of security or success when a new curriculum is implemented. Teachers had developed skepticism due to this intimidating pressure and, in some regions, an apparent rejection of the transition as jargon - a symbolic rather than a practical reality. Fullan (2014) asserts that educational transformation also entails a shift in practice. Changes in practice may occur on various levels, including in the classroom. Fullan (2014) continued by stating that the challenging part of implementing educational change is examining all three dimensions of change: the use of new resources, the implementation of new teaching methodologies or activities, and the transformation of beliefs.

1.1.2 Inadequate Materials

Lack of available resources was another key concern in their English training. Due to this limitation, SHS teachers described how difficult it was to present classes in their schools. Among the difficulties found by teachers were insufficient training time, facilitators of dubious competency, and an excessive number of modifications in a short period. These situations cause teachers to become perplexed and disorganized, and discipline becomes a problem. Confusion is heightened when an excessive amount of work is attempted quickly. As participants remarked, a factor contributing to their difficulties teaching English was the scarcity of resources. Teachers have difficulty finding references in their lessons since the curriculum is relatively new. Almost unanimously, they said they had to spend time locating things since what was available at school was insufficient. Additionally, the Department of Education (2010) reported a flood of complaints about the difficulties of implementing the curriculum in most schools due to insufficient resources and infrastructure.

Handling SHS students is difficult and confusing since we do not have enough materials, especially in English the subjects were not given ahead of time of what subjects are we going to teach as well as there are no books in English as well. (Participant 1).

Factors that contribute to my difficulty are the students' skills and the availability of the learning materials (Participant 5).

As noted in their responses, the availability of materials was really a factor that added to their difficulty teaching English. Since the curriculum is reasonably new, teachers are having a hard time looking for references in their classes. Nearly all of them said they have to spend time on the internet.

Difficult in terms of the materials, how are you going to impose the learning, how are you going to make your lessons as easy as possible na macomprehend nila (FGDT4).t look for materials because what they have in the school were not enough.

Teachers stated that the lack of materials presented a significant challenge for implementing policies and the government's transformative education programs. The Department of Education 2016 also reported an overwhelming number of comments on the difficulty of implementing the curriculum in most schools due to inadequate materials and facilities (Orale, Sarmiento, 2016).

Insufficient teachers' training

This research revealed that teachers lacked the necessary training to teach senior high English. They were used to their instruction techniques in the content-based education model's day-to-day processes. Teachers need professional development and knowledge on their current skill levels, experience, and teaching styles to apply a new curriculum. The issue was that the previous education system had produced teachers with varying degrees of ability. Certain teachers are competent, while others are not.

Second, there would be insufficient seminars in handling all those subjects, and then another would probably be the setting as well could really affect especially in the public school (Participant 6).

Creech (2014) supported this conclusion by emphasizing teachers' comprehension, prior training, and absence of direction. The sway of textbooks and a scarcity of resources make it difficult for teachers to execute curricula in the classroom. He said that "teachers need assistance to assist them in adapting to and incorporating new concepts into their teaching techniques." Similarly, Nkosi (2014) discovered that teachers were not appropriately taught to administer the new curriculum and that only a small number of teachers were engaged in its creation. Additionally, Nkosi (2014) noted that this made it difficult for teachers to adopt the new curriculum. And teachers were forced to revert to their prior techniques of instruction.

The lack of adequate training has been a general and consistent complaint regarding the language shift, and with strong reason. Training and seminars are such an integral part of the learning process. To ill-equip, the teaching force in these events would almost certainly be detrimental to the academic environment and the potential development of the teachers and students. It would be nearly impossible to include content-specific training in English and comprehensive language lessons within five months. However, this does not change the situation for teachers, who require much more than phonics and grammatical understanding to teach meaningful English lessons effectively. As Participant 1 put it, "you cannot give what you don't have."

Minimal Students' English language skills

Several participants expressed how difficult it was to teach a group of students who have minimal skills in English and literature. They were also adamant about how challenging the English curriculum shift was for

students as they shared similar intense struggles that existed for them. Teachers seemed to have difficulty adjusting to the kind of students they were having in the senior high school as they were diverse, and worse, some of them were not even interested in learning English. This notion indicated that the teachers' primary challenge was that students had minimal knowledge of the English language and were unable to respond well to activities. This sentiment outweighed any other. Students' linguistic abilities or learning lessons requiring higher English skills seemed problematic for English teachers to implement the lesson. For example, in APP1, students needed to read and write longer discourses and academic text according to their discipline. In doing so, students must have enough command of the English language to produce grammatical sentences.

Several other participants expressed how difficult it was to teach a group of students who have minimal skills in English and literature. They were also adamant about how challenging the English curriculum shift actually was for students as they shared similar intense struggles that existed for them. Teachers seemed to have difficulty adjusting to the kind of students they had in the senior high school as they were diverse, and worse, some of them were not even interested in learning English.

It is actually a challenging experience. Regarding the types of learners that we have right now and the competence, nga girequire is actually challenging. (Participant 7)

You will be observing a lot of blanks slates, baffles looks, those things (Participant 4).

Since then, in the Philippines, the fact remains that the English language is maintained as an essential second language educationally. Moreover, high competency in English literacy skills is valued and fully appreciated. Ironically, despite the emphasis on teaching and learning English and literature over the years in junior high school, as evident in the previous Basic Education Curriculum, English language performance amongst students remained inadequate for senior high school.

Attitudes and Opinions

For most of the participants, the concept of self-efficacy was tied to their effort and eventual improvement. Measuring teacher efficacy can be an arduous and complicated process, yet hearing how teachers assessed their own efficacy, or perhaps that of their colleagues, may provide some insight into how this efficacy played out in their classroom.

Due to the variation of teachers' responses and the complexity surrounding what may or may not compose guiding beliefs, the over-arching theme of "feelings, attitudes, and Opinions" addresses this question.

I have to get somehow grip on what is teaching these students because I realize that what you've in college and what you've learned in Junior high is not enough. And you have to do research (Participant 10).

Because I feel the need is really highlighted na kailangan that I have to know more amn pano ba to, I have to get somehow grip of what in teaching these students because you realize that what you've in college and what you've done learned in Junior high is really not enough. And you have to do research (PRT10).

I feel challenged because it's a mixture of theory, literature and grammar so you need to teach all of these in one setting, so it's hard for me to teach grammar in literature and then at the same time the theory (Participant 3).

The holdover in this phase was primarily apparent for these participants. The participants highlighted the difficulty of the shift for the teachers. It was conditioned by the acknowledgment of a persistent work effort on the part of the teachers.

The study revealed that teachers derived a sense of self-efficacy or mastery-based on students' performance and ability to adapt to internal and external environmental conditions. If not impossible, teachers' effort is complicated, subject to evaluation, or quantified fully. Duflo, Dupas & Kremer (2012) sought to look at teacher effort in Kenyan schools, in relation to government mandates and a potential lack of job security, somewhat similar to the circumstances surrounding these teachers' cases. Their research, however, focused on an entirely different context and realities for teachers and delineated teachers' efforts as when teachers were present in class and teaching on any given day. Conversely, effort and 'trying' indicates more than the regular routine of attendance and instruction for teachers in this study. It implied additional work (i.e., mastering another subject) towards ultimately achieving classroom objectives and meet required competencies. The dynamics of the interviews have simulated a feeling of being pressured, and they were compelled to make an explicit collective effort. These teachers' feelings regarding the language shift and effort seemed to follow a logical sequence – the shift was difficult for them, but they tried, and as a result, there has been an improvement. The result also emphasized how strenuously they had been 'trying.'

It's more of a challenge on our part on how to really solve those following cases and solve those things for us to really give the best out of it and be an effective teacher to all of them (Participant 9).

About the English curriculum, it's also somewhat a burden for me, but it's also a challenge for me to be part of it since we need to study more English study more (Participant 8).

This study showed the reciprocal effect of low students' efficacy in English and teacher self-efficacy, specifically mastery experiences. When students perceive extreme weaknesses inabilities, teachers expend tremendous effort and energy to counter perceptions and promote achievement, influencing teacher self-efficacy. Importantly, teachers who understand this dynamic and proactively address students' perceptions experience a greater sense of self-efficacy. This study showed the relationship of teacher and student outlooks to teacher self-efficacy, relating to the theme of attitudes and opinions.

According to efficacy theory, the interaction between students and teachers generates dynamic pressure in the classroom. Student and teacher processes are inextricably linked; teacher self-efficacy also suffers when low student self-efficacy. On the other hand, teacher self-efficacy increases when instructor judgments of student efficacy improve. These interactions concerning teacher self-efficacy are either realized or ignored, depending on the particular teacher and his or her capacity to contemplate this dynamic about the topic of teachers' endeavor. When students see teachers as having severe shortcomings, teachers devote more work and energy to combat these impressions and enhance accomplishment, affecting teacher self-efficacy (Joet, Usher, & Bressoux, 2011). Notably, teachers who are aware of this dynamic and take proactive measures to correct students' attitudes report increased self-efficacy. This research aimed to examine the link between teacher and student perspectives and teacher self-efficacy, specifically regarding the issue of attitudes and views.

Teachers' self-efficacy was impacted by their felt pressure to deliver the lessons. Teachers struggled with this strain, deciding whether to fulfill their professional obligations and maintain an acceptable level of college preparedness or succumb to pressure to accept subpar performance, which affected their physiological states. This study demonstrated that how teachers respond to accountability measures affects their sense of self-efficacy and professional morals, a burden to pass students who do not meet course expectations. Both are related to the external theme factors and teachers' efforts. Parallel to this finding, Cantrell, Correll, Clouse, Creech, Bridges, and Owens (2013) demonstrated the relationship between behavioral domains and academic achievement by enrolling students in a course designed to increase college readiness other than teaching the topic content.

Question 2: What strategies do teachers use and consider to be effective in coping with the transition?

As Schlossberg's Transition theory suggests, the participants' coping strategies were categorized under Situation, self, support, and strategies (Lazarowicz, 2015). Schlossberg recognized four primary characteristics that impact a person's capacity to deal with a transition: circumstance, self, support, and strategies, commonly known as the four S's. (Schlossberg's theory in Lazarowicz, 2015).

2.1 Situation

Following Schlossberg's transition theory, the situation was anticipated as far as curriculum changes in the Philippines Educational setting are concerned from the colonial period to now K to 12. Similarly, the time was anticipated for these individuals who had just transitioned from junior high to senior high school teaching. However, it seemed as if the participants viewed this curricular adjustment negatively. Numerous interviews revealed that teachers adapted to the situation by devising coping methods and easing their shift.

Although the participants seemed to consider this curriculum shift a liability, their responses commonly show in the interviews that teachers were amenable to change by finding mechanisms to cope and ease the transition. The idea of control came up at many points during the interviews, leading to a theme of coping assets. In general, participants cope with the shift by researching and reading relevant materials related to their teaching subjects.

I really can't just do nothing. You know have to study more...I really help myself not to look difficult that I would not look stupid in front of the students that I do not know how to explain the lesson and soon (Participant).

I do spend time research, reading and at the same assessing the students of their needs (Participant 2).

With the urgency to give the best for their students, teachers resort to look for additional materials on the internet. The participants' responses revealed that to cope with the transition, they needed to read more reference materials to equip them with the necessary knowledge to teach the subjects. They stated that they spent considerable time on the internet looking for resources that fit the competencies they have to teach. This indicates that the teachers have to engage in reading to equip themselves with the necessary knowledge to deliver the lessons to their students.

2.2 Self

The participants seemed to be very dedicated to effectively navigating the shift and teaching senior high school in terms of commitment and values. None of the teachers stated they would give up when they encountered a roadblock, such as managing too many competencies, a lack of resource materials, or students' limited English background knowledge. Rather than that, they all responded that they would work harder, study more references, and invent novel techniques for effectively delivering their lectures. On the social front for students, the same was affirmed. The focus group talks with students confirmed that although the shift was difficult, neither desired to give up but was determined to adapt to new conditions. Thus, I would argue that this is a universal asset intrinsically linked to resilience.

I realize how much I still need to learn how much I need to improve myself to teach my students with more credibility (Participant 7).

Anderson, Goodman, and Schlossberg (2012) explain ego development as an assessment of maturity. "At a low level, the conformist will think in stereotypes, conform to rules, and follow instructions without question. At a higher level, autonomous individuals are more critical and better able to tolerate ambiguity" (p. 78). While teachers were likely to be in several different development levels, as described here, I did not note many comments from participants that would indicate a low level of ego development.

In terms of commitment and values, the participants generally seemed to be highly committed to making the transition work and successfully teaching the senior high school. Referring back to the previous paragraph on self-efficacy, when the teachers were faced with a setback such as handling too many competencies, availability of resource materials, and students' minimal background knowledge in English on which they had difficulty encountering, none of the teachers indicated giving up. Instead, they all indicated trying harder, reading more references, and devising innovative strategies to deliver their lessons well.

2.3 Support

Participants found support in seminars, old mentors, co-teachers, and administrators who somehow helped the transition. Attending seminars, workshops, and training was of great help in equipping them with the necessary knowledge and skills to implement the new curriculum effectively. Supports they got from their school administrators were also valuable in increasing their confidence even when no available teaching materials were scarce. Also, teachers found their co-teachers to help cope with their transition as they shared some of the strategies they have acquired from prior and varied experiences handling students.

Seminars, the administrators as well. Because if there is anything that we do not know and anything *that* we don't understand about our areas or course outline (Participant 1).

Caplan, Feldman, Eisenhower, and Blacher (2016) explained that support systems help individuals mobilize psychological resources and master burdens. Support systems may also share financial resources, share tasks and information, and guide handling stressful situations.

2.4 Strategies

Notably, utilizing collaborative strategies in class was the most considered strategy by teachers. When these strategies were used, they seemed to be assets.

I also think that their strategies to help us cope with the transition are collaborative strategies. They gave group work for us to do (Participant 4).

Teachers felt that they could successfully navigate their change by using collaborative tactics. As previously stated, various learners from various English language backgrounds posed a substantial obstacle. Second English language learners face unique challenges for English teachers due to their diverse academic talents, English language abilities, and academic backgrounds. As a result, cultural differences affected students' capacity to succeed in school.

In the same vein, students confirmed this, stating that they feel their teachers being strategy by allowing them to work in groups

Our teachers' strategies that help us cope with the transition are that they divided us into groups (Student 1).

Conclusions

Constraints and obstacles have hampered the curriculum transition. Learning competencies, insufficient instructional materials and resources, insufficient educational preparation for teachers, and classrooms brimming with students who lacked basic English language abilities were among the issues faced by teachers and students in K-12 English curriculum.

Additionally, a correlation was shown between teachers' evaluations of their students' self-efficacy and teaching English in senior high school. Teachers were eager to take on new tasks and were not always opposed to changes. They sought acceptable solutions to the difficulties, which needed the aid of the Department of Education.

Teachers seized control of the situation by devising strategies to facilitate the transition. Psychological resources such as optimism and self-efficacy, commitment and values, and resilience were deemed valid coping assets by the participants. They also received assistance from seminars, former mentors, co-teachers, and administrators. Collaborative strategies proved to be beneficial in assisting them in adjusting to their new environment. Various learners from various English language backgrounds posed a substantial obstacle in the teaching transition of the SHS teachers.

Finally, teachers proved to adapt to change despite their transitional difficulties. They seemed to be devoted to successfully navigating the transition to senior high school English education. They responded that they were confronted with difficulties but were eager to overcome them and seek suitable solutions and mechanisms like doing research online, using collaborative strategies in teaching, and getting support from co-teachers, administrators, etc. They had mastered the ropes - they had mastered the art of curriculum implementation, time management, and adapting to change.

Reference list

- Anderson, M., & Goodman, J. (2012). *Counseling adults in transition: Linking Schlossberg's theory with practice in a diverse world* (; SW Sussman & L. Claire, eds.).
- Briggs, A. R., Clark, J., & Hall, I. (2012). Building bridges: understanding student transition to *university*. *Quality in higher education*, 18(1), 3-21. <https://doi.org/10.1080/13538322.2011.614468>
- Bautista, B. C., Alcasid, A. R. P., Ara Di Doreen, M. M., & Tarel, E. M. (2016). Enhanced instructional materials for teaching conversational English to grade 9 students of Nicolas I. Galvez memorial national high school, ay 2014-2015 based on the existing English textbook. *Ani: Letran Calamba Research Report*, 3(1), 1-1. <https://www.ejournals.ph/article.php?id=10798>
- Briggs, A. R., Clark, J., & Hall, I. (2012). Building bridges: understanding student transition to university. *Quality in higher education*, 18(1), 3-21. <https://doi.org/10.1080/13538322.2011.614468>
- Cantrell, S. C., Correll, P., Clouse, J., Creech, K., Bridges, S., & Owens, D. (2013). Patterns of self-efficacy among college students in developmental reading. *Journal of College Reading and Learning*, 44(1), 8-34. <https://doi.org/10.1080/10790195.2013.10850370>
- Cerrone, K. L. (2012). *Investigating the transition experiences of early college high school seniors to college STEM majors: A case study*. The University of Akron.
- Creech, Kimberly Kaye, "A phenomenological exploration of teacher experiences creating and teaching a senior year English transition course" (2014). *Theses and Dissertations--Curriculum and Instruction*. 9. https://uknowledge.uky.edu/edc_etds/9
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.
- Down, B., Smyth, J., & Robinson, J. (2018). *Rethinking school-to-work transitions in Australia: Young people have something to say* (Vol. 6). Springer.
- Department of Education. (2010). *Briefer on the enhanced k12 basic education program*. Retrieved from <http://www.gov.ph/2010/11/02/briefer-on-theenhanced-k12-basic-education-program/>
- Duflo, E., Dupas, P., & Kremer, M. (2015). School governance, teacher incentives, and pupil-teacher ratios: Experimental evidence from Kenyan primary schools. *Journal of Public Economics*, 123, 92-110. <https://doi.org/10.1016/j.jpubeco.2014.11.008>

Fullan, M. (2014). *Teacher development and educational change*. Routledge.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, 8(4), 597-607. <https://nsuworks.nova.edu/tqr/vol8/iss4/6/>

Hubermann, A.M., & Miles, M. B. (1994). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (1st ed.). Thousand Oaks: Sage, 428- 444.

Joët, G., Usher, E. L., & Bressoux, P. (2011). Sources of self-efficacy: An investigation of elementary school students in France. *Journal of educational psychology*, 103(3), 649.
<https://doi.org/10.1080/0969594X.2013.838541>

Kanjee, A., & Sayed, Y. (2013). Assessment policy in post-apartheid South Africa: Challenges for improving education quality and learning. *Assessment in Education: Principles, Policy & Practice*, 20(4), 442-469.

Lazarowicz, T. A. (2015). *Understanding the transition experience of community college transfer students to a 4-year university: Incorporating Schlossberg's transition theory into higher education*. The University of Nebraska-Lincoln.

Legters, N., & Kerr, K. (2011). *The Effects of transition to high school: an investigation of reform practices to promote ninth-grade success*. Cambridge, Massachusetts: John Hopkins University.

Maharajh, L. R., Nkosi, T., & Mkhize, M. C. (2016). Teachers' experiences implementing the Curriculum and Assessment Policy Statement (CAPS) in three primary schools in KwaZulu Natal. *Africa's Public Service Delivery & Performance Review*, 4(3), 371-388. <https://doi.org/10.4102/apsdpr.v4i3.120>

McGill, C. M., & Lazarowicz, T. (2012). Advising transfer students: Implications of

Miles, M. B., & Hubermann, A. M. (1994). Qualitative Data Analysis (2nd ed.). Thousand Oaks, CA: Sage Publications.

National Education Testing and Research Center Department of Education (2012), retrieved from <http://depedbohol.org/v2/wp-content/uploads/2012/06/TEPT-PST-Mancom-Presentation-PDF.pdf>

New South Wales. Department of Education and Training (DET). (2005). Report of the consultation on future directions for public education and training: 'one size doesn't fit all'.

Nkosi, T. P. (2014). *Teachers' experiences of the implementation of the curriculum and assessment policy statement: a case study of three primary schools in KwaZulu-Natal Province* (Doctoral dissertation).

- Nunalall, S. (2012). The effect of continuous curriculum policy changes on the professional lives of foundation phase teachers in post-apartheid South Africa (Doctoral dissertation).
- Orale, R., & Sarmiento, D. (2016). Senior high school curriculum in the Philippines, USA, and Japan. *Journal of Academic Research*, 1(3), 12-23.
- Sander, P., & Sanders, L. (2006). Understanding academic confidence. *Psychology Teaching Review*, 12(1), 29-42. <https://eric.ed.gov/?id=EJ876468>
- Taole, M. J. (2013). Teachers' conceptions of the curriculum review process. *International Journal of Educational Sciences*, 5(1), 39-46. <https://doi.org/10.1080/09751122.2013.11890059>
- Van der Nest, A. (2012). *Teacher mentorship as professional development: experiences of Mpumalanga primary school natural science teachers as mentees* (Doctoral dissertation, University of South Africa).
- Wertz, F. J., Charmaz, K., McMullen, L. M., Josselson, R., Anderson, R., & McSpadden, E. (2011). From innovate practices to the call for methodology. *Five ways of doing qualitative analysis*, 15-47. <https://hdl.handle.net/10520/EJC196443>

The Examination of the Understanding of Nature of Science among Malaysian Students Using Myth of Science Questionnaire and Reflective Essays

Poh Wai Chia

Faculty of Science and Marine Environment, Universiti Malaysia Terengganu, Terengganu, Malaysia

pohwai@umt.edu.my

ABSTRACT

The aim of this study is to examine the changes of the Universiti Malaysia Terengganu students' understanding of the tenets of Nature of Science (NOS) after the implementation of socio-scientific issue activity in our past study. The participants consist of 31 students who were enrolled in the environmental and analytical chemistry programme. Data collection was carried out using the "Myth of Science" (MOS) quiz questionnaire in the pre-and post-tests and also essays submitted by students to the course coordinator. The findings showed an emerging awareness among students in the understanding of the tenets of NOS as indicated by the post-test result (MOS quiz questionnaire), after administration of newspaper article activity. The MOS has the potential to be utilized in other courses as an instructional tool to check on students' understanding of the tenets of NOS, both implicitly or explicitly.

Keywords: Nature of Science, Myth of Science Quiz and Malaysian Students

Introduction

Learning of NOS is crucial, especially for chemistry students who need to understand the application of theories, laws and others in the creation of knowledge. For example, the solubility of sodium chloride in water is not merely a collection of facts. In fact, it is governed by solubility rule which is theory driven. A person that has developed an informed view of NOS is able to provide evidence to validate the claims within science and eventually lead to the understanding of nature. In the past decades, the emphasis of NOS in science curriculum has been minimal and most of our students and pre-service teachers have developed misconceptions of NOS as disclosed by a few scientific reports (Eastwood et al., 2021; Lederman et al., 2002; Sadler et al., 2004).

Till now, it still remains a challenge for science educators to teach NOS to both pre-service teachers and students (Vesterinen & Aksela, 2013). Among the proposals for the teaching of NOS is to involve pre-service teachers and

students in classroom discussions on the SSI cases. This is a popular practice employed by science educators to enable students to reveal the important aspect of NOS (Abd-El-Khalick et al., 1998; Khishfe & Abd-El-Khalick, 2002; Matkins & Bell, 2007). In addition, a list of seven principles proposed by Lederman et al (2002) is the most common proposal for the teaching of NOS (Lederman et al., 2002). The seven principles include: “science knowledge is tentative; science is based on empirical evidence; subjectivity of science (theories-laden); the myth of scientific method; different between laws and theories, science involves creativity and imagination; and science is social and culture embedded”. Much of the efforts and research to incorporate the aspects of NOS in science education were done found in US and Europe (Rannikmäe et al., 2006). Today, NOS is viewed as a central component in science education.

In this paper, in order to provide the relevance for the learning of the NOS, we invited students that have participated in the previous SWOT analysis on the use of controversial chemicals as active ingredients in consumer products to answer the Myth of Science uiz questionnaire (Cha et al., 2022). SWOT analysis is used to analyse the advantages and the pitfalls of a particular subject of study. Previously, it was employed as an analytical tool to analyze the Strength, Weaknesses, Opportunity and Threats (SWOT) in the implementation of a new protocol, new programmes in school, new scientific method and so on. To carry out this activity, students played the roles of consumers and discussed the use of parabens and triclosan in consumer products, whether or not they should continue to support the use of these active ingredients in consumer products. Students were asked to write and then submit essays/reflective journals on the issue. Undoubtedly, writing is an effective tool for students to organise, express and clarify their ideas and thus reflect on their learning experience. As part of implementing this study, we employed the SWOT methodology as an instructional tool for students to reveal their understanding of NOS and the tenets by discussing these controversial chemicals. The “Myth of Science” (MOS) quiz questionnaire was administered to students before and after the activity to check on any change in their perceptions of NOS. Finally, students were also encouraged to write a reflective journal to reflect on the aspects they had learnt while doing the activity.

Research Objectives

The research questions focused in this paper:

1. What are the students’s aspect of NOS and position in determining the use of these active ingredients in consumer products ?
2. Does the activity enable students to reflect on the tenets of NOS examined after the SWOT methodology approach ?

Methodology

The submission of reflective journals/essays by students was done on a voluntary basis. 31 students in Semester I 2016/17, from the environmental analytical programme who had not been exposed to NOS, participated in this activity. They were given two active ingredients as a topic (parabens and trichlosan), in which they can choose one of these options and discuss using SWOT analysis: whether or not they should continue to support the use of these active ingredients in consumer products. Students gave their feedbacks in the form of essays/reflective journals and the MOS quiz questionnaire which was given to students at the beginning and end of the activity to check if there was change in their perceptions of NOS. In this activity, students were allowed to discuss the topic with their peers and the individual essay was submitted at Week 7 to the course instructor. To analyse students' responses on NOS, quantitatively and qualitatively, the authors employed the MOS quiz questionnaire (Chiappetta & Koballa, 2004) and administered it to students at Week 6 and Week 8 to see and evaluate any the changes in their conception on NOS after going through the learning process. All essays were carefully reviewed and categorized by two of the authors. After getting consent on the categorization by all the authors, the manuscript was prepared.

RESULTS AND DISCUSSION

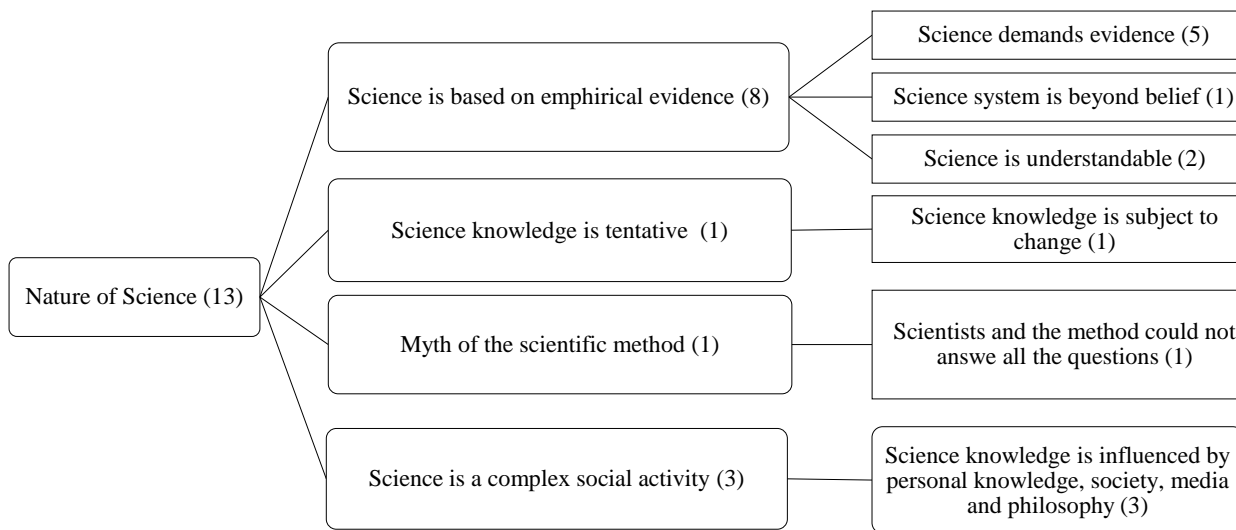


Figure 1. The network diagram shows the students' feedback on NOS on the positions of the use of controversial chemicals in this activity. The number of commentaries was represented in brackets.

After the implementation of this activity, the essays were carefully analyzed and the systematic network (Figure 1) was established to disclose their understanding of the aspects of nature of science, at the same time, reveal their position on the use of these active ingredients in the production of consumer products. Based on their essays, several aspects of NOS had been raised by students in their discussion of the controversial chemicals: science demands evidence; science is a complex social activity and science ideas are subject to change. Some of the students' comments and their understanding of the tenets of NOS used to justify their positions are listed as shown below.

Many reviews have been generated regarding the potential carcinogenic effects of propylparaben on human health. However, more research is to confirm this claim.[Student 20]

They are still confusing results on the effects after the application of parabens in human on the sperm level. Further investigation is required to confirm this claim. [Student 2]

Scientific knowledge has never been 100 % right, they are only being disproved and modified from time to time. [Student 11]

Triclosan is an effective ingredient in health care and consumer products, on the other hand, it also has its own limitation.[Student 13]

In daily life, you're likely to notice that some comment were made with respect to parabens and their connection to estrogenic disruption effect. I think that there is a comprehensive level of logical and medicinal reviews exhibiting the safety of parabens utilized as part of the ingredients in health care and skin products. So, whenever you read a story that enigmatically shows parabens are dangerous, reconsider before you trust the build up. [Student 6]

After the administration of the SWOT activity on controversial chemicals to students, we administered the MOS quiz questionnaire³⁰ to participants which aims to further understand students' ideas about the tenets of NOS. The MOS quiz questionnaire was used as an assessment tool and as well as an instructional method for students to learn about the NOS. The questionnaire consists of 12 true/false and closed-ended questions and students were required to write down their justification to support their answers in each statement. The questionnaire was given to students before and after the activity. The course instructor then discussed the answers to the questionnaire after the submission of the post-test. The data were collected and categorized based on participants' written answers classified into three categories: which were uninformed, emerging and informed responses. Uninformed

response refers to students' answer which was incorrect for an item in the quiz. While the emerging response refers to answers which were correct answers for the items in the quiz, however, the written answers showed partial understanding of the tenets of NOS. Finally, the informed response refers to the correct answers for the items which show students' sound understanding of the tenets of NOS in their written answers. In total, 31 students participated in this quiz.

Based on the results of the pre-test (Table 1), students' conception of NOS was overall found to be weak, in particular for items 3, 4, 5, 6, 7, 8, 9 and 10 ($M = 0.58, 0.39, 0.39, 0.58, 0.39, 0.19$ & 0.45) and the students' answers were recorded under the category of uninformed judging by the total average mean ($M = 0.58$). The weak performance by students in the pre-test was not surprising as students have not been explicitly taught about NOS. After the administration of the SWOT activity on controversial chemicals, students' conception on NOS was reviewed and this time students showed an improved understanding of NOS as evident in some of the answers to the items in the questionnaire, such as items 1, 2, 10, 11 and 12 (mean = $1.52, 1.42, 1.16, 1.23$ and 1.42). The items on NOS such as science is a system of belief; most scientists are men because male are better at scientific thinking; scientific ideas are tentative and can be modified or disproved, but never proved and in time; technology preceded science in the history of civilisation; and science can solve most of the societal problems, students showed a significant understanding of these items, though other aspects also showed some degree of improvement among students. The findings of this result were not surprising due to the fact that through the NOS-contextualized SWOT analysis activity, students were able to reflect on their understanding of NOS based on their previous assignment. In contrast, students showed least improvement in the items of 3, 4, 5, 6, 7, 8 and 9 as this activity did not emphasize these tenets of NOS, as such the on-going reflection did not occur. Overall, the average mean of the post-test has increased about 43 % from the pre-test and the students' responses were in the category of emerging response.

Table 1. Comparison of students' understanding of NOS with administration of the pre- and post- tests after the intervention of the SWOT activity (N=31).

Item	NOS Aspect	Pre-conception (%)				Post-conception (%)			
		(N = 31)				(N = 31)			
		Grading		Mean scores, M		Grading		Mean Scores, M	
		0	1	2		0	1	2	
1	Science is a system of beliefs.	19	0	12	0.77	7	1	23	1.52
2	Most scientists are men because males are better at scientific thinking.	18	0	13	0.84	9	0	22	1.42
3	Scientists rely heavily on imagination to carry out their work.	22	0	9	0.58	20	0	11	0.71
4	Scientists are totally objective in their work.	25	0	6	0.39	16	0	15	0.97
5	The scientific method is the accepted guide for conducting research.	25	0	6	0.39	19	0	12	0.77
6	Experiments are carried out to prove the cause and effect relationships.	22	0	9	0.58	18	0	13	0.84

7	All scientific ideas are discovered and tested by controlled experiments.	25	0	6	0.39	16	0	15	0.97
8	A hypothesis is an educated guess.	25	6	0	0.19	18	13	0	0.42
9	When a theory has been supported by a great deal of scientific evidence, it becomes a law.	24	0	7	0.45	19	1	11	0.74
10	Scientific ideas are tentative and can be modified or disproved, but never proved.	20	0	11	0.71	13	0	18	1.16
11	Technology proceeded science in the history of civilization.	21	0	10	0.65	12	0	19	1.23
12	In time, science can solve most of society problems.	19	0	12	0.77	9	0	22	1.42
	Total				0.58				1.01

*0 = uninformed response; 1 = emerging response; 2 = informed response.

Details of Representative Quotes of Students' NOS Conception from the MOS Quiz Questionnaire.

Table 2 shows the representative quotes of some students' pre- and post- conception of NOS responded in the the MOS quiz questionnaire. As indicated in the students' conception of NOS (Table 2), several students related their understanding of NOS in the MOS quiz questionnaire by referring to it to the SWOT activity on controversial chemicals in a teaching situation. Student 20 noted, "*We can't believe everything until we have empirical evidence.*" In addition, Student 23 related the knowledge gained in the SWOT activity regarding science demands evidence in response to the item 2 of the questionnaire, "*There is no evidence to show that men are*

better in science, though women are still underrepresented in some fields.” Also, Student 11 referred to the knowledge gained over the SWOT activity in response to item 10 in the questionnaire that science is subject to change, *“Scientific ideas can’t fully proved to be correct, as new knowledge always emerges.”* Besides that, students also managed to relate the knowledge gained in the SWOT discussion on the analysis of parabens and triclosan in response to item 11 of the questionnaire (M = 1.23). For example, students revealed in their essays that the use of silver nanoperticle was found to be effective as anti-microbial agent in cosmetics as alternative to triclosan during the SWOT analysis assignment.

Table 2. Representative Quotes of Students' Conception on NOS from the MOS Quiz Questionnaire

Item	NOS Aspect	Representative Quote: Pre-Conceptions	Representative Quote: Post-Conceptions
1	Science is a system of beliefs.	Uninformed: <i>Without beliefs (confident), we can't do science.[student 19]</i>	Informed: <i>We can't believe everything until we have emphirical evidence.[Student 20]</i> Emerging: <i>Science is based on experimental evidence.[Student 21]</i>
2	Most scientists are men because males are better at scientific thinking.	Uninformed: <i>Most scientists are men because males are better at scietific thinking.[Student 22]</i>	Informed: <i>There is no evidence shows that mens are better in science, though women are underrepresent in some fields.[Student 23]</i>
3	Scientists rely heavily on imagination to carry out their work.	Uninformed: <i>Scientists rely heavily on logic to make hypothesis and to carry out their work.[Student 24]</i>	Informed: <i>Imagination and creativity are the beginning of scientists having new inventions and new theories.[Student 18]</i>
4	Scientists are totally objective in their work.	Uninformed: <i>Scientists are all objective in the work they have done. [Student 27]</i>	Informed: <i>Scientists sometimes may change their opinion/ideas based on personal beliefs. [Student 25]</i>
5	The scientific method is the accepted guide for conducting research.	Uninformed: <i>There is always an universal guide to conduct experimental work. [Student 26]</i>	Informed: <i>Scientific methods may be too one-sided as there can be lots of ways of doing an certain experiment. [student 1]</i>
6	Experiments are carried out to prove the cause	Uninformed: <i>It is true because it is only through</i>	Informed: <i>In science, nothing can be proven 100 % true, an</i>

	and effect relationships.	<i>experiment we can prove the cause and effect relationship. [Student 3]</i>	<i>experiment's result can add the validity of a theory. [Student 28]</i> Emerging: <i>Experiments are not absolutely accurate to prove cause and effect relationship. [Student 16]</i>
7	All scientific ideas are discovered and tested by controlled experiments.	Uninformed: <i>Scientific idea must be backed up by controlled experiments. [Student 5]</i>	Informed: <i>They are still many ways, such as observation to create scientific theories. [Student 11]</i>
8	A hypothesis is an educated guess.	Uninformed: <i>A hypothesis is a smart guess in the experiment. [Student 28]</i>	Emerging: <i>A hypothesis is a smart guess based on evidence and it is reasonable. [Student 30]</i>
9	When a theory has been supported by a great deal of scientific sevidence, it becomes a law.	Uninformed: <i>With a strong scientific evidence data, a theory can become law. [student 17]</i>	Informed: <i>Theory is used to explain a pattern in nature. Theory is supported by scientific facts. On the othter hand, laws describe the phenomenon in nature. [Student 29]</i> Emerging: <i>Because theory and laws are different things. [Student 1]</i>
10	Scientific ideas are tentative and can be modified or disproved, but never proved.	Uninformed: <i>scientific ideas can be proved if a proper method was carried out to prove the ideas. [Student 6]</i>	Informed: <i>Scientific ideas can't fully proved to be correct, as they are always new knowledge that emerges. [Student 11]</i>
11	Technology proceeded science in the history of civilization.	Uninformed: <i>There must be a scietific idea first before the development of technology. [student 16]</i>	Informed: <i>Technology help human to survive and improve their life. For example, agriculture today is done with the aid of machine and require less manpower. In some cases, science proceeded technology also. [student 31]</i>
12	In time, science can solve most of	Uninformed: <i>I think science could provide solution to</i>	Informed: <i>Science is still not the answer for everything in this world</i>

the problems in society. *problems it involves in especially when it involve human society if more research are behavior. [student 11] done. [student 15]*

In this activity, students were also invited to reflect on their perception on the implemented activity through journal prompt. Some of the representative sample of students' quote about this activity were shown below.

Overall, students learnt about the chemical ingredients which they would encounter in daily life but never been exposed before in the classroom as reflected in one of essays quote below.

"From this activity, I have learnt that parabens is one of the most commone preservatives but I never know it before in the classroom. It was quite a suprise to know that almost 70-90 % of our consumer products contain parabens"[Student 20]

It was interesting to note that, two students (Students 5 and 6) displayed keen interest to learn more about the topic that are relevant to their daily life the moment they received this assignment as evident in their reflective journals.

"I started to analyze the issues of parabens that has been a controloversial topic and I really enjoyed it". [Student 5]

"When I typed triclosan and click search on internet, I saw a lot of information about triclosan, which drag my attention to search and read about it. Throughout my search on triclosan, a lot of interesting facts appeared."[Student 6]

On the whole, the reflective journal/essays submitted by students showed that this activity was related to their daily life and relevant to the science content studied in the classroom. This study is also inextricably bound to the contextualized-reflective approach of NOS, involving data gathering, analysis, inferencing and relating their knowledge gained in the activity to the tenets of NOS.

Conclusion

The current study enabled the course coordinator to explore the students' understanding of NOS showcased in the activity carried out, based on experience of controversial chemicals using the contextualized-reflective approach of SWOT methodology. The purpose of implementing the SWOT activity on controversial chemicals in teaching was to enable students to know how to evaluate the quality of data, at the same time, it

enables the course coordinator to assess the aspects of NOS raised by students in making decisions. In particular, the SWOT analysis of the use of controversial chemicals as a social-scientific issue is congruent with NOS tenets. Our goal was to create a strategy to be used in a teaching situation for students to understand NOS. As such, this activity provided students with an opportunity to reflect their thoughts and values in assessing the social issues, an element which is often missing in the field of science education. Science teachers lack the strategy/ method to elucidate students' understanding of the tenets of NOS. This activity has the potential to be used as a teaching tool, part of the inquiry-based instruction for future educators, to teach and assess students' knowledge of NOS in the classroom.

Acknowledgement

The authors would like to acknowledge the students who participated in this activity and also to Universiti Malaysia Terengganu. The authors would like to thank Chee Chew Seng for helpful and constructive comments in the preparation of this manuscript.

References

- Abd-El-Khalick, F., Bell, R. L., Lederman, N. G. (1998). The nature of science and instructional practice: Making the unnatural natural. *Science education*, 82(4), 417-436. [https://doi.org/10.1002/\(SICI\)1098-237X\(199807\)82:4<417::AID-SCE1>3.0.CO;2-E](https://doi.org/10.1002/(SICI)1098-237X(199807)82:4<417::AID-SCE1>3.0.CO;2-E)
- Cha, J., Kan, S. Y., Chia, P. W., Chia, P. S. (2022). Use of the Chemical SWOT Methodology to Enable Students to Analyse and Discuss the Socio-scientific Issues in the Classroom. *Asian Journal of University Education*, 18(1), 143-151. <https://doi.org/10.24191/ajue.v18i1.17180>
- Chiappetta, E. L., Koballa Jr, T. R. (2004). Quizzing Students on the Myths of Science. *The Science Teacher*, 71, 58-61.
- Eastwood, J. L. Sadler, T. D., Zeidler, D. L., Lewis, A., Amiri, L., Applebaum, S. (2012). Contextualizing Nature of Science Instruction in Socioscientific Issues. *International Journal of Science Education*, 34(15), 2289-2315. <https://doi.org/10.1080/09500693.2012.667582>
- Khishfe, R., Abd-El-Khalick, F. (2002). Influence of explicit and reflective versus implicit inquiry-oriented instruction on sixth graders' views of nature of science. *Journal of research in science teaching*, 39(7), 551-578. <https://doi.org/10.1002/tea.10036>

- Lederman, N. G., Abd-El-Khalick, F. Bell, R. L., Schwartz, R. S. (2002). Views of nature of science questionnaire: Toward valid and meaningful assessment of learners' conceptions of nature of science. *Journal of Research in Science Teaching*, 39(6), 497-521. <https://doi.org/10.1002/tea.10034>
- Matkins, J. J., Bell, R. L. (2007). Awakening the Scientist Inside: Global Climate Change and the Nature of Science in an Elementary Science Methods Course. *Journal of Science Teacher Education*, 18(2), 137-163.
- Rannikmäe, A., Rannikmäe, M., Holbrook, J. (2006). The nature of science as viewed by nonscience undergraduate students. *Journal of Baltic Science Education* 2, 77.
- Sadler, T. D., Chambers, F. W., Zeidler, D. L. (2004). Student conceptualizations of the nature of science in response to a socioscientific issue. *International Journal of Science Education*, 26(4), 387-409. <https://doi.org/10.1080/0950069032000119456>
- Vesterinen, V.-M., Aksela, M. (2013). Design of Chemistry Teacher Education Course on Nature of Science. *Science & Education*, 22, 2193-2225. <https://doi.org/10.1007/s11191-012-9506-0>

PANINIAN PRATYAHARA -TECHNIQUE FOR CHINESE PINYIN TO DEVANAGARI TRANSLITERATION—SYLLABLE TRANSLITERATION AS AN EVIDENCE*

Dharm Dev Bhatta¹, Song Jia^{*2}

¹ College of International Education, Guilin University of Aerospace Technology, 541004, China

² College of International Education, Guilin University of Aerospace Technology, 541004, China

Correspondence: 2784136286@qq.com

ABSTRACT

Pratyahara distinguishes the symbol for a sound alternation and sound alignments as the preferable and marginal forms in Paninian Ashtadhyayi. This paper navigates how the Paninian method is generalizable in the transliteration of 414 Chinese Pinyin syllables (excluding tones) to Devanagari for Indo-Aryan Languages and concludes: we might surmise and transliterate (a) the Chinese finals with Pinyin /i, u, ū/ followed by a non-homorganic vowel into ँ, ऋ, ॠ [y, v, yu] (c.f P6.1.77) and their attachment in transliteration is like: ia→ya/*^ya'य', ua→wa/*^wa 'यः'; (b) replace all other releasing and arresting componentless finals by their respective coalesced form(c.f P 6.1.87); (c) the special syllable with pinyin /i/ after savarna, i.e., /zi/, /ci/, /si/ and /zhi/, /chi/, /shi/, /ri/ into ञ, छ, ष: [tsɔ:, tsʰɔ:, sɔ:] and ङ, छ, ष, ञ [tʃrɔ, tʃʰrɔ, ʃrɔ, rɔ:], using a visargaḥ/ः/ [:] as substitution of the missing homogenous sound /h, s/ and /r/ for /r/ respectively (c.f P6.1.101, p1.1.50, p1.1.51); (d) the finals with pinyin /e, a/ followed by an arresting component /i, u, o / into diphthongs ए, आइ, आऱौ, आउ / [ɔi, ai, əo, ao] (c.f P6.1.88) and the nasal final/n, ŋ/ into anusvara /ṃ /of respective vowels (c.f P 8. 4. 57); and (e) the transliteration of the pinyin for initials /z/, /c/, /zh/, /ch/, /j/, /q / corresponds to the derivational rules, which can be maintained as per the substitution operation: A→B/C__D. This study has pedagogical implications for Nepalese and Indian learners' Chinese learning, except for transliteration.

Keywords: Paninian Pratyahara, Pinyin-Devanagari, syllable transliteration

*The Guilin University of Aerospace Technology supported this research, Guilin University of Aerospace Technology- University-level fund project; Project number: XJ20KT33, and the project titled "The Research on the cross-cultural adaptation mechanism of international students from the Belt and Road countries 【“一带一路”沿线国家来华留学生跨文化适应机制研究; 项目来源: 桂林航天工业学院校级基金项目; 项目编号: XJ20KT33】.

Introduction

Transliteration is a practical strategy in contexts where the written form of an unfamiliar language is converted into another without losing its phonetic properties. It treats as an asymmetry between the source language (SL) and the target language (TL) representations (Catford, 1965). The orthographic input interacts with the phonological and contextual constraints shaping their underlying representations. While converting the SL grapheme to its phoneme, followed by the TL phoneme and finally to the target grapheme (Dhore et al., 2012), the syllables are the ultimate primary basis of segmental analysis (Ladefoged & Maddieson, 1996). Translating the widespread pinyin scheme (Chinese syllable) into other languages is crucial because it represents a syllable for its character, and two-thirds of Chinese words are monosyllabic.

Much of the established Chinese to non-Chinese transliteration schemes (e.g., Ruomawenzi, Guangyun, Hanyu Pinyin), the Hanyu Pinyin is the systematic standard Romanization scheme of the Chinese phonetic alphabet (Cui et al., 2018). It is well-established for the transliteration of proper personal Names, teaching Chinese characters to school children worldwide, computer and mobile Chinese text input (character), and many more. On account of all these reasons, there is a demand for using the pinyin "two-wheel-drive" (Pinyin+Character) method in Chinese language writing for the effective internationalization of Chinese (Li, 2018: 86). However, the presupposed phonological analysis in pinyin is not always transparent, fails in making a one-to-one correspondence between pinyin letters and underlining sounds, for instance:

(a) Pinyin /o/, /e/ usually represent the same sounds (Duanmu, 2007), see the example in /beng/- [pəŋ] “ do not need to”, /hou/- [həu]“Chinese surname”.

(b) /i/, /u/ represent distinct sounds in different contexts.

(c) A group of letters, e.g. /ng/, zh/, represent a single sound.

(d) The three groups of affricate in pinyin is based on the particular phonological environment within a syllable and do not always make a clear distinction from each other.

(e) Pinyin for initials / b/, /d/, /g/, /z/, /zh/, /j/ and / p/, /t/, /k/, /c/, /ch/, /q/ are assumed as [p, t, k, ts, tʂ, tʃ] and [p^h, t^h, k^h, ts^h, tʂ^h, tʃ^h] in the underlying representation, which do not seem to attain the same degree of generality of its underlining form.

Literature review

Devanagari Script and Syllable in Indo-Aryan Languages

All Indo-Aryan languages have essentially the same alphabet derived from the Sanskrit alphabet. The Devanagari script that has superseded several little local scripts (Masica, 1991:144) contains 33 consonants from /ka/ to /ha/(see table 1) together with releasing consonant(s) (Cardona, 2018) and 15 vowels (svaras) from /a/ to /ah/(monophthongs, diphthongs, Anunasika/Anusvara^① and Visargah^②) with or without the diacritic^③ in common practice (Vasu, 1891; Bhatta & Yu, 2021). Devanagari employs 546 common Aksharas pronounced independently as the languages are completely phonetic and form the fundamental linguistic unit (a single phonetic unit of orthography) to incorporate phonetic and phonological awareness of the language (Bright, 1996; Pandey, 2013). For example, consonant/ प् [p] forms 13 basic syllables (Aksharas) by applying vowels.

Simple Initial ↓	Simple Finals						Finals with arresting component					
	अ a	आ a	इ i	ई i:	उ u	ऊ u:	ए e	ओ o	ऐ ai	औ au	अं am	अः ah
प p	प pa	पा pa:	पि pi	पी pi:	पु pu	पू pu:	पे pe	पो po	पै pai	पौ pau	पं pam	पः pah

However, an Akshara may consist of 0, 1, 2, or 3 consonants and a vowel, i.e., CCGVX^④ syllable form and construct a vast set of ligatures by combining two or more characters. Akshara with more than one consonant is called samyuktaksharas (combo-characters). For example, the basic consonant /त् [t] with a releasing consonant /र् [r], making complex onset (त्+ र्= त्र) forms 13 syllables by applying vowels is given below.

Complex Initial ↓	Simple Finals						Finals with arresting component					
त्र tr	अ a	आ a	इ i	ई i:	उ u	ऊ u:	ए e	ओ o	ऐ ai	औ au	अं am	अः ah
	त्र tra	त्रा tra:	त्रि tri	त्री tri:	त्रु tru	त्रू tru:	त्रे tre	त्रो tro	त्रै trai	त्रौ trau	त्रं tram	त्रः trah
	स् + ई = स्त्री /str + ī [stri] "Female"											
	CCG+ V= CCGV											

^① Traditionally, a vowel has a sign of nasal is Anunasika, which is different from Anuswara, as they are uttered partially by the nose and partially by the mouth (Vasu, 1891:10), but in modern Indo-Aryan language, it represents a nasal final. मुखनसिकावचनो अनुनासिकः ८, पदानौ मुख-नासिका-वचनः, अनुनासपकः (The pure nasals are anuswara, while nasal finals and nasal vowels are anunasika, In Vedas (c.f nasal vowels, e.g., अँ, औँ, and the आइ is anunasika, so do गँभिर (am) (Rig Ved VIII 67. II

^② Final breathing modifies a vowel.

^③ The diacritics are technically the finals that possess two forms of writing: a stand-alone form and a vowel/consonants modifier.

^④ In CCGVX, G can be any releasing glide /y,r,l v/ and X represent arresting component (coda) that is either a glide, a nasal (anuswara) or other consonant due to reduplication.

It should be further noted that Devanagari for modern Indo- Aryan render some other sounds and employ several other letters with dots, e.g., क़/ḳ, 'ख़/ḳʰ, ग़/Gʱ, ज़/ʒ, फ़/ḟ, ड़/ḍ, ढ़/ḍʱ (Cardona, 2018:86). Besides this, in the phonology of modern Indo-Aryan languages, a particular unit of a sound (syllable) might not always represent in a single Akshara. In Sanskrit, a akshara(each syllable) ending in vowel(or a vowel modified by the nasal-sign(anusvara)or a visarga, that count as a full consonant in making syllable heavy(Whitney,1994:12). In disyllabic words or above, a non-final syllable may take an arresting consonant other than glide/ anusvara and Visarga. Thus, the precise number of Devanagari Akshara's is difficult to work out and may vary how one defines it.

"Hanyu Pinyin fang'an " and Syllable in Chinese (Mandarin)

Hanyu Pinyin is often called the"Romanization" of Chinese characters and employs 27 roman characters for 21 Initials and 37 Finals(Sihu^①) to represent 57-59 segmental phonemes. Generally, the pinyin scheme (the pinyin written syllable) represents and underscores a syllable for every Chinese character system that is often analyzed in terms of an initial consonant sound and a rhyme. The initial contains a consonant except the velar nasal, and the rhyme (Finals) contains vowels (V), and a tone (T), medial/ releasing glide (M/G) and arresting coda, either a glide or nasal(X). Wheatley defines Hanyu Pinyin as 'Chinese-language joined-sounds'(p,17).

Initial	Rhyme(Final)		
	T (written above the vowel)		
	M	V	X
j	i	ā	ng

姜 (Chinese Character) ; Jiāng (Pinyin syllable) "ginger"; Spoken syllable CGVX (where C = Consonant, G= glide/Medial, V= main vowel (monophthong/ a long vowel), X= syllabic final)

However, Since, a sound (or phoneme) in the written pinyin syllable is often represented by two-letter, for instance, initials /sh, zh/ and nasal final /ng/; not all initials and finals make syllables in Chinese; for example, no finals with releasing glide follow the homogenous initial by place of articulation. The finals with glide/u, ũ/ (Qikouhu and Chuokouhu) do not make CGV(X)^② A syllable with labial; the finals with glide /i, ũ/ (Hekouhu and Chuokouhu) do not make CGV(X) syllable with dental and retroflex affricate/ sibilants, etc. ; the actual number of Chinese syllables (underlying form) could be more or less than Hanyu Pinyin Syllable. For example, the initial /n/ 'n' only forms 23 basic syllables by applying the finals.

^① Kaikouhu (Open mouth finals), Hekouhu (closed-mouth finals), Qikouhu (even-teeth finals), and Chuokouhu (puckered-mouth finals).

^② In CGVX, X represent arresting component (coda) that is either a glide or nasal in Mandarin Chinese.

Finals (either Simple Finals or with releasing /arresting component or both)

a	e	ai	ei	ao	ou	an	en	ang	eng	ong	i	fao	ie	lu	ian	in	iang	ing	u	uo	uan	ü	üe	
n	na	ne	nai	nei	nao	nou	nan	nen	nang	neng	nong	ni	niao	nie	niu	nian	nin	niang	ning	nu	nuo	nuan	nü	nüe
n	na	nə	nai	nei	nao	nəu	nan	nən	naŋ	nəŋ	noŋ	ni	njao	nie	njəu	nen	nin	niɛŋ	niŋ	nu	nuo	nuan	ny	nye

/nuŋ

Though the researchers also have their arguments about the maximal Chinese syllable, it is whether CGVC or CGVG(X). The matters lie in the status of the medial G, which is unclear in Pinyin Fangan. Additionally, the finals with glide /ü/ of Chuokouhu is not a single glide either; it contains the components of [j] and [w] (Hartman 1944; Hsueh 1986; Duanmu 2007). Li (1983) and Duanmu(2007) argued that the CG(Initial consonant and pre-peak glide sequence) of a Chinese syllable is a single sound, which C and G must share. However, following the generative phonology, the maximal Chinese syllable contains four elements CGVX, where C is a consonant, G a glide, V a vowel, and X an off glide of a diphthong, a consonant (Cheng 1973, Lin 1989, Duanmu2000).

Indo-Aryan Language script to Chinese Transliteration and Vice Versa

The history of transliteration from Indo-Aryan languages to Chinese goes back to the late Han Dynasty (206 BC to AD 220). At that time, the Chinese Buddhist poets not only transliterated a large number of Sanskrit named entities (Mair and Mei, 1991), but They also developed the prosody-based syllable system for transliterating Buddhist Gathas (Branner, 2003) along with the translation of Buddhist masterpieces. The study on Sanskrit-Chinese (old) translation/transliteration strategies and issues has been conducted by numerous Chinese researchers (such as Yúmin-俞敏,1984; Chū Tàisōng-褚泰松,1998; Chi Zhiping-遲治平, 2002, etc.).

Later the Wade-Giles Romanization and Hanyu Pinyin were developed to transliterate Chinese Characters to the western language. Hanyu Pinyin itself is the transliteration of Chinese pictographic characters to make them readable and for the internationalization of Chinese, but how to make them readable in Devanagari is not studied yet. Even the studies on transliterated Chinese named entities or the syllable transliteration is empty (Bhatta & Yu, 2021); neither there is a fixed strategy for the transliteration of Chinese pinyin syllable and proper nouns in Devanagari, and often use the calques, traditional and modern forms of SL expression for the same word and leads to inconsistencies. It is necessary because the pinyin alphabet invented for the westerners only once is quite unnatural for Indo- Arayns. Moreover, the condensed notion of pinyin has created ambiguities among native and non-native Chinese educators translators to generalize its underlining form, especially those from India and Nepal.

Statement of the problem

The fundamental issues in Chinese to Devanagari^① (Nepali, Hindi) transliteration is the difference in writing script (multiple transliterations), loss of SL phonetic properties, omission of a sound, insertion of extra component, incorrect syllabification, and the incorrect transliteration (Bhatta & Yu, 2021). There might be various reasons behind the issues mentioned above. However, the main objective of this study is to solve the following issues because the grapheme-based transliteration (pinyin- Devanagari) in syllable transliteration has affected the accuracy and turned the translation process. For examples,

(a) Voiceless < voiced: /b, d, g, z, zh, j/ → [b, d/ḍ, g, dz], e.g., /deng/[təŋ] → [dɛŋg]

(b) Aspirate < un-aspirate: /p, t, k, c, ch, x/ → [p, t, k, ts, ts]

e.g., Tian'anmèn [tʰjæn.an.mən] → [ti.an.an.men]

(c) Voiceless un-aspirate < voiced aspirate: /zh/ → [dzʰ]

e.g., /zhang/ ([ʒaŋ]) → [dzʰaŋ]

(d) Clusterization: /ng/[ŋ] < [ŋg] (see example 3)

(e) Mis-transliteration: /q/ < /k/, e.g., Chongqing [tʰoŋtɕʰiŋ] → [tʰoŋgkiŋg]

(f) Omission of a component: e.g., /jiu/, /gui/, /gun/, /hou/ ([tɕəu:], [kʷəi], [kʷən], [həu])
→ [dziu], [gui], [gun], [hou]

(g) Insertion and mis-syllabification: e.g., Tian'anmèn [tʰjæn.an.mən] → [ti.an.an.men],

CGVC.VC.CVC → CV.VC.VC.CVC^②

The examples mentioned above also represent the transliteration errors for finals where the pinyin for vowels are treated as vowel phoneme: /i/, /u/, /e/, /o/ → [i/, /u/, /e/, /o/] elsewhere, that actually pre-supposed the notion of [x is y], iffollows in modern linguistics. Besides that, the translators often restore, exchange, and mix up the homogenous sound in all phonological environments.

Suggested Hypotheses

We have raised the following three hypotheses for the condensed notion of pinyin and its equivalent transliteration so far:

(1) We should transliterate an existing SL syllable into a single Devanagari syllable in transliterated form without sound loss. For that, Devanagari Akashara or Barna might be more similar to the existing phonemes than the exclusive pinyin system.

^① Devanagari is currently the most popular script for Sanskrit and other major modern Indo-Aryan languages in Nepal and India like Sanskrit, Nepali, Hindi, Dotyali, Maithali, Kumauni, Marathi.

^② C = consonant, G = glide, V = vowel

(2) Since the SL finals with releasing glide sequences often lead to the segmental insertion in Devanagari, they should be segmented and concatenated to the initials GVX→G-VX. The use of Paninian Pratyahara, especially the rules for substitution and Sandhi rules, might help their concatenation in Devnagari.

The conditioned baring complex initials and vowels (B category) in transliteration can be satisfied using the rules for substitution: x...is y, if it follows.

Methodology

We segmented the 414 pinyin syllables from “Hanyu Pinyin Fang’an”(International Curriculum for Chinese Language Education, 2008, p99) as traditional Chinese phonology (Sihu) and incorporated the initials and the finals to SL phonological units (underlying form). Then, the pronunciation of each syllable as per the perception of Nepali, Hindi, and Sanskrit Chinese bilingual were transcribed into the nearest equivalent TL phonological units. Finally, the TL phonological units were converted into the TL script using the Paninian Prathyahara technique in segment alignment. Their sound was recorded using Feifeng recording Software and transcribed to IPA.

Result and Discussion

Devanagarization of Chinese Phoneme

Before stepping into the actual discussion on the issue, a contrast between Pinyin and Devanagari is worth noting. The table establishes the correspondence between the Chinese Pinyin and the Devanagari systems, excluding those that do not contrast with the Chinese initials and finals.

Table 1. A Glance of Devanagarization of Chinese phoneme with Pinyin and IPA

*absent in Devanagari

Open	h			m	e/a/	a/u/			
					अ/ə/	आ/ā/			
Velars	h/x/	g /k/	k /k ^h /	ng/ŋ/					
	ह /h/	क /k/	ख /k ^h /	इ / ŋ/					
Palatals	x/ç/				y/-i , /j /	i /i/	e/e/	ei/əi/, ai/ai/	
					* ç /ç/				
Retroflex	श/ç/				य/j/	इ/ɪ/	ई/i/	ए/e/	ऐ/əi /, आइ
	sh /ʃ/				r/z	i /ɪ,ɪ/			
	ष/ʃ/				र /r/	ऋ/ɹ/			
Dental	s /s/	d /t/	t /t ^h /	n/n/	l/l/				
	स /s/	द /t/	थ /t ^h /	न/n/	ल /l/				
Labials	f/f/	b/p/	p ^h /p ^h /	m /m/	w/u /w/	u /u/	o/o/	ou/əu/,ao/au/	
	फ /f/	प /p/	फु/p ^h /	म/m/	व /v/	उ/u/	ऊ/u/	औ/o/	औ/əu/,आउ/au/
	Fric	Stops &Affr.		Nasals	SemiV	Vowels			

Some Devanagari alphabet for modern Indo- Aryan languages differs from the Devanagari for Sanskrit:

ए e(ə+i) → ए e

ऐ (a + i) → ऐ ai , आइ ai

ओ o (ə + u) → ओ o

अौ au → अौ əu, आउ au

It is important to note that Panini pursues the description of phonological classes by the phonetical Varga classification (sutra 3.1.8). In contrast to Panini, we restricted ourselves to the Pratyahara method relating the Pinyin to Devanagari using the notion of savarna^① (P. 1.1. 9) . Based on Panini analysis, the pinyin /e, a, g, k, ng, h/ and /अ, अा, क, ख, ड, ह/ are glottals^②; /i, j, q, x/ and /इ, य, च, छ, श्/ are palatals^③; /i, r, zh, ch, sh/ and /ञ, च, छ, ष/ are retroflex^④ (before retroflex vowel); /s, d, t, n, l/ and /स्, त, थ, ज, ल/ are dentals^⑤; /u, b, p, f, m/ and उव्, पु, फ्, म्/ are labials^⑥. However, the place of the articulation of Chinese /ü/ is complex, as the “ü-rhymes are revealed by the class of consonantal initial” (Wheatley, p28). At the same time /n, ng, m/ and /म, ञ, ङ, ञ/ are nasals^⑦, /s/ sh, x, h / and / स्, ष, श्, ह/ are sibilants; /i, u/ as releasing component are / व, य/, semivowels of respective point of articulation. Similarly, pinyin for vowels /e, ei[əi]/ and / ए, ऐ / are post-palatals^⑧; /o, ou[əu]/ and /ओ, औ / are labio-dentals^⑨ (Vasu, 1891:11) . The former two (/e/ and /ei[əi]/ share the common point of articulation with the latter, but differ at the closing point of articulation, so do /əu and au/. Based on Paninian tradition, /w/ and /v/ are both dental, but /v/ is also labial, and there is a greater chance of /v/ being only “labial” rather than being “labiodental”(Deshpande, 1975). Thus, the Chinese glide/u/ correspond to Devanagari/w/.

Pratyahara for Pinyin

Before inducing some common Pratyahara to state a sandhi rule, substitution, and other phonetic changes and formulate several Pratyahara, it is important to know some simple phonological conventions precisely described as in the rule P. 1.1. 71(adir antyena saheta), which says that “the initial [sound of a group] together with a final “it” denotes the intervening members and itself.

① tulyāsya prayatnam savarnam, The two sounds have in common either by “prayatna”[similar internal effort] or “Asya” [point of articulation].

② अकुहविसर्गजनीयानां कण्ठ

③ ईचुयशाना तालु

④ ऋचरषाणां मुधी)P .8 .3 .55(

⑤ सल्लुलसानां दन्तय

⑥ उपपध्मानियानां ओष्ठौ (P. 7. 1. 101)

⑦ मडनानां नासिका च: (म=ओष्ठ+नासिक, ड= कण्ठ+नासिक, न =दन्तय+नासिक)

⑧ ऐदौ कण्ठतालु : (ए=अ+इ/ कण्ठ+तालु, ऐ=अ+ए/ कण्ठ+तालु)

⑨ ओदौतो: कण्ठोष्ठम:

Suppose:

1. ə(e) - a- i-u N
2. i-u- (r) K
3. e-o Ñ
4. ai(əi-ai)-au(əu-au) C
5. ya-wa N
6. ra-la T
7. ma-na-ña M
8. Ca-ka-ta-pa-fa-qa-cha Ś
9. za- za-za-da-ba--zha Ś
10. śa-śa-sa R
11. ha L

Above mentioned, each group comprises an introductory Chinese phoneme letter and an Anubandha (to aid pronunciation), named 'iT' by Panini. We can decline them (p 6.1.77). Additionally, all the Pratyahara are open syllables consisting of initial vowels or consonants followed by the primary vowel "a"/ə/. Here, the Pratyahara əL (here we use IPA) refers to all the basic phonemes(before Anubandha); the phonemes form /ə/ to Anubandha C. Thus, it refers to vowels, i.e. /ə-a-i-u-(r)-e-əi(əi)-ai-o-əu-au/; rL to initials consonants, and so on. All the phonemes with a similar manner of articulation are arranged together. For instance, monophthongs in 1, glides in 2, nasals in 7, sibilants in 10 śa śa sa, and so on.

The possible Pratyaharas for Pinyin from the above list are given below. For Pratyahara for Sanskrit, see Vasu (1981).

1. əL ⇒ all sounds (22 Pinyin for initials and 37 combinations for finals)
2. əC ⇒ vowels (in pinyin)
3. rL ⇒ initial consonants
4. iT ⇒ The Anubandha/ A final consonant (Cf. P. 1.3.3.)

Final groups

5. əÑ ⇒ ə a i u
6. eÑ ⇒ e əi o əu
7. əK ⇒ ə -a- i- u- o)
8. iK ⇒ i -u -(r)
9. uK ⇒ u- (r)
10. iC ⇒ i- u -(r) - e-əi -ai- o- əu -au
11. eC ⇒ e- o -əi -ai -əu- au
12. eiC ⇒ əi - ai - əu- au
13. aiC ⇒ ai- au
14. yaN ⇒ semi-vowels [releasing]

Initial groups

- 15. raL ⇒ consonants other than y and v
- 16. vaL ⇒ consonants other than y
- 17. ñaM ⇒ nasals (ñ ŋ n)
- 18. caṢ ⇒ voiceless unaspirated stops and affricates in pinyin (aspirated, i.e., khaV in Devanagari)
- 19. zaṢ ⇒ voiced unaspirated stops and affricates in pinyin (voiceless, i.e., kaY in Devanagari)
- 20. śaL ⇒ spirants
- 21. śaR ⇒ śa-ṣa-sa
- 22. haL ⇒ h

From this 33 Pratyahara, we can get the phonological patterns of the pinyin scheme. The following .rules used in transliteration-are a few meta

Pratyaharas	Use in Transliteration
1. Ak Savarne Dirghe	1. ə, a, i, u, e, o → अः, आ, ई, ऊ, ए, औ
2. Iko Yaṛci	2. i/ ü, u ɾ → य, व, र
3. Eco Yavayava	3. o, e → ए औ
4. Eaico Vriddhiradaica, Aicparasya Iko Ak	4. ei, ai, ou, ao → ऐ, आइ, औ, आउ
5. Ak Parasyanasikananusvara Ca:	5. m, n, ŋg → म्, न्, ङ
6. zaŚa kaY Asi	6. z/ zh/ z , g, d, b → च, क, त, प
7. CaṢa khaV Asi	7. C/ ch/q, k, t, p, f → छ, ख, थ, फ, फ़
8. Iko Yanchi	8. Y, w, → य, व,

Consider the sutra **Ak Savarne Dirgha(P.6.1.101)**, and this rule replaces the two consecutive simple homogeneous sound/vowels with their corresponding long vowel. An /aK/ sound pinyin /a, e, i, u, o/ is a long variety if followed by a homorganic sound. For instance, " For example, [ɾu],*[ɾo] is underly because [w] and [o] share the feature [+round],so do others.

-i	-u	-o	-uo
yi	wu	wo	zuo
यि/ई	ऊ	औ	वो

It also fulfils the general conception of savarna to mean "belonging to the same varna", either just a "sound" or "the real sound" or "class of sounds sharing some essential features. In the above example, /y/ and /i/, /w/ and/u/, /u/ and/o/ are under-lyingly having the same point of articulation (sasthana) (c.f P. 1.1. 48) (savarna-dirgha -dirgham samanaksare savarna-pare), and share the

feature, the output in transiteration (Devanagari character for vowel) must be long. Devanagari has separate letters for long-short /u, u:/, and /i, i:/ . We can use a visarga sign for another vowel for homogeneous lengthening. The /a/, /i/, /u/ and /r/ are respectively savarna with /a/, /i:/, /u:/ and /r:/ . However, if iK(i,u,r) follows u(ach), it is ak (savarna-short)(Aicparasya iko ak) .

Note that the common long vowel (Guna) or the combination of savarna makes guna (long) primarily unchanged. Since /e, o/ are long (guna), we do not need a separate directory for the vowel lengthening.

The rule **iKo yaṅ aCi(6.11.7)**, effectively analyses the replacement of a vowel (Pinyin) with its corresponding semi-vowel when followed by any vowel. The three Pratyahara in it 'ika ', 'yan ', and 'aci' show the genitive form of 'ik', the nominative form of 'yaṅ ' and the locative form of 'ac', respectively. We apply this rule in transliterating all the pinyin syllables composed with Qikouhu, Hekouhu, and Chuokouhu. The final starts with one of the three pinyin immediately before any other pinyin for a vowel. See the following examples.

i	-i	-ia	-iao	-ie	-iu	-ian	-ing	-iang	-iong	-in	-u	-uo	-ui	-uan	-un	-ü	-üe	-üan	ün
ii	tiao	tie	tian	ting		tu	tu	tui	tuan	tun									
यी	ट्याउ	ट्ये	ट्यौ	ट्यान्	टिङ्		तू	ट्यो	ट्यौ	ट्यान्	ट्यन्								
j	ji	jia	jiao	jie	jiu	jian	jing	jiang		jin					ju	jue	juan	jun	
जी	ट्या	ट्याउ	ट्ये	ट्यौ	ट्यान्	जिङ्	ट्याङ्		जिन्						जू	ट्ये	ट्यान्	ट्यन्	

The two processes take place:

- a) the complex final is analyzed into its components, and
- b) the final "i" or "u" element of that analysis is changed into its corresponding semi-vowel.

For them, we have Devanagari Akashara for Semivowels[j] and [w] /y, and v / that are more than the /i, u/ character, mainly while vowels follow in close contact. Since the releasing glide forms a syllable onset and can have a half form joined with other consonants, the Special letters/sounds are Anusvara^① . Moreover, Visarga represents the half-open sounds after a vowel in Devanagari for Sanskrit.

With this rule, we induce the 39 Chinese Final groups into 14 Devanagari Diacritics reducing the releasing glide/a slot of the onset, and the syllable rhyme aligns nucleus and coda runs as follows:

Table 2. A Glance on Chinese Finals in Devanagari Diacritics^②with Phonetic Presentation

Simple Finals					Finals with arresting coda									
					Compound Finals		Finals with anusvara		visarga					
a	o	e	i	u	ei	ai	ou	ao	eng	ang	ong	an	en	əh

^① आक्षिप्तानुस्वारस्य ङनुस्वारस्य

	[Ø]	अ	o	ə	i	u	ε / ə i ai	ou	ou	əŋ	ɑŋ	uŋ	an	ən	
		आ/	ओ/	अ/ए	ई	इ	ऊ	उ	ऐ	आइ	औ	आउ	अं	आन्	अन्
With glides		-a	-o	-e	-i	-u	-ei	-ai	-ou	-ao	ŋg/ eng	ang	-ong	-an	en/in
		ा	ी	े	ी	ि	ू	ु	ै	ौ	ं				
	y/-i			-					-ou	-oo	i		ian		
[j]	या		ए	यि					यौ	यउ	यं	यि	युं	यान्	यन्
y/-ü				üe	ü								üan	ün	
[ju]			ये	यू									यैन्	यून्	
w/u	ua				-u						-eng		-on	-an	-en
[w]	वा	ओ			ऊ	वै	वाइ	वौ			वङ्	वां	उङ्	वान्	वन्
	a/a:	o/o:	e/e:	i/i:	ü/ü:	u/u:	o	ə/	ε/æ	əu/əu	au/ə/	m/ŋ/n/			
			ə	ī	ū:	ū	ʌ/	/æ:	/ʌ/	ə:/					

As mentioned above, Traditionally, Anusvara represents vowel nasalization, but it stands for the nasal coda in Modern languages. To avoid ambiguities, especially at the word-final position, one can argue that the transliterated Chinese arresting nasals should be transcribed in a separate letter with a Halanta mark(syllabic consonant). This is mainly because the symbol of Anusvara in Devanagari can represent any arresting nasal as per the phonological context. Similarly, Visarga represents a slightly velarised aspiration as the half-open sounds come after the vowel. Thus an "echo" sound arresting the previous vowel of a syllable in Chinese often goes missing in pinyin because of sandhi. For example, pinyin/e/ after /e/ is /hɛ/, /i/ after dental affricate /zi/is /tsi, tsj/ corresponds to visarga (P. 1.1. 9).

We can also find homogeneity between long (guna) vowels and consonants. As long as certain sibilants have the same internal effort with a vowel, some vowels (long vowels) may be homogeneous with the sibilant of the same point of articulation. /a-C/and /ra-L/(short forms of vowels and consonants are not mutually homogeneous. Following this tradition, sibilants alone or occur at the secondary position (concise) of affricate shares the common articulation points, thus being homogenous with long vowels of the same articulation(i.e. i,u). Although /a / (short) and /h/ , /i/ and /s, sh ,x, r/, /i/ and /z, c,j/ of Chinese also have the same internal effort and point of articulation, and the guna rules applies here. Here, the guna for coda /h/ is visarga[:]. similarly, the guna for /r/ is /ar (P1.1. 51 ur an ra-parah).

By P1.1. 50 (Stanentaratamah) (Ak Parasyanasikananusvara Ca), the arresting nasals after the vowel/ (s) are Anusvaras. An anusvara for vowel with arresting nasal, e.g./an/,ng / is [an/ ang/, or we can use the / m,n,ng/ by for the arresting nasal sound (P. 8. 3. 23) (moanusvarah).

In the same way, the rule zaŚa kaY Asi refers to the pinyin letter that looks like voiced, the surface should be substituted by kaY(respective unvoiced) and CaŚa khaV Asi, the pinyin letter that looks

like voiceless unaspirated, are aspirated in its underlining, therefore should be replaced by khaV (respective voiceless aspirated).

Since the Chinese palatals [tɕ, tɕʰ, ɕ] and the retroflex [ʈ, ʈʰ, ʂ] share most of the substance features with the dental [ts, tʃ, s, z] (Duanmu, 2007), and the Devanagari letter च् च् /ts, tsʰ/ often shows phonological variation in terms of place of articulation: [tɕ, tɕʰ, dz, dzʰ] in Sanskrit, Hindi, Dotyali, and Pahari, and [ts, tsʰ] in Nepali. We can maintain the existing phonological gap in transliteration by using Devanagari/ts, tsʰ/ as the nearest equivalent sound/phoneme that shares some substance features (Catford, 1965). However, such elaboration might be more confusing. We can fill this phonological gap just by replacing the pre-peak glide by/y, w/.

Conclusion

The Paninian Pratyahara is known as the primary source of the grammatical tradition. Paninian Pratyaharas modify a component of sound, a syllable, a word, or any form of expression that is not ready for use. Modification is necessary for transliteration to adopt SL sound in TL script to make it easy to pronounce or usable, and so does the pinyin scheme. Still, some condensed notions are there that create problems in transliteration.

In Hanyu Pinyin, there is no hard and fast rule saying a particular letter in the alphabet will have a particular single sound. It is also interesting to see adjacent double/same letters in a word represent a single sound, and a single letter has a different sound/phoneme. The notions of savarna in the Paninian Pratyahara (P. 1.1. 9) (Tulyasya -Prayatnarh Savarnam) here seem helpful in describing the pinyin letter for vowels and consonants that may represent their respective form and their homogeneous phonemes. Since the notion of Paninian Pratyahara formation and pinyin scheme for Chinese syllables is almost the same, the Pratyahara technique helps gain SL underlying form in TL script and supports bridging the phonological gap. We can ease the transliteration of what should delete, modified, and substituted. For example, the three pinyin /i, u, u/, pinyin /b, d, g, z, zh, j/ refers to the vowels, voiced initials unless used as Pratyahara.

Chinese Finals that form the general syllabic structure V(C) (vowel/vowel sequences including coda con nasal) make one-to-one correspondence to Matras in Devanagari writing systems. Note that the compound finals in Chinese Pinyin and Devanagari (Sanskrit) also have reflexing vowels. We can assume that it cannot secondarily palatalize retroflex segments since the two gestures of the tongue back retraction and palatalization are not reproducible at the same time (Haman 2003, 13). Unlike, In Chinese, the post-alveolar fricatives have retroflex varieties when preceding /a, o, u/; for example, when a front vowel follows, we realize them as the palate-alveolar (Ladefoged &

Maddieson 1996: 23). However, when vowel hiatus (the sequence of two vowels) occurs with vowels, only one passes through the (sandhi) rules.

This article attempts to describe the phonological processes of Chinese Pinyin (syllable) with the help of the Pratyahara technique and uses it in transliteration. We propose a list of all Chinese sounds in the style of Paninian Pratyahara that allows us to get the underlining form of every pinyin scheme and help us achieve the alignment of the Chinese syllable component in the Devanagari syllable, possibly in its orthographic form.

Though we have only discussed some Paninian Pratyahara that can be helpful in transliteration, we can create several Pratyahara for tone for Chinese vowels, for example/a/stands/a1,a2,a3,a4/(Vasu,1891), this corresponds to the Paninian notion of -varna that stands for its all variants[short, long and extra-long] in Sanskrit(18 different pitches of the same vowel), in some respect. We can make more Pratyahara for the Chinese tone to get the equivalent transliteration. For example, Regarding Chinese unaspirated pinyin /b, d, g, z, zh, j/ in a neutral or unstressed syllable, one can also propose their voiced counterparts [b, d, g, dz,dz]. Therefore, further study on the syllable phonology of these two-trans-Himalayan countries is necessary. A detailed study may enhance Nepali and Indian learners' perception of Chinese language learning.

Acknowledgement

Guilin University of Aerospace Technology funds this research- University-level fund project; Project number: XJ20KT33, supported the present study and the project titled "The Research on the cross-cultural adaptation mechanism of international students from the Belt and Road countries." ^① The authors appreciate the Guilin University of Aerospace Technology for all the supports on this paper.

References

- Bhatta, D. D. & Yu, X.(2021). Issues in Chinese Nepali Sound Translation: An Equivalence Based Dualistic Approach. *Journal of English Education and Teaching*, (5),74-94.
- Branner, D. P. (2003). Tonal Prosody in Chinese Parallel Prose. *Journal of the American Oriental Society*, 123 (1), 93-119.
- Bright, W. (1996). The Devanagari script In P. Daniels & W. Bright (Eds.), *The world's writing systems*. Oxford University Press, 384-390.

^① “一带一路”沿线国家来华留学生跨文化适应机制研究;项目来源: 桂林航天工业学院校级基金项目;项目编号: XJ20KT33.

- Cardona, G. (1969). Studies in Indian grammarians I: The method of description reflected in the 'Siva-Sutras'. *Transactions of the American Philosophical*.
- Catford, J. (1965). *CA Linguistic Theory of Translation*. Oxford University Press.
- Cui, A., Peng, Z. & Zhou, Z. (2018). Zhou Youguang Dui Hanyu Pinyin De Jiechu Gongxian —— Weishenme Renmen Ba Zhou Youguang Jiao Zuo 'Hanyu Pinyin De Baba,'. *Jiangxi Kexue Shifan Daxue Xuebao*, (4), 18–25.
- Deshpande, M. M. (1995). Ancient Indian phonetics. In Koerner, E. F. K.
- Dhore, M. L., Dixit, S. K., & Dhore, R. M. (2012). Optimizing Transliteration for Hindi/Marathi to English Using only Two Weights. [Conference presentation: the First International Workshop on Optimization Techniques for Human Language Technology] (December 12). COLING Mumbai.
- Du, X. (2010). Pinyin and Chinese Children's Phonological Awareness. *University of Toronto*.
- Duanmu, S. (1990). A formal study of syllable, tone, stress and domain in Chinese languages. Doctoral dissertation. MIT.
- Duanmu, S. (2000). The phonology of Standard Chinese. *Oxford University*
- Duanmu, S. (2007). The phonology of Standard Chinese, 2nd ed. *Oxford University*
- Hamann, S. (2003). The Phonetics and Phonology of Retroflexes. PhD thesis,
- Hartman, L. M. (1944). 'The Segmental Phonemes of the Peiping Dialect'. *Language*.
- Hsueh, F. (1986). An Anatomy of the Pekingese Sound System. *Xuesheng Shuju*.
- Cheng, C.C. (1973). A synchronic phonology of Mandarin Chinese. Monographs on linguistic analysis, (4). *The Hague: Mouton*.
- Ladefoged, P. & Maddieson, I. (1996). *The Sounds of the World's Languages*. Blackwell.
- Li, Q. (2018). Establish Pinyin as Legal Characters to Efficiently Help the Internationalization of Chinese. *Language planning research*, 85-89.
- Liu, Z. (1957a). 'Beijingshua li jiu jing you duoshao yinjie?' [How many syllables are there in the Beijing dialect?]. *Zhongguo Yuwen*, (2), 1–8.
- (1957b). 'Beijingshua li jiu jing you duoshao yinjie? (ji wan)' [How many syllables are there in the Beijing dialect?]. *Zhongguo Yuwen*, (3), 17–23.
- Mair and Mei. (1991). The Sanskrit Origins of Recent Style Chinese Prosody. *Harvard Journal of Asiatic Studies*, 51(2), 375–470.
- Masica, C. P. (1991). *The Indo-Aryan languages*. Cambridge University Press.
- Newmark, P. (1988). *Textbook on Translation*. Prentice-Hall International.
- Nida, E. A. (1964). *Towards a science of translating*. Brill: Leiden.
- Norman, J. (1988). *Chinese*. Cambridge University Press.
- Pandey, P. K. (2007). Phonology-orthography influence in Devanagari for Hindi. *Written Language and Literacy*, 10(2), 139–156.
- Pandey, P. (2013). Akshara-to-sound rules for Hindi. *Taylor & Francis*, 6(1), 54–72.

- Pandey, P.K. (2007a). Akshara as the minimum articulatory unit. In P.G. Patel, P. Pandey & D. Rajgor (Eds.), *The Indic scripts: Palaeographic and linguistic perspectives*. DK Printworld, 167–232.
- Pokharel, M. P. (1989). Experimental analysis of Nepali sound system. Ph.D. Dissertation, *University of Pune*.
- Staal, J. F. (1962). A Method of Linguistic Description: the Order of Consonants according to Panini. *Language*, 38, 1-10.
- Vasu, S.C. (1891). *Asthadhayayi of Panini*. Indian Press.
- William Dwight Whitney.(1994) *Sanskrit Grammar*, 5th ed. Leipzig, Motilal Banaras.

Effect of Project Based Learning on the Reading Skills of the Year 3 Students

Shahzadi Hina Sain^{1} Zohaib Hassan Sain²*

¹*Beaconhouse Head Office, Pakistan*

²*Superior University, Pakistan*

*shahzadi.hina88@gmail.com , zohaib3746@gmail.com

ABSTRACT

The topic was selected to probe the effectiveness of project-based learning on the reading skills of the students. In this case study, the prime objective was to determine the impact of PBL on the year 3 students in the TNS, DHA branch, Lahore, Pakistan. Moreover, understanding students progress in various ways and become autonomous learners to improve their reading skills. A literature review conducts a meticulous investigation of the research in the same area. The data was collected through census sampling which enabled the researcher to have authentic data, and details in a short time. The researcher practised triangulation by comparing a variety of sources which are: running records, reading logs, observations and students' artefacts (reflective journals and writing journals). The study was held for two months in each term. The results prove that project-based learning not only improved their literacy skills but also made them inquisitive and independent learners. Therefore, many surveys and studies conducted before on the secondary level, have proven the findings of this study similar to the one conducted now at the primary level highlighting the scope of the study.

Keywords: Autonomous learners, Independent learners, Literacy skills, Project Based Learning, Case study.

Background & Introduction:

In this research study, the researcher intended to adapt the English reading curriculum and focused on the reading skills through intensive and critical reading skills to enhance their vocabulary, comprehension and fluency, so that the students' knowledge and the learners' attitude could be addressed adequately.

Therefore, this approach was also integrated to extend the students' reading skills outside the classroom.

The researcher selected TNS (The New School) Beaconhouse for her thesis, as TNS Beaconhouse is the first 'World IB School' in Lahore and second in Pakistan. PBL is only taught in TNS, for which they hire well-experienced teachers to run their program. Students come to TNS from various language backgrounds and are new to the PBL based learning system. A small number of students have been studying in a PBL environment since the beginning and have a good command of the language skill. In the classroom a typical learner has spent years learning English in a majorly English medium school yet many are not fluent in the use of English language effectively. Though, they are exposed to the language and know to a good extent about the language but are unable to effectively communicate their meaning in an appropriate manner outside the classroom. However, PBL is the instructional framework which is introduced to increase the interest of the students while studying.

The reason for selecting reading skills was to highlight that in conventional schools reading skills are not measured, like their fluency i.e., students have read the passage themselves but how it will be evident that they have errors or have self-corrected their errors, how to know their exact reading stage etc. Keeping in mind these questions the researcher went through different frameworks of teaching but found PBL the best framework in all. However, there are four components of the reading skills which are: phonics awareness, fluency, vocabulary and reading comprehension. The researcher covered only those components in her research which were widely used in the PBL framework. So, the researcher focused on fluency, vocabulary and reading comprehension which has the main role in PBL however, phonics awareness is less focused in PBL though it is an important part of English Language but is not widely used/focused or highlighted in PBL framework.

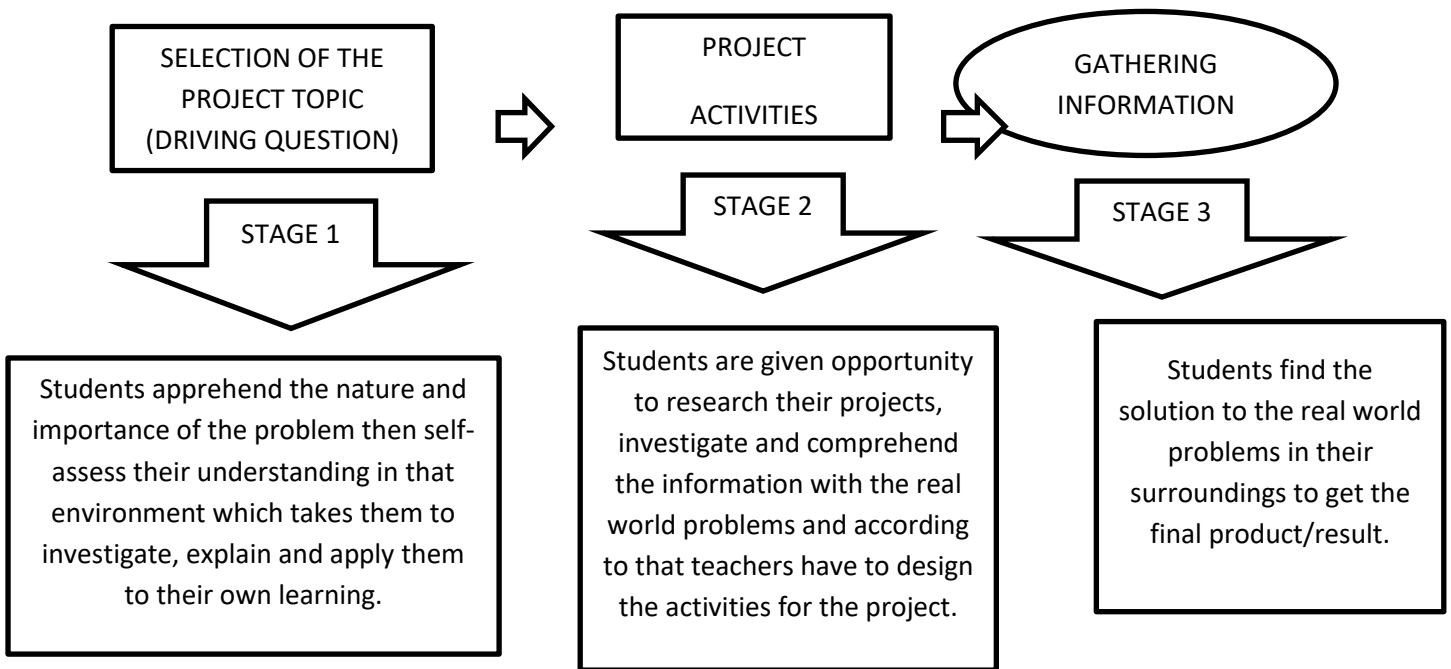
However, this study tries to find out from the researcher, does the PBL develop the students reading skills? What are the reading stages of the children and how can they be active inquirers as well as independent learners? Therefore, the choice of this study shows the practice of PBL in improving the reading skills of the young learners.

Literature Review:

Bruner’s (1976) theory about project based learning was quite different that PBL is the combination of various socio-constructivist and other modern instructional schools of thought. However, the theory of socio-constructivism is based on the understanding of the learning in which the stress is on the construction of the knowledge, based on the prior knowledge and the interaction with the environment. According to Michaelson, Thomas and Mergendoller (1999) socio-constructivism is a pedagogical set which is used as a strategy like project-based learning.

Blumenfield (1994) completely defined “PBL as activities that are conducted in a way that students learn the concepts of the subject matter in depth and also promote objectives of the others life skills” (p. 1). So, in short we can say that project based learning engages the students in real world projects which not only develop their knowledge but also enhance their skills. However, the outcomes of the students' learning progression neither predictable nor could be predetermined. Therefore, outcomes are determined from the students' learning and allocation of time and resources.

The project passes by three stages, if any one of this stage misses the project will be considered incomplete and inappropriate. Different researchers viewed their opinion about these three stages and expressed its importance. Project based learning have certain stages which are as follows:



(Patton, 2012)

In short, the students create their project design. They make the framework of their project themselves. Furthermore, a study was conducted by Tretten and Zachariou (1995) on the assessment of project based learning in four elementary schools in which they used questionnaires, interviews and surveys for teachers and parents. The reason for conducting this survey was to know how effective PBL is for the students. Teachers' response was that PBL builds student's attitude towards learning, developing the capability of solving the problems and working individually and cooperatively. Project-based learning, a model which if implemented on the learners would make them independent learners in order to generate realistic products as described by these researchers. Therefore, the project activities enable the learners to synthesise their knowledge and solve the problems independently on the basis of curricular context.

In this research, the selection of ORT (Oxford Reading Tree) stages as a research tool for the running records was mentioned to know how much practice a child requires on that level/stage. ORT includes a variety of strands such as fictional, non-fictional based stories, developing the reading range of the children etc. Ross (2004) explained the importance of the running records. Running record is basically a diagnostic tool which helps the teachers to know the reading behaviour patterns of their students. This helps the teachers to know how the students use strategies in making meanings of the text. It is the best way for the teacher to inquire about the understanding of the text. In the students learning Chall (1983) explains six stages of the reading development, which are focused on the progression, cognitive ability and development of the child to reach to the new stage of learning. In her model she highlighted this point many times that each developmental stage is dependent upon the previous stage. In order to move to the next stage your previous stage must be expertized. Each stage carries different skills (vocabulary, phonics, comprehension and fluency) and their levels (students are self-correcting their errors, making errors in the structure of the text etc.) depending upon their age level.

A study was done by Gultekin (2005) which was about the motivation of the students through PBL. He compared conventional teaching with PBL and found PBL to be the most effective method that should be used and introduced in the schools. He explained that when students are given the task and autonomy along with a little guide line by the teacher, the students will build their track or framework which will make them critical thinkers. Students choice and involvement are the basic elements of PBL, moreover PBL teachers act as the facilitator who gives the choice to the students to select the project and proceed themselves through guidance (Bell, 2010).

There was a research conducted by Dopplet (2003), in his three years study he highlighted that some students were not interested in traditional teaching which results in their low grades and were stamped as the struggling students. The students were touched through the project which not only changed the framework of the classroom but also their self-image increased. PBL provided them with a great atmosphere of motivation and challenges.

In today's education, reading is the essential part for the educational system. The child who faces difficulties in understanding and reading the text suffers it in their communities as well as in school (NCES, 2010; Mandel-Morrow and Gambrell, 2011). However, as Dopplet (2003) mentioned in his study that if students are strugglers, it means that there is a lack in teaching methods which must be changed. According to Taylor and Hiebert (2000) the sooner the child receives the intervention, the sooner he will get the chance of moving to the higher standards.

Statement of the problem:

The effect of project based learning on the reading skills of the Year 3 students of Beaconhouse TNS DHA branch, Lahore.

Significance of the study:

Children in conventional schools read simple, familiar stories and selections. However, PBL allows students to choose the books they read which could help them in their project. They have to read every bit of the information that could help them in their project which increases not only their vocabulary but also their reading skills. It is basically the part of the hidden curriculum of PBL that could improve their skills in a way by keeping evidence i.e. taking running records of their readings, taking reading logs, scanning of the project reflections and writing journals etc.

Research Objectives:

The following objectives were formulated in the light of project based learning framework and the standards of the class:

1. To give learners an opportunity to become autonomous learners in their reading skills through project based learning.

2. PBL enables the students to construct their knowledge in the reading skills through inquiry.

3. PBL encourages the students to read extensively and maximise the extensive reading to enrich their vocabulary.

Methodology:

The researcher visited Beaconhouse TNS, DHA branch to get permission for conducting the research so, the school heads took an interview with the researcher and asked several questions like 'why you want to conduct the research and what will be your variables?' etc. After getting selected as a teacher, the researcher requested that she wanted to teach year 3 and attended teachers training in order to know PBL much better. Moreover, how does it work to improve students' reading skills? The researcher conducted research to know which components of the reading skills are fully focused in PBL and how effective it is. So, the researcher conducted empirical research based on the Case Study. The data was collected through census because the population is small and detailed data is collected from each student. However, for data collection, the researcher used different tools for various reasons:

- To collect the data regularly
- To collect a snapshot of students artefacts (writing journals and reflections)

The researcher, from the very first day, started observing the students in order to learn about their weaknesses and strengths. To measure the aspects of observation all three skills were observed (comprehension, vocabulary and fluency). The researcher took reading records in order to figure out their reading levels, after getting their levels the students were assigned their reading stages. Some of the students who were at the beginning level were given differentiated tasks for their improvement and the ones who were at an advanced level were given differentiated tasks to provide them with challenging work. All the students were given individual attention keeping in mind their capabilities and skills which was the reason why the researcher had to take the observations on a daily basis. The students were engaged in their projects. During the study, the researcher taught year 3 for four days a week, 40 minutes each day and made 21 lesson plans for the first term and 26 Lesson plans for the second term.

Samplings

Beaconhouse TNS was the only school in Pakistan where students are taught through PBL. There are two branches of TNS in Lahore and the researcher was given a chance to teach at DHA branch with the students of year 3 orange, as the activities and training were held at DHA branch. An intact group of 17 students were available, who were used as the sample as well as the population of the study. The study was census in nature, where each and every detail of the student was recorded. The school's head permission was taken for the application of study.

Research Instruments

The researcher practised triangulation from comparing the variety of sources which are: running records, reading logs, observations and students artefacts (reflective journals and writing journals). The researcher got a lot of information using these three different kinds of sources.

Results and Discussion

After collection of the data, the researcher organised the data. The first step was to gather all the records of the students such as their reflections about the projects, acrostic poems, writing journals, running records etc. to analyse the data in the correct form. Moreover, students' projects were also analysed. At the end, the researcher uploaded the students' portfolios and presentations onto the laptop. Once the researcher had all the data she began reading the data and made meanings out of it through coding them. All the strands were kept in mind while marking the rubrics. Marking all the three skills of reading which were commonly used in the project was not an easy task, so the researcher used Likert scale to check their levels and then to put similar codes in groups with respect to the literacy skills. Three themes were found that could emerge students' skills i.e. independent learner, literacy skills and inquirer. PBL revolves around the main element i.e. making students independent learners so, keeping in mind this element the researcher used it as a theme.

Research Question 1: How PBL improves reading skills?

Individual child is assessed and recorded below in observational log, reading log and running records:

1. Observational Log:

The performances of the students were different in both terms, their observations were taken through the rubric of comprehension, vocabulary and fluency which was analysed and marked on a daily basis in both the terms. The students improved their literacy skills through the motivation of their projects. PBL made them eager to learn from their mistakes and move to the levels of success. They had a positive attitude towards their tasks which developed the power in the students to help their group members in learning and improving their skills.

2. Reading log:

On the basis of the criteria for collecting data of the reading log is discussed here:

Marking criteria of Reading Log	Term 1	Term 2
Unable to express the details of the story in their own words	Student a Student i Student o	Student i
Able to retell the story readings in an inaccurate form but were including minimal amount of information	Student e Student g Student k Student l Student q	Student a Student e Student o Student q
Able to tell the reading in their own words including too many details and making inaccurate predictions	Student c Student d Student h Student j Student m Student n	Student c Student d Student h Student j Student m Student n
Able to summarise their readings in a concise manner and knows how to connect their prior knowledge to their readings but there was a pace for inaccuracies	Student b Student f Student p	Student b Student f Student p

In term 1, students a, i, and o were unable to express the details of the story in their own words however, Students e, g, k, l, and q were able to retell the story readings in an inaccurate form but were including minimal amounts of information. Students c, d, h, j, m and n were the ones who could tell the reading in their own words including too many details and making inaccurate predictions. Moreover, Students b, f and p were fairly thoughtful who summarised their readings in a concise manner. They know how to connect their prior knowledge to their readings but there was a pace for inaccuracies.

In term 2, student i, was the only one who tried to retell the readings with many inaccuracies and added minimal amounts of information. However, Students a, e, o and q were the ones who improved a lot by retelling the readings in their own words including too many details to it. They made predictions and had the courage to question. Students c, d, h, j, m and n who are fairly thoughtful who summarise their readings in a concise manner. They learned how to connect their prior knowledge to their readings but there was a pace for inaccuracies. Lastly, Students b, f and p were able to explain the main ideas in a very thoughtful way. They connected the text with the outside world with events and detailed explanations. They summarise their readings in a very concise manner and inferred the main ideas for the listeners, to make them understand the events of the text in detail.

The results of both the terms show a great change. Students improved their skills due to extensive reading via their projects. The students found their learning styles and improved their skills through it. The project builds the confidence in them to work on their weaknesses and move towards success.

3. Running records:

The students were given passages from the levelled reading from Oxford Reading Tree (ORT) to read. Their errors were recorded and marked on the sheet which was later calculated into percentage. According to those percentages the students were assigned stages which were started from stage 9. The details are as follows:

Student's Name	Term 1		Term 2	
	Reading Stages	Reading percentage	Reading Stages	Reading percentage
Student a	Stage 9	82%	Stage 12	88%
Student b	Oxford Level 2	99%	Oxford Level 3	99%
Student c	Stage 12	92.1%	Oxford Starter	93%
Student d	Stage 12	95%	Oxford Level 3	100%
Student e	Stage 8	94.1%	Stage 10	93.3%
Student f	Stage 12	93.1%	Oxford Level 3	99.1%
Student g	Stage 11	89.4%	Stage 12	92.1%
Student h	Stage 12	95%	Oxford Level 3	98.3%
Student i	Stage 9	93.2%	Stage 12	91%
Student j	Stage 11	94.7%	Oxford Level 3	97%
Student k	Stage 11	92.6%	Oxford Level 3	97%

Student l	Stage 12	94.1%	Oxford Level 3	96%
Student m	Stage 12	94.1%	Oxford Starter	93%
Student n	Stage 12	92.1%	Oxford Starter	93%
Student o	Stage 8	91.2%	Stage 9	88%
Student p	Oxford Level 1	94.89%	Oxford Level 3	100%
Student q	Stage 11	84.2%	Stage 12	90.19%

At the start of the term Student (a) was reading at ORT Stage 9; after having recently conducted the running record in Term 2, he was then at ORT Stage 12. Student (b) was reading at the Oxford Level 2 in term 1; after having recently conducted the running record in Term 2, he was then at Oxford Level 3. Student (c) was reading at the ORT Stage 12 in term 1; after having recently conducted the running record in Term 2, she was at Oxford Starter Level. Student (d) was reading at ORT Stage 12 in term 1; after having recently conducted the running record in Term 2, she was at Oxford Level 3. Student (e) was reading at ORT Stage 8 in term 1; after having recently conducted the running record in Term 2, she was then at ORT Stage 10. Student (f) was reading at the ORT Stage 12 in term 1; after having recently conducted the running record in Term 2, he was at Oxford Level 3. Student (g) was reading at ORT Stage 11 in term 1; after having recently conducted the running record in Term 2, he was then at ORT Stage 12. Student (h) was reading at ORT Stage 12 in term 1; after having recently conducted the running record in Term 2, he was then at Oxford Level 3. Student (i) was reading at ORT Stage 9 in term 1; after having recently conducted the running record in Term 2, he was then at ORT Stage 12. Student (j) was reading at ORT Stage 11 in term 1; after having recently conducted the running record in Term 2, he was then at Oxford Level 3. Student (k) was reading at ORT Stage 11 in term 1; after having recently conducted the running record in Term 2, he was then at Oxford Level 3. Student (l) was reading at ORT Stage 12 in term 1; after having recently conducted the running record in Term 2, he was then at Oxford Level 3. Student (m) was reading at ORT Stage 12 in term 1; after having recently conducted the running record in Term 2, he was then at Oxford Starter. Student (n) was reading at ORT Stage 12 in term 1; after having recently conducted the running record in Term 2, she was then at Oxford Starter. Student (o) was reading at ORT Stage 8 in term 1;

after having recently conducted the running record in Term 2, he was then at ORT Stage 9. Student (p) was reading at Oxford Level 1 in term 1; after having recently conducted the running record in Term 2, he was then at Oxford Level 3 and Student (q) was reading at ORT Stage 11 in term 1; after having recently conducted the running record in Term 2, he was then at ORT Stage 12.

The results of the students in both the terms were quite different, some of the students improved less in term 2 but the majority improved a lot. Extensive reading in their projects has made them improve their fluency skills. They were motivated by each other and were willing to reach the highest stage of reading.

Research Question 2: How will the reading skills in the project be used to encourage active inquiry and independent learning?

The students were assessed for the whole year which included both first and second terms in order to get the refined data. In term 1 the student’s active inquiry and independent learning was assessed through rubrics and project reflections which comes out to be as follows:

Reading comprehension:

The data collected for all three skills are mentioned in the table below to express about the independent students:

Term 1	Reading comprehension	Vocabulary	Fluency
More scaffolding (dependent learners)	Student a	Student a	Student a
	Student e	Student e	Student e
	Student i	Student g	Student i
	Student k	Student i	Student l
	Student l	Student k	Student o
	Student o	Student l	Student q
	Student q	Student o	Student q

<p>Less scaffolding (less independent learners)</p>	<p>Student c Student d Student g Student h Student j Student m Student n</p>	<p>Student c Student d Student h Student j Student m Student n</p>	<p>Student c Student d Student g Student h Student j Student k Student m Student n</p>
<p>Sometimes need scaffolding (sometimes become dependent learners)</p>	<p>Student b Student f Student p</p>	<p>Student b Student f Student p</p>	<p>Student b Student f Student p</p>
<p>Completely independently</p>	<p>-</p>	<p>-</p>	<p>-</p>

Students a, e, i, k, l, o and q were facing difficulty in supporting the problems and identifying the answers with evidence from the text for which they needed a lot of scaffolding and even sometimes the researcher had to brief them the answers as well. Students c, d, g, h, j, m, and n could relate prior knowledge to the text and could identify some important concepts in the text with little scaffolding in support with explanation. Students b, f, and p link’s their prior knowledge to the comprehension and interpret their findings with evidence of the text to support their question answers. They identify strategies to solve their problems but still need little scaffolding to check that they are on the right track.

Vocabulary:

Now, the researcher took out the data for vocabulary skills of the students. Students a, e, g, i, k, l, o and q don’t know many words and have never heard of them before. Still after a lot of scaffolding they don’t write anything for those words due to which they faced a lot of problems while recognizing the text. Students c, d, h, j, m, and n were a little confused about the words and their meanings; they needed little scaffolding from the researcher. However, Students b, f and p were good in understanding the words and their meanings while reading but still were hesitant in expressing their views or sharing their ideas in the class, in short it can be said that they were not independent.

Fluency:

Lastly, the researcher used the data for fluency skills of the students. Students a, e, i, l, o and q read in monotone voice without the thought of punctuation and often read word by word however, made frequent extended pauses while reading. Students c, d, g, h, j, k, m, and n were the ones who read with intonation and had natural conversation. Moreover, used punctuation most of the time. Therefore, Students b, f, and p were the ones who could read with intonation and had a natural conversational way without making errors while reading the thought of punctuation.

The data collected for the first term shows that none of the students was an independent learner. More or less scaffolding was required for the students to complete the tasks which reflected that in term 1 their skills were not improved much.

In term 2 the student’s active inquiry and independent learning was assessed through rubrics which comes out to be as follows:

Term 2	Reading comprehension	Vocabulary	Fluency
More scaffolding (dependent learners)	-	-	-
Less scaffolding (less independent learners)	Student a Student e Student i Student o Student q	Student a Student e Student i Student k Student o Student q	Student a Student e Student i Student o Student q
Sometimes need scaffolding (sometimes become dependent learners)	Student c Student d Student f Student g Student h	Student c Student d Student g	Student c Student d Student g Student h

	Student j Student k Student l Student m Student n	Student h Student l Student n	Student k Student l Student m Student n
Completely independently	Student b Student p	Student b Student f Student j Student m Student p	Student b Student f Student j Student p

Reading comprehension:

In the second term the students were assessed for reading comprehension skills. Students a, e, i, o and q were able to support their problems and identify the answers with evidence from the text but can't explain in so much detail for which they needed little scaffolding. The Students c, d, f, g, h, j, k, l, m, and n could relate prior knowledge to the text and could identify some important concepts in the text with little scaffolding in support with explanation but rarely needed scaffolding to check that they are on the right track. The Students b and p link their prior knowledge to the comprehension and interpret their findings with evidence of the text to support their question answers. They identify strategies to solve their problems independently without any scaffolding.

Vocabulary :

Now, the researcher took out the data for vocabulary skills of the students. The Students a, e, i, k, o and q need little scaffolding in understanding the meanings of the words. The Students c, d, g, h, l, and n understands more about the words and could tell their usage but rarely gets hesitant and wants to know whether they are on the right track. However, Students b, f, j, m and p were good in understanding the words and their meanings while reading and became independent learners.

Fluency :

Lastly, the researcher used the data for fluency skills of the students. The Students a, e, i, o and q read with expressions and the thought of punctuation but require little scaffolding in full accurate form. The Students c, d, g, h, k, l, m, and n were the ones who read with intonation and had natural conversation moreover, used punctuation and became independent learners. Therefore, Students b, f, j, and p were the ones who could read with intonation and had a natural conversational way without making errors, in short they are also the independent learners.

The students in the second term improved a lot which is quite visible from their results that none of them needed more scaffolding and took the students towards independent learners. They enjoyed working independently which gave them the power of self-confidence and motivation.

The students used information technology throughout their project. They were equipped with other technologies such as blog writing, making comics, working on Microsoft Publisher, for which students were trained to create their level of interest and motivation and develop their own inquiry skills. The researcher observed the positive attitude of the students towards the use of the internet and worked on various Web-based materials. The students were also trained for using the search engines i.e. google plus, google, google blog writing, youtube and BBC News. This helped the students to become self-directed learners. The researcher also observed that by the end of the project of both terms, students become better in making PowerPoint slides effectively and working on Microsoft Publisher.

Recommendations:

The researcher learned from this study, certain ways which can motivate students to improve their reading skills and also found that learning through projects not only teaches the literacy skills to the students but also the other skills which include inquiry and becoming independent learners. The implications of PBL can result in great progress in students' attitude and their learning.

Recommendation 1: Through PBL the students gained inquiry skills and an ability to work hard and use meaningful resources for inquiring new and unique ideas and information. Though, it was a challenging part for them to get the authentic

information but still they did not give up. However, these skills are important and valuable for the future in their everyday lives. The findings of De La Paz and Hernandez- Ramos (2009) study have the similar findings to this study that PBL leads students to collaboration skills as well as inquiry skills which could be used for future projects. This study also shows not only the literacy skills that students improved but also the skills of designing their projects and working collaboratively with others. This can make students improve their instructional strategies; craft and inquiry skills for the improvement of their reading skills.

Recommendation 2: The other influential factor which made students independent learners was giving them the choice (Jones, 2003). However, students were given many choices to make their own decisions and drive their project in their way. This is how they gain self-confidence and choose their learning style. The students chose their topics for the projects and proceeded. They found ways themselves of selecting the authentic information. Though, they mentioned that they faced difficulty in finding the appropriate information but still they did not give up. They faced all the challenges and worked very well on their projects. The students learned from their decisions rather than being fed by their teacher (Bezon et al., 2007). This element must be applied into the teaching classroom whenever it's possible.

Recommendation 3: Furthermore, students were also given creative freedom which was given to make them independent learners'. Their learning was assessed through their reflections and their creative work rather than the conventional style of taking written quizzes to know how many marks they get and finalise their results on them. The students learned about their projects in depth and so reflected them in detail. The students read about the space shuttle, so they made a model of it. They wanted to demonstrate their learning so, whatever they read made the model of it too. The students had their original pieces which they created themselves through their creativity. The students have different learning styles and cannot be taught through the same style, so keeping that in mind the researcher gives them the autonomy to create their creativity and will be assessed according to it. In Bruce's (2008) study he also found that students have different learning styles and learn in their ways. In his study he observed that students made their multimedia projects to make their learning interesting and understandable to them. This is the one of the learning styles which teachers' must apply while carrying out their projects.

Recommendation 4: PBL also helps the students to increase their literacy skills.

The completion of students' projects shows their effective learning. Their ownership took them to the height of learning and achievement. The students took charge of their learning by reading from various sources then, designed their projects. After reading from other sources students wrote reflections and made notes side by side as student 'p' wrote. The findings of this study is exactly the same as done by Friedman and Heafner (2008), he also found that effective learning is done through PBL which leads them to memorise their content for a long time. This makes the students remember their projects and the content as well.

Recommendation 5: However, students can be discouraged and frustrated by the lessons so, keeping this situation in mind the teachers should be trained and lessons should be well-organised to create a positive atmosphere of the classroom. Also, teachers' educational programs must be updated with both theoretical and practical framework of PBL. There should be proper courses and seminars to train the teachers.

These recommendations can help the teachers to implement these above strategies into their classrooms and make their teaching effective. Through this strategy they can make their Students autonomous learners'. Teachers' must be trained by how they can assess their student's creativity and their projects, as they are only familiar with the standardised tests and their marking criteria. Project based learning is rapidly growing larger and quite successfully.

Conclusion:

This study aims to investigate the effectiveness of PBL on the reading skills in improving the literacy skills of the students. Moreover, making students independent learners and inquiring. Project based learning (PBL) is a teaching approach in which students drive their method of instructions which leads them to demonstrate their skills and learning through project's (Bell, 2010). Teachers can motivate their students for reading through PBL, as students' are given an opportunity to create their projects and mould them in the way they want to. They are given the ability to make their own choices and decisions. The students are given the privilege to take ownership of their learning which makes them have a deep understanding of their contents which are read by them (Bezon et al., 2007). The findings of this study show that how the students were motivated towards their learning through projects, they wanted to explore every side of the content in detail and to share them all with the audience. Teachers' should give autonomy to the students to make them independent learners in which the

students will discover their learning style. The result of doing this will lead them to success and make them a better inquirer. Moreover, Boaler (1997) and Marx et al (1997) reported the effects of PBL on student's knowledge in the subject matter and the challenges they faced during their projects.

Buck Institute for Education (BIE) helps the teachers to implement the PBL in schools. According to them the PBL is defined as: "A teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to a complex question, problem, or challenge" (BIE, 2014a). However, this is a case study of project-based learning which affected the students' reading skills and enhanced their literacy skills, making them independent learners and inquirers. The analysis of the students' reflections revealed the implementation of the projects and their skills which enhances their reading skills which seems that PBL is better than the other instructional models in academic achievements for increasing the cognitive skills. Some studies regarding PBL report the unintended consequences on the part of teachers when they are not trained properly for the planning of the projects before giving it to the students. It is evident through much research that PBL is comparatively challenging for the teachers to plan and ratify.

The researcher collected the data through multiple resources, i.e. observation, reading log and running records. After data collection, organising and analysing the data were the most important and difficult jobs which the researcher performed. Data was analysed through various artefacts and rubrics of the students to get the maximum authentic information and to squeeze it with the respect to that important point should be highlighted. After that, the researcher revealed the findings from data analysis. The findings were almost the same with the objectives. Hence, the findings made the objectives authentic, reliable and more appropriate. This study highlights how PBL has made students involved in the projects and made them inquirer and independent learners than that of other instructional models in this intervention.

References:

- Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. *Clearing House*, 83(2), 39-43.
- Bezon, J., Haar, J., Hugg, R., & Wurdinger, S. (2007). A qualitative study using project-based learning in a mainstream middle school. *Improving Schools*, 10 (2), 150- 161. Doi: 10.1177/1365480207078048.

- BIE (2014a). What is Project-based Learning? [Online]. Available: http://bie.org/about/what_pbl [26 June, 2014].
- Blumenfeld, P. C., Krajcik, J. S., Marx, R. W., & Soloway, E. (1994). Lessons learned: How collaboration helped middle grade science teachers learn project-based instruction. *Elementary School Journal*, 94, 5, 539-551.
- Boaler, J. (1997). *Experiencing school mathematics; Teaching styles, sex, and settings*. Buckingham, UK: Open University Press.
- Bruce, D. (2008). Visualizing literacy: Building bridges with media. *Reading and writing quarterly*, 24, 264-282. Doi: 10.1080/1057360802004126.
- Chall, J. (1983). *Stages of Reading Development*. New York: McGraw Hill. pp. 10-24.
- Doppelt, Y. (2003). Implementation and assessment of project based learning in a flexible environment. *International Journal of Technology and Design Education*, 13, 255-272.
- Friedman, A. M., Heafner, T. L. (2008). Wikis and constructivism in secondary social studies: Fostering a deeper understanding. *Computers in the Schools*, 25 (3-4), 288- 302. Doi 10.1080/07380560802371003.
- Gultekin, M. (2005). The effect of project based learning on learning outcomes in the 5th grade social studies course in primary education. *Educational Sciences: theory & practice*, 5 (2), 548- 556.
- Hernández-Ramos, P., & De La Paz, S. (2009). Learning History in Middle School by Designing Multimedia in a Project-Based Learning Experience. *Journal of Research on Technology in Education*, 42(2), 151-173. Doi: 1980440731.
- Hiebert, E., & Taylor, B. (2000). Beginning reading instruction: Research on early interventions. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 455–482). Mahwah, NJ: Erlbaum.
- Jones, B. D. (2003). Students as website authors: Effects on motivation and achievement. *Journal of Educational Technology Systems*, 31(4), 441- 461.
- Mandel-Morrow, L. & Gambrell, L., Eds. (2011). *Best practices in literacy instruction* (4th edition). New York: Guilford Press.
- Marx, R. W., Blumenfeld, P. C., Krajcik, J.S., & Soloway, E. (1997). Enacting project-based science: Challenges for practice and policy. *Elementary School Journal*, 97, 341-358.
- National Center for Education Statistics. *The Nation's Report Card: Reading 2009* (NCES 2010–458) Institute of Education Sciences, U.S. Department of

Education; Washington, D.C:

2009. Retrieved from http://nationsreportcard.gov/reading_2009.

Patton, A. (2012). *Work that matters: The Teacher's Guide to Project-Based Learning*. The Paul Hamlyn Foundation.

Ross, J. A. (2004). Effects of running records assessment on early literacy achievement: Results of a controlled experiment. *Journal of Educational Research*, 97(4), 186-194.

Thomas, J. W., Mergendoller, J. R. and Michaelson, A. (1999). *Project-based learning: A handbook for middle and high school teachers*. Novato, CA: The Buck Institute for Education.

Tretten, R. & Zachariou, P. (1995). *Learning about project-based learning: Self-assessment preliminary report of results*. San Rafael, CA: The Autodesk Foundation.

Wood, D. J., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychiatry and Psychology*, 17(2), 89-100.

Promoting English-speaking ability in CEFR B2 level by integrating Reader-Response theory with Nonfiction teaching for EFL students

By integrating Reader-Response theory with Nonfiction teaching for EFL students

Watidpan Matmool^{1*} Nippawan Narueprempree²

^{1,2}*Demonstration School, University of Phayao, Thailand*

*Watidpan.m@hotmail.com

ABSTRACT

English-speaking skill qualities as range and coherence are described as Qualitative aspects of the spoken language defined by the Common European Framework of Reference for Languages: Learning, Teaching, Assessment or CEFR which EFL students need to develop. Accordingly, the objectives of the research were to examine CEFR B2 English-speaking skill qualities including range and coherence qualities and to analyze the Reader-Response qualities of EFL students. The participants were selected by purposive samplings who are Science classroom students in upper secondary school, Thailand. The research methods were the Reader-Response lesson plans and semi-structured interviews Pretest and Posttest. The data were analyzed using inductive content analysis for both CEFR B2 English-speaking skills and the Reader-Response qualities. The results in the posttest found that students speaking qualities were enhanced including 1) range quality revealed that students spoke with longer sentences and used sufficient words from the text to speak, and 2) coherence quality showed that students developed simple ideas connected with more logical ideas. Additionally, students' Reader-Response qualities were also improved. They could respond with the four Reader-Response qualities which students learn through 1) themselves, 2) other people, 3) the human experience, and 4) concepts of the good life. In conclusion, integrating the Reader-Response qualities with Nonfiction teaching contributed not only English-speaking skill qualities but also the qualities of cognitive responses of EFL students.

Keywords: CEFR, Speaking skill, Reader-Response, Nonfiction

Introduction

Proficiency in English is a factor for EFL learners need to achieve in their job competitiveness, which is one amongst of the key reasons for career advancement (Choi, 2008). However, one of the most problematic

English skills of EFL students as Thai is English-speaking skills. English-speaking skill has been the difficulties in Thai students which was the challenging and tough skills for them (Kongsontana, 2014; Maskhao, 2002; Siritanarath, 2007; Panyajirawut, 2009). Moreover, according to Education First (2020) report, Thailand's average score is defined as a very low English proficiency country in the rank 20th compared with the 24 countries in Asia. It is presented that the problems of English-speaking skills of Thai students still endure in Thai education, and it needs to be improved for their near future career opportunities (Office of the Basic Education Commission, 2019).

In this study, English-speaking skills in CEFR B2 level (the Common European Framework of Reference for Languages Learning, Teaching, and Assessment or CEFR, 2001) is used as the gauges and assessment for the high school students enrolling in Intensive English course (Office of the Basic Education Commission, 2019). Using CEFR as policy from the Ministry of Education, Thailand contributes to solve English problems of Thai students related to various aspects such as lack of vocabulary source, content to express ideas or teaching activity problems (Kongsontana, 2014; Maskhao, 2002; Srikaew et al., 2015). Lacking content to express ideas is still the problem of Thai learners (Siritanarath, 2007; Panyajirawut 2009).

Furthermore, the Reader-Response Theory or RR is adapted to use in this study as teaching procedures and plans with Non-fiction content to support students to generate and respond to the ideas after comprehending the text (Lamb, 2010; Bean et al., 2014). Employing responding through the text, RR is explained that learners need concepts and ideas to speak and respond coherently connecting with their background knowledge, and personal experiences when analyzing texts (Rosenblatt, 1938, 1978) which can be linked to coherence aspects of CEFR speaking quality (CEFR, 2001).

Accordingly, the present study has been reviewed that using CEFR B2 level advantages to improve and assess language ability as well as teaching procedures of learners (Hulstijn et al., 2012; Worawong et al., 2019). Besides, the RR theory is applied for supporting learners' conceptual ideas responding to the text which they can link to personal, other people, and society (Roen & Karolides, 2005; Woodruff & Griffin, 2017; Pengloon et al., 2020). Overall, both CEFR and RR theory study aims to improve students' English-speaking skills for their 21st-century workplace and paves the way for other further studies about English-speaking skill development.

Literature Review

Common European Framework of Reference for Languages :Learning, Teaching, Assessment or CEFR in B2 level

To examine learners English-speaking skills, the Common European Framework of Reference for Languages: Learning, teaching, assessment or CEFR is used as criteria for mainly 2 objectives on this study, firstly, it was applied for inspecting the appropriation of the text which relay to the CEFR B2 level before teaching

and secondly, it was used as English speaking test rubrics to examine the speaking qualities of learners to reach in CEFR B2 level. The CEFR (2001) defines curriculum design options that endorse multilingual and intercultural learning, it comprises a comprehensive description of language skills and a set of overall reference levels (A1 to C2) defined by descriptive scales and the active clarification of educational purposes and outcomes at all levels. According to the overall spoken production in CEFR, it is described that the language user produces spoken text that is achieved from a personal or public audience, for example by speaking from transcriptions, a written script or visual supports etc. The description of spoken production in CEFR from A1 to C2 levels is explained in Table 1 and it was applied for inspecting the appropriation of the text which relay to the CEFR B2 level before teaching.

Table 1

Overall spoken production

CEFR level	Overall oral production
C2	Can produce clear, smoothly flowing well-structured speech with an effective logical structure which helps the recipient to notice and remember significant points.
C1	Can give clear, detailed descriptions and presentations on complex subjects, integrating sub-themes, developing points, and rounding off with an appropriate conclusion.
B2	Can give clear, systematically developed descriptions and presentations, with appropriate highlighting of significant points, and relevant supporting detail.
	Can give clear, detailed descriptions and presentations on a wide range of subjects related to his/her field of interest, expanding, and supporting ideas with subsidiary points and relevant examples.
B1	Can reasonably fluently sustain a straightforward description of one of a variety of subjects within his/her field of interest, presenting it as a linear sequence of points.
A2	Can give a simple description or presentation of people, living or working conditions, daily routines, likes/dislikes, etc. as a short series of simple phrases and sentences linked into a list.
A1	Can produce simple mainly isolated phrases about people and places.

In accordance with Table 1, the overall spoken production in CEFR B2 compared with A1 and A2 are described that persons can give clearer, more detailed descriptions and presentations on a wide range of subjects related to his/her field of interest with appropriate highlighting of significant points, and relevant supporting detail than A1 and A2 persons who can express a simple description or presentation of the matter. When the B2 is compared with the C1 and C2 levels, the C1 and C2 person can produce clearer, more smoothly flowing well-structured speech with an effective logical structure on complex subjects than the B2 person.

Table 2

Qualitative aspects of spoken language use in CEFR B2

Qualitative aspects of spoken language use in CEFR B2	
Range	Has enough language to get by, with sufficient vocabulary to express him/herself with some hesitation and circumlocutions on topics such as family, hobbies and interests, work, travel, and current events.
Accuracy	Uses reasonably accurately a repertoire of frequently used 'routines and patterns associated with more Predictable situations.
Fluency	Can keep going comprehensibly, even though pausing for grammatical and lexical planning and repair is very evident, especially in longer stretches of free production.
Interaction	Can initiate, maintain, and close simple face-to-face conversation on topics that are familiar or of personal interest. Can repeat back part of what someone has said to confirm mutual understanding.
Coherence	Can link a series of shorter, discrete simple elements into a connected, linear sequence of points.

Additionally, the qualitative aspects of CEFR B2 spoken language are used to evaluate the quality of language used to speak. The 5 qualities of CEFR B2 English-speaking skills comprised vocabulary, accuracy, fluency, interaction, and coherence. Table 2 is presented the conclusion of 5 aspects of B2 CEFR spoken language and in this study, Table 2 was used as the English speaking test rubrics to examine the speaking qualities of learners reaching in CEFR B2 level (CEFR, 2001).

Reader-Response learning goals

Louise Rosenblatt's (1938, 1978) Reader-Response Theory (RR) stated that RR aims to defend the reader's role as an active participant in the creation of meaning from the reading of texts (Iser, 1974). However, Scott (1994) noted that "Reader-Response Theory is not a ready-made model, but rather a collection of critiques that embody the scheme of moving from textual theories to the study of reading." Similarly, students learn to create statements and create test cases. They can provide content for classroom discussions (Lamb, 2010; Bean et al., 2014). Consequently, RR can also be adapted for non-fiction text teaching (Scott, 1994) to show in general how RR works with students' English language development (Kaowiwattanakul, 2020). In this study, RR is adapted to design instructional procedures and generate goal-related speaking test questions under RR-based instruction (Probst, 1994; Lamb, 2010). The learning goals under RR-based instruction are associated with 3 main aspects, which that students learn while reading texts and to which they must respond, including

Students will learn about themselves

Students will learn about others

Students will learn about the human experience

Students will learn about the concepts of good life (Probst, 1994)

Therefore, there are 3 main aspects that learners can practice in order to achieve the learning goals under RR in the study. The teaching procedures and speaking test questions, in the study, emphasized the perception and learning in which students respond through the reading text under RR-based instruction to recognize learning about themselves, other people and society (Rosenblatt, 1938, 1978).

Research Objectives

1. To examine English-speaking ability under CEFR B2 level of EFL students after integrating Reader-Response theory with nonfiction teaching
2. To analyze the responses of EFL students after integrating Reader-Response theory with nonfiction teaching

Methodology

The study was one group experimental research which was collected with qualitative data. There are two sets of qualitative data collected in this study comprised of English-speaking skill data and Reader-Response qualities data. Firstly, researchers planned the procedures of RR teaching by designing the lesson plans and finding the nonfiction's language level in CEFR B2. Afterwards, the materials were checked for IOC from three experts before testing the students in the pretest. Secondly, learning processes were employed to students by researchers. CEFR B2 English-speaking skills and Reader-Response qualities were taught through the online classrooms. Students worked in paired and practiced throughout the learning processes and teachers' feedback was given to them. Lastly, data gathering, and measurement processes were employed to them in posttest as qualitative data for collected both English-speaking skill data and Reader-Response qualities data.

Sampling

The purposive samplings were selected from the upper secondary students who are studying in Science Classrooms in University-Affiliated School Project or SCIUS and systematically categorized their previous English scores into 3 levels including low, medium, and high scores. Consequently, they were 3 students in each level, or 9 samplings totally. The research period was engaged in 4 weeks with 12 classroom periods and each period was taken in 50 minutes. The samplings were reported to possess no hearing or speech impairments and were prepared intimately concerning the analysis before signing a consent form to participate in the study.

Research Instruments

There were two main research instruments on this research including CEFR B2 English speaking test and lesson plans.

1. CEFR B2 English-speaking test

CEFR B2 English speaking test questions were designed by Nonfiction reading text, *Thought on optimism* (Solan, 2021) by Harvard Health Publishing. To test CEFR B2 English speaking skills, the two qualitative aspects of spoken language use in CEFR B2 (CEFR, 2001) were used to examine students speaking skills for both pretest and posttest containing range and coherence (see Table 3).

To test CEFR B2 English speaking as the oral test was used for both pretest and posttest as the same questions and tested by three examiners including two Thai teachers and one native speaker teacher. The participants were ransomed to answer only two questions that tested CEFR B2 English speaking skills.

2. Reader-Response lesson plans

Lesson plans aim to educate students to think and learn through the reading text based on Reader-Response theory. *Thought on optimism* (Solan, 2021) by Harvard Health Publishing, Nonfiction was used as reading text for the learners to reflect and respond (Colman, 1999) and its text was analyzed for CEFR B2 language level. To analyze students' responses, researchers created the questions from the text by using the four RR learning goals to generate questions in the aspects to test how students learn about themselves, how they learn about other people, how they learn about human experience and how they learn about the concept of a good life presented in Table 3.

Table 3

Characteristics of Participants

Reader-Response learning goals (Probst, 1994; Rosenblatt, 1938, 1978)	RRs questions
Students learn about themselves	Do you think mental health is important? Why?
Students learn about other people	What types of activities do you think help people stay healthy?
Students learn about the human experience	Do you think being optimistic is essential for living in society?
Students learn about concept of good life	What do people do to stay optimistic?

Procedure

1. CEFR B2 English speaking test

The participants were required to take pretest and posttest as a semi-structured interview with similar questions and sound recording was used during the speaking test. One participant gained two questions from totally four questions and took around 6 minutes for each participant. The three examiners investigated participants under the CEFR B2 English-speaking skill criteria and took notes while they were speaking for assessment. However, during the Covid-19 pandemic, the test was an online test and the participants had to stay at their place to take the test by video call.

2. Reader-Response quality

The participants were required to take a pretest before being employed by the Reader-Response lesson plan. After participants were applied the RR lesson plans to develop their response towards the reading text, they were required to take the posttest as a semi-structured interview to collect RR data which ere the similar questions from the CEFR B2 English-speaking skill test. The data gained from the posttest aimed to investigate that after the participants were taught by Reader-Response lesson plans, how their responses were developed compared to the pretest and inductive content analysis is used to analyze this data.

Data Analyses

CEFR B2 English speaking ability

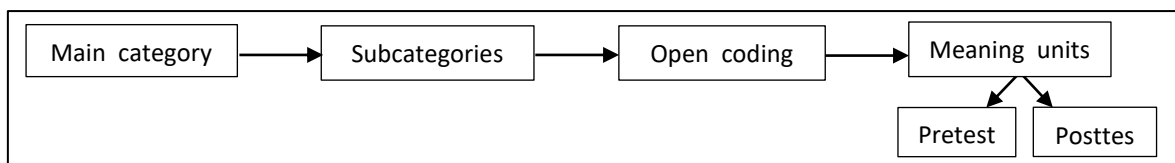
The data from sound recording in the pretest and posttest were analyzed through the following processes. To test participants English speaking ability, two qualities of criteria including range and coherence from CEFR B2 were analyzed by inductive content analysis approach (adapted from Elo & Kyngäs, 2008) shown in Figure 1.

Reader-Response quality

To test participants Reader-Response, four qualities of Reader-Response learning goals (see Table 3) were analyzed by the inductive content analysis approach (adapted from Elo & Kyngäs, 2008) shown in Figure 1.

Figure 1

Inductive content analysis (adapted from Elo & Kyngäs, 2008)



Results

Range of language and vocabulary in CEFR B2

According to the pretest, the range in qualitative aspects of spoken language use in CEFR B2 showed that the students spoke with a short range of phrases and used general words to speak such as happy, bad, exercise, food, sport etc. Likewise, they do not have enough vocabularies to express their idea or perspectives making their speaking responses range too short and lacking enough supporting details such as giving good energy, an atmosphere of working can be good etc. Therefore, when considering the spoken language use in CEFR B2, students performed their speaking ability in range quality that they can respond to the question for short-range and limited words. They also have some hesitation and pause during their speaking performance in the pretest result.

According to the posttest, the range in qualitative aspects of spoken language use in CEFR B2 revealed that the students can speak with a longer range of phrases and used more sufficient words to speak such as promotes, contribute, influence etc. Moreover, they can speak using the words or phrases longer and more sufficient compared with the pretest such as promoting better sleep, focusing on the positive aspects of people, working out your gratitude to be thankful for what they have and sharing it with others with kindness etc. Consequently, considering spoken language use in CEFR B2, students had improved their speaking ability in range quality that they can respond to the question for longer and more sufficient words to speak and express. When compared to the pretest, the result showed that the students can develop their ability to speak English at CEFR B2 level in the posttest result.

Table 4

Range of language and vocabulary in CEFR B2

Open coding	Questions	Meaning units	
		Pretest	Posttest
Using a few/no CEFR B2 words to speak	1.	a bad day / happy / be good in work or play sport	-
	2.	Smile / give good energy / sport / can play like a team or individual / our body will be healthy / exercise, running and jumping	eat a lot of vegetable and fruit / we should get enough sleep every day.
	3.	make not boring / encourage others / atmosphere of working can be good / more stress / work with your team /	-
	4.	try to ignore them / look at the benefits	-
Using some	1.	-	Keep our mind healthy / Generally, mental health includes our emotional, psychological , and social well-being / It affects how we think, feel, and act.

	2.	-	If everyone take care both mental health and physical health, I strongly agree that those people will stay healthy longer / strengthening muscle mass , reduce fat, promotes better sleep, and reduce the risk of obesity / it causes diseases such as Hypertension and Diabetes
	3.	-	All influenced by our thoughts / have good and strong relationships / focus on the positive aspects of people / contribute to a higher quality of life
	4.	-	help others assistance / since the sky will clear after the storm clouds pass, and there will always be a beautiful rainbow / work out your gratitude to be thankful for what they have and share it with others with kindness .

*CEFR words inspected by Cambridge Press

Coherence in CEFR B2

According to the pretest, the coherence in qualitative aspects of spoken language use in CEFR B2 presented that most of the students can speak with simple main ideas linked with straightforward supported ideas such as

If we have a bad mental health it will make our feel bad, smile because when you smile you can give good um..you can give good energy for everyone around you and you can take it from everyone it make um..good healthy and good mental health.

The coherence showed that students can respond to the questions with simple coherence or routine concept idea and they supported the idea by directly expressing in positive aspects which lack essential supported coherence to the main idea they were speaking.

Therefore, considering from coherence quality in spoken language use in CEFR B2, the result showed that the students can link the idea with a simple or general subject and cannot respond to the questions with enough supported ideas to demonstrate coherence in CEFR B2 quality. Also, the coherence they expressed was short and contained discrete simple elements which they need more idea and evidence to link their idea to achieve in CEFR B2 quality.

According to the posttest, the coherence in qualitative aspects of spoken language use in CEFR B2 presented that most of the students can speak with linking the series of coherence. They can respond to the questions using appropriately supported ideas such as

Especially If we and those around us are optimistic. It will contribute to a higher quality of life. When difficult events happen, turn your focus toward a more positive alternative, then everyone in society will make life easier and will be able to live together in peace, without strife.

The coherence demonstrated that students can reply to the questions from discrete to concrete coherence compared to the pretest as well as they supported the idea by responding with enough and appropriated ideas to the main point. Likewise, they adapted the data and knowledge from the reading text to their answer to generate the idea more obvious and accurate.

Consequently, considering from coherence quality in spoken language use in CEFR B2, the result revealed that the students can develop the idea and response in the way of linking from discrete simple elements into a connected sequence of points as CEFR B2 quality explanation.

Reader-Response qualities

The participants were taken pretest and posttest for examining Reader-Response qualities in their speaking by inductive content analysis approach (adapted from Elo & Kyngäs, 2008). The results compared between pretest and posttest (for the questions see Table 3) showed that

1. Students learning about themselves

According to the pretest, when the instructor asked the participants about knowing of mental health importance to examine how they know and learn about mental health toward themselves. Students answer the text with restricted and short responses concerning self-recognition in mental health topics. The answers showed that they can specific and respond to the question with short and unclear details and they cannot justify about reasons enough to present that they have learned about themselves through the text. For instance,

If you have got bad mental health that may be a nasty day however if you have sensible mental health, you'll be terribly happy.

In the posttest, students respond to the text to more extent about self-recognition in mental health topics when finishing the RRs activity. They can respond concerning themselves through the text as the students can answer about the importance of mental health that sensible mental health is extremely necessary for them and justify extra reasons enough to present that they need learning about themselves through the text. For instance,

It can keep their mind healthy; it can have an effect on their thought, emotion, and feeling directly, and good mental health can facilitate them solve issues in daily activity.

2. Students learn about other people

According to the pretest, when the instructor asked the participants about awareness about helping people stay healthy to examine how the students know and learn about mental health affected others. Students

answer the text with everyday or routine activities such as smile, playing sport, eating food or exercise which they think these activities help people stay healthy. For instance,

Exercise in my home just like Umm... run running and jumping in my home that is my that is I do it and the once thing I have to eat the good Umm... the food that healthy for the life.

In the posttest, students respond to the text with details and examples supporting the idea they expressed about activity helping people stay healthy. Students adapted the details of suggestions from the text to respond. For example,

If everyone take care both mental health and physical health, I strongly agree that those people will stay healthy longer.

3. Students learn about human experience

According to the pretest, when the instructor asked the participants about learning in human experience to assess how they learn or find about mental health aspects through human experience. Students answer the text with a limited explanation they were talking about. Likewise, their responses were related to routine situations that happened in daily life. For instance,

If we stay optimistic like smile or be happy and encourage others, the atmosphere of working can be good. It is good for working.

In the posttest, students responded to the text with various concepts of a good life or staying optimistic. Some idea was adapted from the reading text and students applied them to respond. They can give clear examples and explanations about the concepts of a good life or stay optimistic. For instance,

Your gratitude to be thankful for what they have and share it with others with kindness.

to survey about what is the best possible self in the next 10 years this can help you to focus on what you have to do to become yourself that you want to be in the next 10 years.

Discussion

To address the first research objectives, to examine English-speaking ability under CEFR B2 level after integrating Reader-Response theory with nonfiction teaching was reported into two aspects of the CEFR B2 speaking quality.

In CEFR B2 range aspect, the students' English-speaking skill result has developed in the posttest compared with the pretest. Students can speak with a more extended language range and use more varied words

to speak. Although some hesitation can occur during their posttest speaking, they can continually express and speak to complete the questions. Though, when comparing with the pretest results, the students speak with words, short phrases or sentences and use mostly simple words to speak which does not reach the CEFR B2 range quality.

In the CEFR B2 coherence aspect, the students' English-speaking skill result has improved in the posttest compared with the pretest. Students can speak by giving enough supported ideas to the topic they explained and linking the idea with connected points related to questions. Most of the students also give examples to the subject matter to present their English-speaking skills coherently. Nevertheless, when comparing with the pretest findings, the students cannot express ideas with reasoning points to connect with the knowledge, perspective, and experiences they have spoken which reach the CEFR B2 range quality.

To address the second research objective, to analyze the responses after integrating Reader-Response theory with nonfiction teaching was presented into four aspects of the Reader-Response quality (Probst, 1994; Lamb, 2010) compared with the pretest and posttest. The findings are presented including

1. Students will learn about themselves: Students responded to the question by connecting with their self-recognition toward the content they have and expressed both the positive and negative aspects that can happen toward themselves.

2. Students will learn about others: Students thought about issues affecting other people and presented their sympathy to them. They can realize both problems and solutions found in the reading text.

3. Students will learn about human experience: Students gained facts and experiences in the text linking with their own or close people experience as well as expressed with the suggestions from real experience found in the text.

4. Students will learn about concepts of the good life: Students learned to have positive aspects shown in text and choose some benefits to connect with their real-life and also suggest guidelines to others through the reading text.

Conclusion

As a result, using CEFR B2 quality and integrating Reader-Response theory with nonfiction teaching contributed learners to improving their range of language and coherence of English-speaking ability presented in CEFR B2 qualities. Using CEFR B2 as a guideline contributes to the development of speaking skill qualities.

Furthermore, integrating Reader-Response theory with nonfiction teaching contributed learners to improve content and idea used in speaking. Also, the RRs learning goals qualities shape their cognitive idea responding in speaking. In conclusion, to improve students' English-speaking skills, teaching should comprise of CEFR language qualities as the framework and the qualities of cognitive ideas for further developing EFL learners English-speaking performance.

Acknowledgment

This research is funded by the budget of Demonstration School, University of Phayao.

References

- Bean, J. C., Chappell, V. A., & Gillam, A. M. (2014). Reading rhetorically.
- Colman, P. (1999). Nonfiction Is Literature, Too. *New Advocate*, 12(3), 215-23.
- Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching, assessment*. Cambridge, U.K: Press Syndicate of the University of Cambridge.
- Choi, I. C. (2008). The impact of EFL testing on EFL education in Korea. *Language testing*, 25(1), 39-62.
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of advanced nursing*, 62(1), 107-115.
- Kaowiwattanakul, S. (2020). Using literature circles to promote the English-speaking skills of engineering students in English for specific purposes classrooms. *LEARN Journal: Language Education and Acquisition Research Network*, 13(2), 414-425.
- Kongsontana, P. (2014). *Effects of English-speaking instruction using digital game activities on English speaking ability of Thai secondary students* (Doctoral dissertation, Chulalongkorn University).
- Lamb, M. R. (2010). Teaching nonfiction through rhetorical reading. *English Journal*, 43-49.
- Office of the Basic Education Commission. (2019). *Guidelines for 3 Level of Intensive English Development to international level*.
- Probst, R. E. (1994). Reader-Response theory and the English curriculum. *The English Journal*, 83(3), 37-44.
- Roen, D., & Karolides, N. J. (2005). Louise Rosenblatt: A life in literacy. *ALAN Review*, 32(3), 59.
- Rosenblatt, L. M. (1982). The literary transaction: Evocation and response. *Theory into practice*, 21(4), 268-277.

Scott, L. M. (1994). The bridge from text to mind: Adapting Reader-Response theory to consumer research. *Journal of Consumer research*, 21(3), 461-480.

Solan, M. (2021, July). Harvard Health Publishing. Retrieved from <https://www.health.harvard.edu/mind-and-mood/thoughts-on-optimism>

Srikaew, D., Tangdhanakanond, K., & Kanjanawasee, S. (2015). Development of an English-speaking skill assessment model for grade 6 students by using portfolio. *Procedia-Social and Behavioral Sciences*, 191, 764-768.

Woodruff, A. H., & Griffin, R. A. (2017). Reader-Response in Secondary Settings: Increasing Comprehension through Meaningful Interactions with Literary Texts. *Texas Journal of Literacy Education*, 5(2), 108-116.

Teaching Vocabulary in English for Specific Purposes: Aspects of Its Implementation in Classroom

Thidawan Wichanee

Sakon Nakhon Rajabhat University, Sakon Nakhon, Thailand

thidawanwichanee@gmail.com

ABSTRACT

Since vocabulary mastery is widely discussed as it is the pivotal basis of teaching language, there are various elements for language teachers and language practitioners to consider when it comes to teaching and learning language in classroom settings. In the areas where English is used as a foreign language (EFL), in particular, learners are from different backgrounds which affect their vocabulary learning. It is useful to scope the way of teaching and learning to benefit all those learners to achieve their goals. The scope of article embraces teaching vocabulary with learners who take English as a foreign language. This paper, as well, aims to investigate the aspects in teaching vocabulary in ESP Course with EFL learners and to study the extent of teaching and learning vocabulary in an ESP strand. The 10 selected papers are taken from the journal "Asian ESP Journal" from 2005-2018, the journal itself covers language acquisition, language learning, and language assessment. The methodology used in this study relies on the concepts of meta-analysis, focusing on commonalities and differences each article has to offer, based on aspects of vocabulary knowledge framework of Nation (2001). The results are drawn in to three main aspects of teaching vocabulary, form with two studies in field of medical and dentistry area, meaning fell into a study of vocabulary in theology context and business realm, and use found in technology-assisted studies in field of economics, academic writing, and teaching English.

Keywords: Vocabulary Instruction, English for specific purposes,

Introduction

Today's world has been calling for a mutual language that is used to communicate in all walks of life. English is extensively lodged in every industry, this phenomenon leads educational institutions to entail English in the mandatory orders. For that matter, English mastery tends to take a huge part in fields where the different goals are professionally appointed. Among English capabilities, vocabulary is viewed as the threshold for learners to work with other significant skills as listening, speaking, reading, and writing. Teaching vocabulary in a realm of ESP has become another crucial basis for learners as a primary base to expand their learning perceptions to other skills. It is viewed as an indispensable part of syllabus and instruction. For instance, grammar can be systematically constructed in terms of accuracy and forms, thus, vocabulary sophistication is helpful for language learners to build up the language to communicate based on vocabulary they know. That is, the other skills require vocabulary to be the essential parts of skill practices.

Vocabulary learning is viewed as the essential process to language learners to successfully and accurately express their ideas in all forms. Wilkin (1972) proposed that without grammar the content might not be perfectly conveyed, but without vocabulary, nothing is conveyed at all. Theoretically, vocabulary learning has been divided into two approaches; intentional learning and incidental learning. Intentional learning refers to the instruction consisting of vocabulary-focused activities. Learners intentionally put their attempt to achieve target vocabulary (Robinson, 2001). Whereas incidental learning can be occurred when learners learning primarily learn something else and perceive the vocabulary unavoidably (Laufer & Hulstijn, 2001). Moreover, vocabulary learning has also been added on three aspects; form, meaning, and use (Nation, 2001). The first aspect, form, concerns word structure in terms of sound, pronunciation, spelling, or formation. Followed by meaning aspect, this one focuses on semantic properties, concepts and contexts that words take place in. It does not involve the word itself alone, but the association and how the word lead learners to think of something else is the function of this aspect. The third aspect, use, patterns are main focus and they appear in grammatical functions, collocations, and constraints on use.

Regarding the distinction between vocabulary practice in professions, the mastery of vocabulary seems to be very important but not only the vocabulary itself, the related elements as teachers, teaching styles and course materials also affected students' language acquisition. From those mentioned rationales and concepts, ESP vocabulary should be taught in particular subject areas and teachers as well as learners have to build up a good atmosphere in the classroom (Coxhead, 2013). For that reason, any relevant issues as course design, course materials and ESP tendency should be taken into account as the important parts. Over the past decade,

researches into vocabulary acquisition and use of it have been published and they can be accessed by the public. The author has selected ten papers in different time frames from "The Asian ESP Journal" (2005-2018) which covers aspects of ESP courses with various kinds of learners to study and analyze the aspects of teaching vocabulary. This paper also provided some perspectives with its intention to fulfil the gap in teaching vocabulary in classroom where existing the learner's variety and different experiences of learners.

Research Objectives

- 1) To investigate the aspects in teaching vocabulary in EFL context.
- 2) To study the extent of teaching and learning vocabulary in an ESP strand.

Research questions:

- 1) How do the chosen studies reflect the aspects of vocabulary learning?
- 2) To what extent that teaching vocabulary for ESP branches out to?

Methodology

The aims of this paper were to investigate the aspects in teaching vocabulary in EFL context and to study the extent of teaching and learning vocabulary in an ESP strand. The library research method is applied in this study with the ten selected paper from "The Asian ESP Journal" during 2005-2018, the studies were conducted with L2 and EFL learners in different fields. This study was divided into two parts which are data collection and analysis stage. First, the researcher selected the journal and considers the articles in which their studies were in vocabulary-oriented area. Afterwards, those articles were analyzed through the vocabulary learning framework which covers the aspects of form, meaning, and use (Nation, 2001). The data from studies were chronologically analyzed to see the mentioned aspects of teaching vocabulary as well as the trend and scope from past to present.

Samplings/Participants

This study applies ten articles from "Asian ESP Journal", the journal which recruits articles from across the world. The articles focus on teaching English for specific purposes and the researcher tends to select the ones with EFL participants to see the relation, between aspects of teaching vocabulary and the selected data.

Selected papers from Asian ESP Journal

Years	Titles
2005	Nursing Pre-Professionals Medical Terminology Learning Strategies
2006	Corpora Application to Economics Presentations
2009	Definition in Theology Lectures: Implication for Vocabulary Learning
2011	Vocabulary Comprehension and Learning in an ESP Context: Strategy Use and Knowledge Sources
2012	A Lexical Corpus Based Analysis of L2 Academic Vocabulary
2015	Exploring the Development of Lexical Verbs in Academic Writing: A Multiple-Case Study of Three Chinese Novice Researchers
2015	Critical Evaluation of Lexical Categories in ESP Textbooks Used for Iranian Dentistry Students: The Gap between Perceived and Real needs
2016	Examining Business English Majors' Business Vocabulary Knowledge Development
2017	The Effects of Explicit Academic Vocabulary Instruction in an English- Mediated Educational Psychology on EFL Learners' Content Knowledge
2018	Mobile Learning in TESOL: A Golden Bridge for Enhancement of Grammar Awareness and Vocabulary Mastery?

Results

Throughout the data analysis under the purposes of investigating vocabulary learning aspects and other relevant issues in classroom setting, this part discussed the aspects from data selected along with the two research questions.

RQ1: How do the chosen studies reflect the aspects of vocabulary learning?

Form

Since form involve the precision of word use namely spelling, pronunciation, or word parts, the implementation of this aspect can be seen in the studies of medical terminology and dentistry area (Yang, 2005 & Bosharabadi, Biria & Nijbakht, 2015). The intentional vocabulary learning was implemeted in classroom of nursing students and the finding revealed that the nursing students leaned toward word repetition, verbal repetition and bilingual dictionaries. Similarly, the study of academic writing through corpus-based learning also provide intentional vocabulary learning. The students enrolled in dentistry learned technical and semi-technical terms from textbook. They learned vocabulary directly from the profession territory and that made obvious use of word since the textbook fostered them to read and write about the target area.

Meaning

Meaning in this area covers form and meaning that take place in concepts and association, this form was presented in teaching vocabulary for theology classroom and English for business realm (Clouston, M., L. (2009) & Yan, 2016). Regarding vocabulary and meaning, it is more than the word alone that can convey the entire message. In the area of theology, a study conducted by Clouston with 8 lecturers and 269 definition of theology introductory course showed a variety of meanings and details in theology classroom. Also, the study presented the data collected in theology lectures, the researcher found two formal and semi-formal categories used in different times of lectures and they were used purposefully. Theology touches a number of abstract topics and concepts. It can be interpreted accordingly to individuals' experiences, norms, or beliefs. In the same way, Yan (2016) investigated the extent of learners' mastery of vocabulary in business academic vocabulary due to their future education of academic journals and research papers they may have to articulate their knowledge of vocabulary regarding meanings in business context. The finding presented the correlation between size of vocabulary and their writing score. Since this study conducted with four levels of students, the finding has affirmed that the more vocabulary they know the better score they achieve. They could pass on the meaning into their practice. The aforementioned pieces of work pointed that teaching vocabulary permeates into language teaching as the foundation and linkage to other skills and appears in all strands of English teaching and learning

Use

This aspect has added on grammatical functions, collocations, or the context of use. It can be seen through the studies conducted with the technology. Technology has increasingly applied to instruction due to its facilitation that accommodates both teachers and learners to easily access more information about vocabulary teaching and learning freely. As corpus studies which provide convenience of frequency of vocabulary use. The terms studies were in business area (present, current, state, state of affair, condition, situation, Etc.) where settings are crucial when learners refer to the certain points or issues. For example, Suzuki (2006) examined L2 student presentation vocabulary in PowerPoint presentations in Economics by using corpora and the researcher found the frequency of use by concordance data which facilitated the researcher when conducting the study. The distribution of corpora explicitly shows validity of frequency use of terms. Kachan&B asha (2012) studied the extent of vocabulary among L1 Arabic learners in a low academic English proficiency by exploring their writing ability through essays. Corpus-based analysis was applied to their study as the program outperformed the numerical data and pointed out that word repetition was used the most. Besides, Kurniawan & Tanone (2018), explored the use of mobile phones whether it affects enhancement of grammar awareness and vocabulary mastery. The result revealed that Mobile Learning had an effect on those abilities in a positive way. If the terms that appear in the lesson are unfamiliar, learners may access a website or online dictionary to check their definitions and to specify whether they are technical terms, semi-technical terms or core general terms that are used widely, the result points that Mobile Learning has been introduced to class since it assists students to learn words through their familiarities of using technological gadgets and m-learning provided them flexibility and creativity when learning grammar.

RQ2: To what extent that teaching vocabulary for ESP branches out to?

Teaching vocabulary in ESP has been conducting in various areas, the purposes are determined as to foster students to use effective vocabulary in appropriate situations. From the studies, teaching vocabulary in ESP has also extended its area to English for Occupational Purpose (EOP). The study of Yang (2005) and Boshrabadi, Biria & Nikbakht, (2015) discussed students' vocabulary acquisition toward nursing and dentistry area. The findings presented vocabulary acquisition in both intentional and incidental method of learning. The learners in nursing realm had worked on strategies to remember medical vocabulary and they preferred to achieve them by writing, repeating, and using bilingual dictionaries. Similarly, technical and semi-technical terms

had also come to play in an area as the students presented their needs on terms appeared in textbooks. The tendency of vocabulary in ESP also focused on the extent and the use of vocabulary in EAP through English proficiency tests like TOEFL, SAT, IELTS which require test-takers to write essays. From their study, it can be seen that EAP concerns the writing process, academic writing in particular. The reason is when writing in an academic way, learners need to elicit their academic terms and they were taken to upload to the Web Vocabulary Profiler and their length conformed with English Entrance Examination. *Kachan&Basha (2012) investigated L1 Arabic in a low academic English proficiency using their essays from their writing class.* Teachers took bridging activities to the class and students were asked to write topics about parents and teenagers which could enable their experiences in their works. In 2015, Jin explored Chinese researchers' academic writing to see their development of using lexical verbs. From those studies, the participants were from higher levels of education. Continuously, academic vocabulary instruction was studied by Chou (2017), English as a medium language course carried sets of vocabulary and participants show their satisfactory to Explicit Vocabulary instruction due to academic words are specialized and discipline-specific which can be used in particular events in that field. The spread of teaching and learning vocabulary in EAP shows the importance of target vocabulary as the increasing number of occupations involving academic industry or even in the higher-level education. Besides, the study of vocabulary in ESP is adjacent to the area of EBP, as the jargons are very much used in the field and facilitates communication among stakeholders. Yan (2016) conducted the research to draw the pattern of vocabulary use frequency with business English major across four grades levels and it was found that the vocabulary sizes correlated to the levels of participants. This did not indicate the consistency of business vocabulary since the senior students acquired some of those from their previous classes and for the freshmen; they knew only a few vocabulary words because of their lack of experience.

Discussion

Due to the findings of this study, the three aspects of vocabulary had been reflected in different fields. Among EFL students, more than knowledge play its role in classroom, *teaching vocabulary in the classroom is still not successful due to various evidences showing that vocabulary knowledge in the classroom is extremely limited. The learners are not be able to convey their forensic messages since they lack of vocabulary in context and the process of learning is often interfered by the struggles occur from not knowing the suitable words to play with (Fan, 2003 & Schmitt, 1997). The findings lead to the discussion of further relevant issues which EFL teachers should be concerned.*

First, need analysis, the core of any courses in ESP should emerge from needs and need analysis of learners. The different use among technical terms, semi-technical terms and business terms has effects on the target situations. The ways to validate learners' needs are various but the key is they must be reliable so that much time will not be wasted with the wrong needs. Dudley-Evans & John (1989) mentioned that experience and research help to extend the definitions of need and need analysis. From Boshwabadi, Biria & Nikbakht (2015) statement 'it was found out that there was a gap between needs of the students and the types of vocabulary items included in the textbook'. This statement can be interpreted that learners' needs should be explored beforehand to know what they really need in accordance with Hutchinson & Waters (1987) mentioned the necessity of wants and lacks. This implies that data collection of needs involves what learners already know and what kind of terms they need to know. In this part, ethnographic approaches can be used to collect the data since there are various kinds of methods which are suitable in this area. There are many ways such as observation, interviews, narrative or document analysis to take into account in the collection process. Lillis (2008) took non-participant and participant observation to explore the differences of multicultural students in the writing class and she also interviewed them to get more details as well as analyzed relevant documents. Afterwards, she finally identifies learners' problem and also the unheard voice of them. Therefore, need analysis seems to be very crucial in a way that it is completely done effectively. Hence, learners' need analysis is prioritized in the area of ESP.

It is reasonably apparent if we know the length of terms from need analysis. Then, material designers could draw the relation to their products (Boshwabadi, Biria & Nikbakht, 2015), supported by Long and Norris (2000) that two important issues of teaching lexical are items and types. Critically, some English terminology and references were presented on their prior course. The learners might need to learn new terms from different knowledge sources (Akbari, 2011; Khachan&Bachan, 2012). Consequently, teachers' teaching styles should match with learners' identity. From those mentioned studies, it can be seen that learners' identity affected their perception.

Second, materials, it can be seen that the difference of using materials in ESP since in the past, printed materials were focused on rather than technological materials. Afterwards, the presence of the internet, computer-based corpora or even online applications insists the wide use in ESP. The tendency leads us to believe that in this era of globalization, the use of gadgets is explicitly increasing. Thus, we may get more involved with those kinds of them and the instruction will be changed as well. In addition, teachers are able to explore the online world to see the trends, compare instructions with other different teaching areas to see the commonalities or the gaps that can be analyzed in their research. In addition, materials in ESP are also considered as vital tools

in ESP. Some research has investigated their effects toward learners' acquisition. Bosharabadi, Biria & Nijbakht (2015) investigated lexical categories in ESP textbooks; *English for Students of Dentistry (2003)* among dentistry students. There are still debatable critiques among scholars as textbooks have presented teachers' teaching ideas through this kind of material, how teachers help students to accomplish their goals of learning the course. Tomlinson (2008), textbooks represent the teaching process and how learners perceive their knowledge. Besides, textbooks can sometimes help students when they hesitate with their learning process or when they take class with less experienced teachers. On the other hand, ESP textbooks should be prepared for learners' real needs and they seem to have a diversity of needs (Gilbert, 2005). However, the finding of Bosharabadi, Biria & Nijbakht's research shows us that the target textbook fostered the lexical requirements of participants as 66.8 % of them agreed that semi-technical words were adequate for them to comprehend English texts. From those findings, we can infer that target textbooks should be derived from various constituents and they might appear in empirical works. Brown's (1984), "the differences between needs analysis and program evaluation may be more one of focus than of the actual activities involved". This statement indicates that apart from textbooks there are still more pieces to be considered like needs analysis and course evaluation.

Lastly, teachers and learners, teachers are key informants in ESP, to construct learners' concepts of language. There are 2 points for language teachers to be concerned with during teaching and learning vocabulary namely teaching process and the awareness of learner's nature. Teaching process concerns lesson plans and evaluation which represent learners' target vocabulary they learn from courses. The management should add culture awareness in the classroom with multicultural learners as well as the suitable evaluation that will be taken to assess learners' vocabulary competence at the end of the class. In terms of lesson plans, teachers should know the classification of vocabulary as terms and categories (technical terms, semi-technical terms and business terms) in selected materials. Learners with specialized fields have different needs of vocabulary that they are going to apply to their lives.

Currently, learner-centered oriented seems to be a suitable approach used in teaching and learning vocabulary in ESP, proved by research findings of Yan and Akbari. These imply teaching and learning vocabulary as the process which base students with various activities in the classroom. There are still more strategies suggested by Wu & Wang (2004) namely; contextual guessing, memorizing, Affixes learning, repetition and recycling a word, relating a word in reality and brainstorming activities. Finally, the awareness of learners' identities should be integrated in the instruction. The differences of learners show their uniqueness and the specific needs of their future occupations. It is hard to mention identity without culture, learning activities in

sociocultural contexts can confuse learners if those activities are not planned to suit them. This analysis claims that in today's instruction, teachers should focus more on a learner centered-oriented approach because of their specific different needs which represent their goals that they would have accomplished from taking the appropriate courses.

Conclusion

The trend of teaching and learning vocabulary in ESP bends from the studies of strategies to the extent of vocabulary in target areas. Some researchers took corpora applications to identify learners' vocabulary areas. Corpus studies have been consistently taken into research on vocabulary in ESP. Laviosa (2000) suggested that "the individual teacher ...should use the largest corpus practicably available", the students should be maximized their vocabulary extents and know lexical choice when communicating the real life. Later, vocabulary teaching and learning expands its area of EOP, EBP, and EAP in particular because the needs of L2 learners require academic discipline and study skills in their academic courses (Dudley-Evans & John, 1998). Furthermore, recent studies focus on using technology in the teaching process which provides both advantages and disadvantages to learners and this responsibility belongs to teachers to manage their instruction critically and creatively.

References

- Akbari, Z. (2011). Vocabulary comprehension and learning in an ESP context: Strategy use and knowledge sources. *The Asian ESP Journal*, 7(2), 5-27.
- Boshrabadi, A. M., Biria, R., & Nikbakht, E. (2015). Critical Evaluation of Lexical Categories in ESP Textbooks Used for Iranian Dentistry Students: The Gap between Perceived and Real Needs. *The Asian ESP Journal*, 2(2), 98-129.
- Chou, I. C. (2017). The effects of explicit academic vocabulary instruction in English-Medium Educational Psychology on EFL learners' content knowledge. *The Asian ESP Journal*, 13(2), 144-179.
- Clouston, M., L. (2009). Definition in Theology Lectures: Implication for Vocabulary Learning. *The Asian ESP Journal*, 5(1), 7-22.
- Coxhead, A. (2013). Vocabulary and ESP. *The handbook of English for specific purposes*, 115-132.

- Dudley-Evans, T., St John, M. J., & Saint John, M. J. (1998). *Developments in English for Specific purposes: A multi-disciplinary approach*. Cambridge university press.
- Fan, M. Y. (2003). Frequency of use, perceived usefulness, and actual usefulness of second language vocabulary strategies: A study of Hong Kong learners. *The Modern Language Journal*, 87(2), 222-241.
- Gilbert, R. (2005). Evaluating the use of multiple sources and methods in needs analysis: A case study of journalists in the autonomous community of Catalonia (Spain). In M.H. Long (Ed.), *Second language needs analysis*, Cambridge: Cambridge University Press.
- Hutchinson, T., & Waters, A. (1987). *English for specific purposes*. Cambridge University Press.
- Jenkins, J. (2007). *English as a lingua franca: Attitude and identity*. Oxford University Press.
- Jin, B. (2015) Exploring the Development of Lexical Verbs in Academic Writing: A Multiple-Case Study of Three Chinese Novice Researchers. *The Asian ESP Journal*, 11(1), 7-38.
- Khachan, V. & Basha, N., N. (2012) A Lexical Corpus Based Analysis of L2 Academic Vocabulary. *The Asian ESP journal*, 8(1).53-74.
- Kurniawan, M. (2018). Mobile Learning in TESOL: A Golden Bridge for Enhancement of Grammar Awareness and Vocabulary Mastery. *Asian EFL Journal, Research Edition*, 8, 155-159.
- Laufer, B., & Hulstijn, J. H. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics*, 22, 1–26.
- Laviosa, S. (2000). TEC: A resource for studying what is "in" and "of" translational English. *Across Languages and Cultures*, 1(2), 159-178.
- Lillis, T. (2008). Ethnography as method, methodology, and "Deep Theorizing" closing the Gap between text and context in academic writing research. *Written communication*, 25(3), 353-388.
- Long, M. H., & Norris, J. M. (2000). Task-based teaching and assessment. *Encyclopedia of Language teaching*, 597-603.
- Nation, I.S.P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.

- Robinson, P. (2001). *Cognition and second language instruction*. Cambridge, England: Cambridge University Press.
- Schmitt, N. (1997). Vocabulary Learning Strategies. In D. N. Schmitt, & M. McCarthy (Eds.), *Vocabulary: Description, Acquisition and Pedagogy*. Cambridge: Cambridge University Press.
- Suzuki, R. (2006). Corpora applications to economics presentations: A case study. *The Asian ESP journal*, 2,54-73.
- Tomlinson, B. (Ed.). (2008). *English language learning materials: A critical review*. Bloomsbury Publishing.
- Wilkins, D. (1972). *Linguistics in language teaching*. London, England: Arnold.
- Wu, J., & Wang, B. (2004). *The Role of Vocabulary in ESP Teaching and Learning*. Oral Presentation at the Fourth International Conference on ELT in China" New Directions in ELT in China.
- Yan, L., & Yang, Y. (2016). Examining Business English Majors' Business Vocabulary Knowledge Development." *the Asian ESP Journal*, 12(3).
- Yang, M. N. (2005). Nursing pre-professionals' medical terminology learning strategies. *The Asian ESP journal*, 5, 13-24.

The Teacher's Beliefs and Practices in Online Teaching

Amseva M. Bentayao^{1*} *Henedina Felipa D. Entera*² *Rosa Medel Libot*³ *Angilly C. Librea*⁴

^{1,2,3,4}*Teacher Education Department, San Pedro College, Davao City Philippines*

**amseva_bentayao@spcdavao.edu.ph, henedinaentera@gmail.com*

rosedhelalde@gmail.com, angilly_librea@spcdavao.edu.ph

ABSTRACT

The emergence of COVID 19 has driven various changes in the educational landscape, including how teachers teach and students learn. This study investigated the teachers' pedagogical knowledge beliefs and online teaching practices. One hundred four faculty members at San Pedro College were surveyed via Google Form using the Pedagogical Knowledge System and Online Teaching Practice survey questionnaires. With the descriptive correlative design, this study used mean, standard deviation, and Pearson's R Product Moment correlation coefficient for its analysis. The results showed that the teachers' pedagogical knowledge beliefs in all five dimensions, namely classroom management, assessment, teaching methods, learning process, and individual student characteristics, are extremely high. In terms of online teaching practice, the instructors highly practiced the principles of feedback, student-faculty contact, active learning, time on task, ways of learning, expectations, and student cooperation. Further, pedagogical knowledge beliefs and online teaching practices of instructors are significantly related. When the pedagogical knowledge beliefs of teachers increase, online teaching practices also increase. The researchers recommend that administrators develop policies that incorporate the seven effective teaching principles for online teaching and provide retooling for instructors. Similarly, teachers need to be metacognitive and methodical in sustaining their efforts to align their pedagogical knowledge beliefs and online teaching practices.

Keywords: pedagogical knowledge, beliefs, online teaching practices, principles

Introduction

The educational landscapes globally are going through challenging changes since most Education institutions have been closed worldwide due to COVID 19 Pandemic. Today, online learning spans all educational levels, with technology playing a pervasive part in course delivery. In April 2020, 186 nations had imposed countrywide closures, impacting about 73.3 percent of all registered learners (UNESCO, 2020). Since the complete lockdown, educational institutions have resorted to online ways to guarantee students' continuation of learning, as conventional face-to-face instruction was rendered impossible in this unique circumstance.

In the Philippines, the shift to online classes is revolutionary in many ways, whereby conventional face-to-face instruction was extensively practiced until recently. While it is widely recognized that the internet presents a major technical breakthrough in education, entirely online courses have created a slew of complications for both the teaching and studying communities. Educators have grappled about adjusting their previously held beliefs to reconcile them in their practice in this new normal in education.

Various researchers have claimed that teachers' beliefs play essential roles in many aspects of their teaching (Buel & Beck, 2015; Bolyai, 2016). It is almost a shared understanding that the belief system of its implementers heavily influences teaching. Perera and John (2020) elucidated that teachers' beliefs have the most profound and intensive impact on their instructional judgments and teaching process. However, Ottenbreit-Leftwich, Liao, Sadik, and Ertmer (2018) argued that there is usually a mismatch between what teachers say and how they act when teaching. If this happens, learners will likely receive confusing messages from their teachers, especially in online learning.

Notwithstanding the enormous studies of teachers' beliefs and practices, there seems to be relatively scarce literature examining teachers' beliefs in online teaching, particularly in the Philippine context. Specifically, studies that examine teachers' convergences and discrepancies and their teaching practices in a virtual classroom are relatively unfamiliar. Many studies merely focused on examining teachers' beliefs and practices in a traditional class setup, which is face-to-face. At the same time, other scholars concentrated only on explaining the sociocultural variables contributing to the discrepancy between beliefs and actions by citing Vygotsky's theories (1978). Even within the more substantial portion of studies using teaching technologies, the correlation between teachers' beliefs and their virtual instructional practices still needs further investigation due to the newly emergent issues brought about by Corona Virus Disease (COVID) 19 pandemic.

Several instructors' professed that their beliefs are not reflected in their practices in an online setting. With technology permeating the learning environment, the need for effective teaching cannot be overlooked or considered an inherent faculty characteristic. Consequently, as teachers, the researchers were motivated to shed light on the teachers' pedagogical knowledge beliefs (PK) and their online teaching practices.

Pedagogical Beliefs

Luft JA, Zhang's (2014) research showed that although beliefs and practices are changeable, they are influenced differently and by distinct variables. Their study concluded that teachers' beliefs are affected by program assistance during their formation. Over time, these teachers' beliefs are shaped more by their school cultures than by their induction programs. When these instructors officially join the profession, their beliefs and behaviors are continually tested by their interactions with students and colleagues. Consequently, during the early years of teaching, beliefs and behaviors are changed in reaction to the school environment.

Fives and Buehl (2005) theorized pedagogical belief to reflect a teacher's view in teaching and the factors attributed to that conception. Three aspects of pedagogical beliefs include beliefs about knowledge, its form and

content, and beliefs about the role of teaching as a skilled enterprise. Beliefs about knowledge refer to the value teachers place on specific forms of knowledge necessary for teaching (i.e., procedural, conditional, and declarative). Likewise, Malva, Leijen, & Baucal (2020) referred to pedagogical knowledge (PK) beliefs as the teachers' specialized knowledge that promotes effective teaching and learning settings for all students, regardless of the topic (Malva, Leijen, & Baucal, 2020).

Voss, Kunter, and Baumert's model of broad pedagogical knowledge (2011) defined PK as the information necessary to establish and maximize teaching-learning settings, including generic procedural knowledge of successful teaching transferable across a range of topics. Their conception of PK includes five sub-dimensions: classroom management knowledge, teaching techniques knowledge, classroom assessment knowledge, learning processes knowledge, and individual student characteristics. These components emerged from a study of different school learning models to create a unified conception of general pedagogical knowledge based on classroom teaching needs. These components emerged from a study of different school learning models to create a unified conception of general pedagogical knowledge based on classroom teaching needs (Fives & Buehl, 2005). The importance of teachers' pedagogical knowledge (PK) has been highlighted as a prerequisite for successful teaching. Farrell and Voss (2018) found that PK beliefs have a significant role in instructors' viability and critical execution. Similarly, Bolyai (2016) emphasized the importance of PK in instructors' objectives, instructional methods, etc. It is founded on the belief that teaching entails more than just communicating subject information to learners since it covers various instructional domains.

Online teaching practices

Chickering and Gamson's (1987) proposed seven principles of good practice to address teaching quality practices: (1) interaction between students and teachers, (2) student collaboration, (3) active learning, (4) quick feedback, (5) time on task, (6) high expectations, respect for different abilities, (7) and modes of learning. Premised on these principles, Taylor (2002) created a survey tool to determine how teachers integrated the seven criteria for effective undergraduate education practice into their online courses. Since then, these principles have grown in popularity and are now extensively utilized in education (Batts, 2005; Batts, Colaric, & McFadden, 2006; Karoglu, Kiraz, and Özden, 2014).

(1) Effective teaching practices foster student-faculty interaction. Crews, Wilkinson, and Neill (2015) found that consistent and meaningful communication with students increases students' level of engagement. Instead of physically engaging with students in a conventional classroom setting, instructors must engage with them virtually and spend time replying to students' emails, messages, and discussion board postings. It enables them to ascertain which course material students are struggling with and then offer appropriate assistance to assist them in overcoming obstacles. (2) Good teaching practices encourage collaboration and dynamic learning. Johnson and Johnson (2014) suggested that learning improves when it is more akin to collaborative efforts than working

alone. As with good online teaching practice, collaboration the friendly, positive competition promotes a desirable learning environment. (3) Constant positive stimulates active learning. Tirell and Quick (2012) observed that teachers that made advances toward actively engaging online students had modest effectiveness in decreasing student attrition. (4) Successful online instruction includes timely feedback. Immediate feedback refers to instructors providing constructive feedback on assignments, exams, and questions. Johnson and Johnson (2014) considered short feedback in college courses has a decent and favorable correlation with students' achievement and satisfaction.

On the other hand, (5) Effective teaching practices emphasize the importance of time spent on a task (Watters, 2014). (6) Good online teaching practice establishes high standards for teaching. Cable and Cheung's (2017)

research has shown that when instructors set a high bar for their student's performance, they often meet it (Cable and Cheung) (2017). In other words, increased expectations contribute to improved student performance. (7) Finally, respect for different abilities and learning modes are fundamental components of effective teaching. This is based on the idea that successful teaching acknowledges and accommodates students' talents and learning styles. As Gollnick and Chinn (2013) observed, education needs instructors to educate students with various cultural origins, learning capacities, learning styles, and various other traits.

According to Bigatel, Ragan, Kennan, May, and Redmond (2012), technology may leverage the seven principles in effective teaching. They discussed how to transfer these concepts from the face-to-face context to the internet world. Thus, since these seven principles have been shown to improve the quality of learning in conventional higher education classrooms, their applicability to the online environment should also be considered.

Teacher's Pedagogical beliefs and practices

Investigating teachers' beliefs entails understanding their educational practices and, in particular, their direct effect on teaching and learning. Deng et al. and Ding, Lu, Leftwich, and Glazewski (2019) discovered a correlation between teachers' views and their use of technology in teaching methods. According to Ding et al. (2019), instructional practices are often the product of instructors' pedagogical knowledge and intuitive decisions based on their experiences and views about how the subject matter should be taught. When instructors are exposed to new objectives, creative methods, novel challenges, and novel instructional resources, they are encouraged or compelled to change their instructional practices and even their fundamental ideas about successful teaching. Furthermore, Levin, He, and Allen (2013) disclosed that what the teachers believe impacted their judgments and behaviors in the classroom. Teachers' pedagogical knowledge beliefs enable them to create

strategies for enhancing their teaching abilities and dispositions. In vice versa, variations and changes in instructional settings affect beliefs, particularly how beliefs are enacted in practice (Levin, 2014).

To some extent, teachers' prioritization of pedagogical knowledge, beliefs, and practices is affected by technological integration (Ding et al., 2019). As a result of the new educational setup's need and tension, instructors reassessed their previous views about students' requirements. The degree to which instructors are self-aware of their present state of affairs and participate in self-reflection is vital in determining whether teachers' beliefs and practices are aligned. Additionally, there is evidence that implementing new methods may alter other instructors' beliefs about inclusion. For instance, Swain et al. (2012) found that teachers' beliefs about integrating children with disabilities improved after completing a specialized education program that allowed them to be immersed and engaged with the kids in the field for 20 hours.

Brown, Chaudhry, and Dhamija's studies (2015) and Song and Looi (2012) discovered a significant correlation between instructors' beliefs and practices. Additionally, Dos Santos (2015) demonstrates a high degree of consistency between professed views about teaching and how those beliefs emerge in practice. They reasoned that gaining a deeper grasp of teachers' beliefs might result in more curricular approaches. As Bolyai (2016) found, teachers' involvement in seminars, conferences, seminars, and workshops contributes to transforming teachers' educational views. Similarly, thoughts, observations, eliciting student responses, and doing research may all serve as primary sources of practice change. Thus, although instructors may have preconceived notions before the transition to online learning, they adjust to contemporary instructional demands. Even though it is unfamiliar to them, they are capable of excellent teaching practice.

Generally, teachers' beliefs influence their implementation intentions directly and indirectly, which may also motivate and alter their practices. On the other side, beliefs and practice may not always be congruent as some factors, like situational restraints, the complexity of the classroom, and personal engagement in teaching reflection may interfere in the process. Teachers' perceived pedagogical beliefs will affect how their beliefs are held. The more fervent the beliefs are, the more probable that instructors will take particular actions. Additionally, the greater the instructors' executive skills, the more steadfast their beliefs can be. Given the interdependence of teacher beliefs and practices, reflective teaching functions as a medium for converting beliefs into practices (Lan & Lam, 2020).

Research Objectives

This study investigated the teachers' beliefs regarding pedagogical knowledge and their online teaching practices. Specifically, this points to exploring the following questions:

What are the teachers' beliefs in terms of pedagogical knowledge?

What is the level of the teachers' online teaching practices?

Is there a significant relationship between the teachers' beliefs in terms of pedagogical knowledge and their online teaching practices?

H_0 : There is no significant relationship between teachers' pedagogical knowledge beliefs and online teaching practices.

Methodology

This research applied a correlational design to examine the interplay between teachers' beliefs regarding pedagogical knowledge and online teaching practices.

Sampling/Participants

The study's respondents were the 104 full-time faculty of the San Pedro College from the nine college departments - Accounting and Business Management, Radiologic Technology, (Pharmacy, Medical Laboratory Science, Respiratory Therapy, Teacher Education, Physical Therapy, Arts and Sciences, and Nursing department teaching in the first semester of the Academic year 2020 – 2021, the first school year during COVID 19 pandemic.

Research Tools/Instruments

The data for this research were gathered using the modified questionnaires of Fives and Buehl's Importance of Pedagogical Knowledge Scale (2005) and Batt's Online Teaching Practices Tool (2005). Five's and Buehl's scale was utilized to measure the instructors' pedagogical knowledge beliefs; meanwhile, Batt's tool was used to measure the instructors' online teaching practices.

The researchers classified the instrument's components using Voss, Kunter, and Baumert's model of broad pedagogical knowledge (2011). This model includes five dimensions to account for the classroom's social context and the variability of individual student learning: classroom management knowledge, teaching techniques knowledge, classroom assessment knowledge, learning processes knowledge, and individual student characteristics. On the other hand, to collect data on instructors' online teaching procedures, this research used Batt's (2005) Online Teaching Practices (OTP) instrument, which is based on Chickering and Gamson's (1987) seven principles of online teaching: (a) promotes student-faculty contact, (b) inspires student cooperation, (c) promotes active learning, (d) provides prompt feedback, (e) emphasizes time on task, (f) communicates high expectations, and (g) respects students' diverse talents and modes of learning. Batt's instrument was initially

based on Taylor's survey tool for determining the degree to which teachers integrated the seven criteria for effective undergraduate education practice into their online courses

Both instruments, IPKS and OTP, were subjected to instrument validation by experts to ensure that they met the criteria for clarity of language, topic presentation, item appropriateness, adequateness and purpose, purpose achievement, respondent friendly, and objectivity. The experts' recommendations and opinions were incorporated into the survey tool's changes and improvements.

Procedures

This research was carried out through different stages: planning and proposal presentation, instrument preparation, data collection, data analysis, discussion, and conclusion. The researchers collectively planned and presented the research proposal to the institution's research office for approval and budget allocation. As for the instruments used, the researchers adapted two sets of questionnaires from Fives and Buehl's Importance of Pedagogical Knowledge Scale (2005) and Batt's Online Teaching Practices Tool (2005). These tools were modified with the original authors' permission via email and then experts-validated. For the data gathering, invitations were sent to the respondents and an informed form to indicate their consent to participate in the study. With their approval, they then directly responded to a Google form containing the questionnaires of the study. Under the Data Privacy law, respondents were ascertained that all the information they provided in answering the survey was solely used for the study alone. One hundred four responded out of 186 full-time faculty members within two weeks of data collection. The data was subjected to statistical treatment by an expert. The results were interpreted, analyzed, and discussed accordingly.

Data Analysis

This study employed weighted mean and standard deviation to analyze online teachers' beliefs and teaching practices. Additionally, Person's Product moment correlation coefficient) was used to determine the interplay of teaching beliefs and practices online.

Results

Table 1. The teachers' beliefs in terms of pedagogical knowledge

Pedagogical Knowledge	Mean	Std. Deviation	Description
Knowledge of Classroom Management	4.779	.3255	Extremely High
Knowledge of Classroom Assessment	4.790	.3457	Extremely High
Knowledge of Teaching Methods	4.710	.3596	Extremely High
Knowledge of Learning Process	4.652	.3548	Extremely High
Knowledge of Individual Student Characteristics	4.631	.4671	Extremely High

1.0 – 1.80 = Very low; 1.81 – 2.60 = Low; 2.61 – 3.40 = High; 3.41 – 4.20; Very High; 4.21 – 5.0 = Extremely High

The result showed that the pedagogical knowledge of teachers' beliefs in Classroom Management (4.779), Classroom Assessment (4.790), Teaching Methods (4.710), Learning Process (4.652), and Individual Student Characteristics (4.631) were all described as extremely high. When compared with mean values, teachers' pedagogical belief in "knowledge of classroom management" was exceptionally high. Whereas, among the domains that generated extremely firm beliefs, the Knowledge of Individual Student Characteristics appeared to be the lowest domain. Further, when ranked according to the mean values, the "student individual characteristic" domain had garnered the lowest mean average of 0.463. This result indicates that teachers believe 0.148 less than the other four others among the extremely high domain.

Table 2. Teachers' online teaching practices

Online Teaching Practices	Mean	Std. Deviation	Description
Feedback	4.431	.4941	Extremely practiced
Student – Faculty Contact	4.411	.4939	Extremely practiced
Active Learning	4.087	.5722	Highly practiced
Time on Task	4.066	.7484	Highly practiced
Ways of Learning	4.055	.5792	Highly practiced
Expectations	3.897	.6645	Highly practiced
Cooperation among Students	3.802	.7402	Highly practiced

1.0 – 1.80 = Not practiced; 1.81 – 2.60 = Poorly practiced; 2.61 – 3.40 = Moderately practiced; 3.41 – 4.20; Highly practiced; 4.21 – 5.0 = Extremely practiced

The result revealed that the online teaching practices in feedback (4.431) and Student-Faculty Contact (4.411) were highly practiced. It indicates that teachers have maintained excellent student and teacher contact when teaching online and held outstanding feedback systems in their classes. Whereas active learning (4.087), time

on task (4.066), ways of learning (4.055), expectations (3.897), and cooperation among students were highly practiced. This shows that instructors highly performed these principles following the best practices in their online teaching. Generally, the teachers' best practices were Student-Faculty Contact and Feedback, ranging from 4.411 to 4.431 and with a standard deviation ranging from .4939 to .4941, with feedback as higher than Student-Faculty Contact. On the other hand, instructors emphasized feedback (4.431), active learning (4.087), time on task (4.066), modes of learning (4.055), expectations (3.897), and student cooperation (3.802). When outcomes were compared on a mean value basis, "cooperation among students" appeared at the lowest rate. This finding indicates that, although instructors emphasize cooperation among students, doing so in an online setting continues to be complicated.

Table 3. Correlation between the teachers' pedagogical knowledge beliefs and their online teaching practices

Variables	r - value	p-Value	Interpretation	Decision
Pedagogical Knowledge Beliefs	.459**	.000	Significant	Reject Ho
Online Teaching Practices				

The table reveals that the correlation between the teachers' pedagogical knowledge beliefs and online teaching practices is significant at the 0.01 level (2-tailed).

The overall results showed a significant relationship between teachers' beliefs concerning pedagogical knowledge and online teaching practices, as evidenced by the p-value lower than .05 ($.000 < .05$), which means that the null hypothesis is rejected. Moreover, in terms of the strength and direction of the relationship, the results revealed that the relationship between teachers' pedagogical knowledge beliefs and their online teaching practices is moderate and optimistic. This indicates that when the pedagogical knowledge beliefs of teachers increase, online teaching practices also increase.

Discussion

The teachers' beliefs in terms of pedagogical knowledge

The study showed that instructors' pedagogical knowledge beliefs across all domains identified are incredibly high. This finding means that instructors placed a high premium on classroom management, classroom assessment, teaching methods, the learning process, and individual student characteristics in the teaching and online process. This result is consistent with Farrell and Voss (2018), who stated that pedagogical knowledge beliefs have a significant role in instructors' viability and critical execution. Similarly, Bolyai (2016) emphasized

the importance of PK in instructors' objectives, instructional methods, etc. It is founded on the belief that teaching entails more than just communicating subject information to learners since it covers various instructional domains.

Classroom management knowledge entails maximizing instructional time by being aware of what is occurring in all classroom areas, managing two or more classroom events simultaneously, teaching consistently throughout the lesson to maintain momentum, providing clear direction in lessons, and maintaining an alert group of students. Teachers must be familiar with multiple assessments and the effect of various frames of reference on students' motivation (Baier et al., 2019). Likewise, the knowledge of classroom methods is crucial in optimizing instructional time via command of various instructional approaches and understanding when and how to use one method to increase students' conceptual engagement with learning activities. Bolyai (2016) emphasized the importance of PK in instructors' objectives, instructional methods, etc. It is founded on the belief that teaching entails more than just communicating subject information to learners since it covers various instructional domains. Further, Voss and Kunter (2013) have discovered that knowing the learning process and unique student characteristics are essential variables predicting a teacher's success.

Voss and Kunter (2013) found that knowledge of the learning process and understanding individual student characteristics are critical factors in determining whether a teacher would succeed. Learning occurs in a social context, and learning success depends on the students' general cognitive, emotional, and motivational characteristics. Students vary in terms of these admission characteristics, and teachers must know how to accommodate this diversity. The fifth practiced domain among teachers in this study is familiarity with the individual student's characteristics. This domain focuses on the individuality of individuals' approaches to learning. Students' giftedness is thought to affect their learning. When just topic knowledge is assessed, pedagogical issues such as student learning processes, tasks, responsibility, behavior, and communication may arise.

Further, the results on teachers' pedagogical knowledge beliefs are consistent with Voss, Kunter, and Baumer's (2011) assertion that instructors with extensive pedagogical knowledge comprehend how students acquire information, develop abilities, and form good mental habits and attitudes toward learning. Correspondingly, König and Pflanzl (2016) affirmed the critical role of pedagogical knowledge in predicting the quality of teaching. Teachers must be able to analyze and assess particular learning episodes in the context of contextual and situational variables and link this knowledge to their understanding of the teaching-learning process to direct future teaching activities. As a result, a teacher's capacity to make sound educational decisions is dependent on their pedagogical knowledge.

Vongkulluksn, Xie, and Bowman (2018) discovered that instructors' value beliefs in the ability to use technology aid them in accomplishing the instructional objectives they selected as most essential for their learners. According

to the findings in this study, the instructor's expectancies for incorporating technology into the classroom account for a significant portion of their practice with the same technology. Similarly, Wong and Teo (2011) discovered that teachers' views of the usefulness of computers in terms of work performance had a substantial effect on their future behavioral intention to use computers. Accordingly, Karaca (2015) and Wong, Teo, discovered that when instructors believe they are competent to integrate technology, they are more likely to anticipate success and believe that incorporating technology into the classroom is entertaining significant, beneficial, and successful. In other words, teachers who have a higher expectation of success in integrating technology into their instruction are more inclined to use technology more intensively when they think it will benefit them. According to this study, teachers' high confidence in their pedagogical knowledge affects their readiness to adopt online teaching techniques.

From a theoretical viewpoint, Expectancy Value Theory posits that people's expectations and values mediate the connection between their ability, beliefs, and involvement in activities. Accordingly, this study's result shows that the expectancy for success is high, as reflected in the teachers' pedagogical knowledge beliefs. This relates to the probability that they will perform better than the desired outcome. Relatedly, Nelson (2011) discovered a strong connection between instructors' beliefs about technology usage and teacher-directed student technology when incorporating technology in the classroom. According to him, teachers' values and expectations about incorporating technology into the classroom influence how they teach utilizing technology.

Overall, the teachers' pedagogical beliefs are extremely high, with the knowledge of classroom assessment ranked as the highest with a mean average of 4.790 (extremely high) and a standard deviation of 0.3457. Relatedly, the study by Khader (2012) found the assessment of students' domains as high. This result is logical, especially since evaluation and assessments are essential parts of teaching. Results in assessments and evaluations are used in designing appropriate methods to respond to the demand of the teaching environment and, in this case, online. Teachers must monitor students' progress toward their objectives to tailor their instruction to their unique needs.

The teachers' online teaching practices

In terms of online teaching practices, the finding reveals that instructors put extremely high-level regard on feedback, student-faculty interaction, and a high practice in active learning, time on task, ways of learning, expectations, and student collaboration. When the mean values of the highly practiced concepts are compared, feedback showed the most extremely practiced principle in online teaching. Consistent with Mansour's (2014) research, timely feedback on students' performance was crucial for student learning. Prompt feedback is critical for students' learning outcomes because it allows students to assess their knowledge, reflect upon their learning, and what they still need to learn, and improve their future work. Further, Crews, Wilkinson, and Neill (2015) agreed

that student-faculty interaction lets teachers assess which course material learners are struggling with and what assistance can be provided to them in overcoming obstacles.

The second most practiced domain identified in the findings is "student-faculty interaction," with a mean score of 4.431. This aspect involves using a Learning Management System, responding to students' concerns through email and text message, and engaging in online conversations. Wilkinson and Neill (2015) discovered a high degree of agreement on most components that promote interaction between students and instructors. Instead of physically engaging with students in a conventional classroom setting, instructors must engage with them virtually and spend time replying to students' emails, messages, and discussion board postings. This enables them to ascertain which course material students are struggling with and then offer appropriate assistance to assist them in overcoming obstacles.

On the other hand, Active learning, Time on Task, Ways of Learning, Expectations, and Cooperation among students were seen as highly practiced principles by the instructors. Johnson (2014) asserted that learning is improved when students are fully engaged in their tasks. Similarly, Pajares (1992), as referenced by Crews, Wilkinson, and Neill (2015), discovered a significant link between efficient class time management and work completion. This concept includes time spent promptly performing duties, such as checking the consistency of discussion boards and chat messages.

Similarly, Chiu, Yang, Liang, and Chen (2010) mentioned in Johnson (2014) that students must actively exchange ideas, justify their positions, express their reasoning, and expand on the information in a group setting. Concerning Expectation as a highly practiced principle, Cable and Cheung (2017) showed that when instructors set a high bar for their student's performance, they often meet it. In other words, increased expectations contribute to improving student performance.

According to Expectancy Value Theory, instructors who anticipated succeeding with the technology used it more often in classrooms to engage students in individual work, give feedback, evaluate and monitor students' learning requirements and progress, and differentiate teaching. Further, EVT stipulates that expectancy and value beliefs fully mediate the relationship between ability beliefs and individuals' engagement in tasks. Accordingly, this study hypothesized that teachers' high pedagogical knowledge beliefs served as the antecedent of expectancy and value beliefs, which, in turn, facilitated teachers' high online teaching practices based on the principles of effective teaching.

Relationship between the teachers' pedagogical knowledge beliefs and their online teaching practices

The findings show a relationship between instructors' pedagogical knowledge beliefs and online teaching practices. This indicates that the instructor's pedagogical knowledge and online teaching practices are significantly correlated. This result is consistent with Deng, Chai, Tsai, and Lee (2014); Ding, Lu, Leftwich, and Glazewski (2019), who also found a correlation between teachers' beliefs and their use of technology in the classroom. According to Ding et al. (2019), the ways by which teachers teach are often the product of teachers' pedagogical knowledge and intuitive decisions based on their experiences and views about how the subject matter should be taught. When instructors are exposed to new objectives, creative methods, novel challenges, and new instructional resources, they are encouraged or compelled to change their instructional practices and even their fundamental ideas about successful teaching.

Additionally, Levin, He, and Allen (2013) demonstrate that teachers' beliefs affect their judgments and behaviors in the classroom. This research shows that instructors' firm pedagogical beliefs position them to create methods to improve the abilities and dispositions necessary for effective online teaching. Similarly, variations and changes in instructional settings affect beliefs, particularly how beliefs are enacted in practice (Levin, 2014). The instructors in this research teach in an environment that is very different from the face-to-face situation.

The results further show that, despite the change in teaching modality (i.e., online teaching), instructors' pedagogical beliefs are highly high, correlating with their online practices. True to the findings of previous research (Brown et al., 2015; Song & Looi, 2012), which discovered a significant correlation between instructors' beliefs and actions. Instructors' pedagogical knowledge beliefs regarding classroom management, teaching methods, classroom assessment, the learning process, and individual student characteristics are consistent with their online teaching practices, which are based on practical online teaching principles such as faculty contact, student cooperation, active learning, feedback, time on task, expectations, and modes of learning.

Buehl and Fives (2012) found that stimulated or professed teachers' beliefs are context-dependent. This occurs because expectations within the teaching environment influenced how instructors' views about differences were performed in the classroom. According to Levin et al. (2013), although this is an unknown component, instructors' beliefs seem to be affected by their views of pedagogical knowledge as malleable and likely vary between settings, such as a virtual classroom vs. a face-to-face interaction. Additionally, other research, such as Dos Santos (2015), has shown a high degree of consistency between professed views about teaching and their manifestation in practice. Kim et al. (2013) investigated the relationship between teachers' pedagogical and epistemological views and their instructional use of technology. The findings indicated a link between instructors'

views about learning and successful teaching methods and their technology adoption practices. The research discovered that the more student-centered their educational ideas are, the more prevalent technology usage is. Researchers have identified instructors' sense of personal responsibility for their students' educational outcomes as a possible moderator and mediator when bringing teachers' beliefs and behaviors into conformity. For example, Turner et al. (2011), as quoted by Schraw and Olafson (2015), assert that a metacognitive feedback loop assists instructors in aligning their beliefs and behaviors. They argued that instructors' feeling of responsibility might be a moderator in the connection between students' and teachers' attitudes regarding teaching methods. This may be because when instructors feel accountable for their students' results, their actions are more likely to line with their values. Additionally, they hypothesized that feeling might function as a mediator or a link between the impacts of metacognitive awareness on classroom practices. Teachers' feeling of responsibility plays a critical role in their readiness to experiment with novel teaching methods that promote student motivation.

In contrast to the study's results, Buehl and Beck (2015) suggest that instructors' beliefs and instructional practices may be incongruent in certain circumstances. Certain aspects of teachers' belief systems may facilitate or impede belief actualization in the classroom. Buehl and Beck (2015) assert that teachers' beliefs and instructional practices may not always be consistent. They demonstrated that they do not always provide an utterly convergent perspective, as numerous components emerge inadvertently throughout the process, including instructors' focus on their beliefs as a result of situational constraints, teaching experience, and teachers' capacity to implement their beliefs as a result of introspection (Farrell, 2015; Basturkme, 2012).

When new circumstances arise, beliefs may not always be consistent. Basturkmen (2012) claimed that situational constraints hinder teachers' ability to practice their beliefs. When instructors transition, their beliefs, and practices may differ, with beliefs happening before behaviors change. Differences in beliefs and practices are expected, as teachers' actions may reflect one belief and another at times. In this regard, teaching experience may also contribute to the disjunction between beliefs and practices. Teachers with less expertise in the area

may have experienced more change processes, and beliefs may have changed before practices changed (Richardson et al., 1991 in Basturkmen, 2012). Experientially informed beliefs are more likely to exist in more experienced instructors than relative beginners. It is reasonable to expect that beliefs influenced by teaching experiences will correspond clearly with teaching practices. According to Woods and Akir (2011), experientially acquired knowledge is more likely to emerge spontaneously in action than verbally obtained knowledge, and beliefs may be considered similar to the knowledge. Through observation, reflection, and discussion, explicit knowledge may become more automatic, and implicit abilities may become more verbalized (Woods and Akir, 2011).

Cognitive Dissonance Theory explains that people aim for cognitive equilibrium (Festinger, 1957). Discord between competing or contradictory cognitions (i.e., culturally proficient beliefs vs. teacher practices) influences people to seek accord in their beliefs and activities. In light of this research, teachers were affected by these competing cognitions to seek cognitive harmony by adopting either deficit beliefs consistent with teacher practices or teacher practices consistent with deficit beliefs. In other words, teachers' beliefs impacted teacher practices, or teacher practices affected teachers' beliefs to attain cognitive concord. Additionally, inconsistent cognitions result in unpleasant emotions, which drive people to alter one or more cognitions to restore consistency with other cognitions. Regarding the instructors in this research, it is reasonable to infer that their knowledge of cognitive dissonance caused by online instruction induces a cognitive shift to restore harmony.

In general, instructors' pedagogical beliefs influence how they teach online, both openly and implicitly. This research demonstrates how identified pedagogical dimensions were substantially related to instructors' practices in an online setting. Similarly, Morris, Usher, and Chen (2017) have identified pedagogical knowledge beliefs as a necessary component in the online teaching process. The more adamant instructors are about their beliefs, the more likely they are to take measures that help students (cited by Cheng, Lu, Xie & Vongkulluksn, 2020). Given the mutuality of the two entwined conceptions, contemplative instruction is a bridge for transforming these concepts into works

Conclusion

This research investigated the relationship between instructors' pedagogical beliefs and online teaching practices. It is concluded that there is a relationship between the pedagogical knowledge beliefs-online teaching practices of teachers' praxis. The findings indicate that instructors' pedagogical knowledge beliefs are extraordinarily high and high across all five domains: knowledge of classroom management, teaching methods, classroom assessment, knowledge of the learning process, and individual student characteristics. In terms of online teaching practices, the findings indicate that teachers adhered highly to the seven principles: Feedback and Student-Faculty Contact, the principles of Active Learning, Time on Task, Ways of Learning, Expectations, and Cooperation among students. Additionally, a high relationship was discovered between instructors' pedagogical knowledge beliefs and online teaching practices. Furthermore, the higher the teacher's pedagogical knowledge beliefs, the more effective the teacher's online teaching practices. As their pedagogical knowledge and beliefs increase, their online teaching practices will likely increase.

Acknowledgment

San Pedro College of Davao, Davao City, Philippines, funded this institutional research.

References

- Baier, F., Decker, A. T., Voss, T., Kleickmann, T., Klusmann, U., & Kunter, M. (2019). What makes a good teacher? The relative importance of Mathematics teachers' cognitive ability, personality, knowledge, beliefs, and motivation for instructional quality. *British Journal of Educational Psychology*, 89(4), 767-786. <https://doi.org/10.1111/bjep.12256>
- Bigatel, P. M., Ragan, L. C., Kennan, S., May, J., & Redmond, B. F. (2012). The identification of competencies for online teaching success. *Journal of Asynchronous Learning Networks*, 16(1), 59-77.
- Basturkmen, H. (2012). Review of research into the correspondence between language teachers' stated beliefs and practices. *System*, 40(2), 282-295. <https://doi.org/10.1016/j.system.2012.05.001>
- Batts, D. L. (2005). *Perceived agreement between student and instructor on the use of the seven principles for good practice in undergraduate education in online courses*. East Carolina University. <https://www.learntechlib.org/p/126607>
- Batts, D., Colaric, S. M., & McFadden, C. (2006). Online courses demonstrate the use of seven principles. *International Journal of Instructional Technology and Distance Learning*, 3(12), 15-25.
- Bolyai, B. (2016). Study on teacher's beliefs about teaching. *IATED*, 7-9. DOI: 10.21125/inted.2016.
- Brown, G. T., Chaudhry, H., & Dhamija, R. (2015). The impact of an assessment policy upon teachers' self-reported assessment beliefs and practices: A quasi-experimental study of Indian teachers in private schools. *International Journal of Educational Research*, 71, 50-64. <https://doi.org/10.1016/j.ijer.2015.03.001>
- Buehl, M. M., & Beck, J. S. (2015). The relationship between teachers' beliefs and teachers' practices. *International handbook of research on teachers' beliefs*, 1. <https://www.taylorfrancis.com/>
- Cable, J., & Cheung, C. (2017). Eight principles of effective online teaching: A decade-long lessons learned in project management education. *PM World Journal*, 6(7), 1-16. [https://www.research.manchester.ac.uk/portal/en/publications/eight-principles-of-effective-online-teaching\(4c31cbbc-b5ef-4a95-b8fa-f4847cf49a43\).html](https://www.research.manchester.ac.uk/portal/en/publications/eight-principles-of-effective-online-teaching(4c31cbbc-b5ef-4a95-b8fa-f4847cf49a43).html)
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 3, 7. <https://eric.ed.gov/?id=ed282491>
- Chickering, A. W., & Gamson, Z. F. (1991). Appendix A: Seven principles for good practice in undergraduate education. *New directions for teaching and learning*, 1991(47), 63-69. <https://doi.org/10.1002/tl.37219914708>
- Crews, T. B., Wilkinson, K., & Neill, J. K. (2015). Principles for good practice in undergraduate education: Effective online course design to assist students' success. *Journal of Online Learning and Teaching*, 11(1), 87-103. https://jolt.merlot.org/vol11no1/Crews_0315.pdf

- Deng, F., Chai, C. S., Tsai, C.-C., & Lee, M.-H. (2014). The relationships among Chinese practicing teachers' epistemic beliefs, pedagogical beliefs and their beliefs about the use of ICT. *Journal of Educational Technology & Society*, 17(2), 245–256. <https://www.jstor.org/stable/jeductechsoci.17.2.245>
- Ding, A. C. E., Ottenbreit-Leftwich, A., Lu, Y. H., & Glazewski, K. (2019). EFL teachers' pedagogical beliefs and practices with regard to using technology. *Journal of Digital Learning in Teacher Education*, 35(1), 20–39. <https://doi.org/10.1080/21532974.2018.1537816>
- Farrell, T. S., & Vos, R. (2018). Exploring the principles and practices of one teacher of L2 speaking: The importance of reflecting on practice. *Iranian Journal of Language Teaching Research*, 6(1), 1-15. <https://dx.doi.org/10.30466/ijltr.2018.20486>
- Festinger, L. (1957). A theory of cognitive dissonance (Vol. 2). Stanford university press. <https://www.sup.org/books/title/?id=3850>
- Fives, H., & Buehl, M. M. (2005). Assessing teachers' beliefs about pedagogical knowledge: Developing an instrument. In Annual Meeting of the Southwest Educational Research Association, New Orleans, LA (pp. 2-38).
- Fives, H., & Buehl, M. M. (2012). Spring cleaning for the “messy” construct of teachers' beliefs: What are they? Which have been examined? What can they tell us? In K. R. Harris, S. Graham, T. Urdan, S. Graham, J. M. Royer, & M. Zeidner (Eds.), *APA educational psychology handbook, Vol. 2. Individual differences and cultural and contextual factors* (pp. 471–499). American Psychological Association. <https://doi.org/10.1037/13274-019>
- Giannamore, K. A. (2020). *Aligning the Necessary Competencies for Training and Evaluating Online Teachers in Higher Education with Chickering and Gamson's Seven Principles for Effective Undergraduate Teaching: AQ Methodology Study* (Doctoral dissertation, Kent State University). http://rave.ohiolink.edu/etdc/view?acc_num=kent1600439569685503
- Gilakjani, A. P., & Sabouri, N. B. (2017). Teachers' Beliefs in English Language Teaching and Learning: A Review of the Literature. *English Language Teaching*, 10(4), 78-86. <http://doi.org/10.5539/elt.v10n4p78>
- Gollnick, D. M., & Chinn, P. C. (2013). Multicultural education in a pluralistic society. Pearson Higher Ed. <https://cmc.marmot.org/Record/.b4761769x>
- Guerra, P. L., & Wubbena, Z. C. (2017). Teacher Beliefs and Classroom Practices Cognitive Dissonance in High Stakes Test-Influenced Environments. *Issues in Teacher Education*, 26(1), 35-51.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (2014). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in University Teaching*, 25(4), 1-26. <https://eric.ed.gov/?id=EJ1041374>
- Karaca, F. (2015). An Investigation of Preservice Teachers' Technological Pedagogical Content Knowledge Based on a Variety of Characteristics. *International Journal of Higher Education*, 4(4), 128-136. <http://dx.doi.org/10.5430/ijhe.v4n4p128>

- Karoglu, A. K., Kiraz, E., & Özden, M. Y. (2014). Good practice principles in an undergraduate blended course design. *Egitim ve Bilim*, 39(173). <https://avesis.gazi.edu.tr/>
- Khader, F. R. (2012). Teachers' pedagogical beliefs and actual classroom practices in social studies instruction. *American International Journal of Contemporary Research*, 2(1), 73-92. <https://files.eric.ed.gov/fulltext/EJ1133207.pdf>
- Kim, C., Kim, M. K., Lee, C., Spector, J. M., & DeMeester, K. (2013). Teacher beliefs and technology integration. *Teaching and Teacher Education*, 29, 76-85. <https://doi.org/10.1016/j.tate.2012.08.005>
- Kind, V., & Chan, K. K. (2019). Resolving the amalgam: connecting pedagogical content knowledge, content knowledge, and pedagogical knowledge. *International Journal of Science Education*, 41(7), 964-978. <https://doi.org/10.1080/09500693.2019.1584931>
- Lan, W., & Lam, R. (2020). Exploring an EFL Teacher's Beliefs and Practices in Teaching Topical Debates in Mainland China. *Iranian Journal of Language Teaching Research*, 8(1), 25-44. <https://eric.ed.gov/?id=EJ1239812>
- Levin, B. B., He, Y., & Allen, M. H. (2013). Teacher beliefs in action: A cross-sectional, longitudinal follow-up study of teachers' personal practical theories. *The Teacher Educator*, 48(3), 201-217. <https://doi.org/10.1080/08878730.2013.796029>
- Liepertz, S., & Borowski, A. (2019). Testing the Consensus Model: relationships among physics teachers' professional knowledge, the interconnectedness of content structure and student achievement. *International Journal of Science Education*, 41(7), 890-910. <https://doi.org/10.1080/09500693.2018.1478165>
- Malva, L., Leijen, Ä., & Baucal, A. (2020). Towards measuring teachers' general pedagogical knowledge—A mixed-method investigation of a pilot test. *Studies in Educational Evaluation*, 64, 100815. <https://doi.org/10.1016/j.stueduc.2019.100815>
- Mansour, H. (2014). Using Technology to Encourage Students' Engagement with Feedback: The Live Essay Feedback Checklist (LEFC). *Journal of Academic Development and Education*, 1(1), 46-57. <https://journal.alt.ac.uk/index.php/rlt/article/download/836/1087/>
- Miller, E. R. (2017). *Predicting the use of instructional technology among community college instructors: An extension of the Technology Acceptance Model (TAM)*. The University of South Alabama. <https://eric.ed.gov/?id=ED576326>
- Morris, D. B., Usher, E. L., & Chen, J. A. (2017). Reconceptualizing the sources of teaching self-efficacy: A critical review of emerging literature. *Educational Psychology Review*, 29(4), 795-833. <https://doi.org/10.1007/s10648-016-9378-y>
- Perlovsky, L. (2013). A challenge to human evolution—cognitive dissonance. *Frontiers in Psychology*, 4, 179. <https://doi.org/10.3389/fpsyg.2013.00179>

- Schraw, G., & Olafson, L. (2015). Assessing teachers' beliefs. *International handbook of research on teachers' beliefs*, 87-105.
- Song, Y., & Looi, C. K. (2012). Linking teacher beliefs, practices and student inquiry-based learning in a CSCL environment: A tale of two teachers. *International Journal of Computer-Supported Collaborative Learning*, 7(1), 129-159. <https://doi.org/10.1007/s11412-011-9133-9>
- Sorge, S., Kröger, J., Petersen, S., & Neumann, K. (2017). Structure and development of pre-service physics teachers' professional knowledge. *International Journal of Science Education*, 41(7), 93– 121. <https://doi.org/10.1080/09500693.2017.1346326>
- Taylor, J. M. (2002). *The use of principles for good practice in undergraduate distance education* (Doctoral dissertation, Virginia Tech).
- Tirrell, T., & Quick, D. (2012). Chickering's seven principles of good practice: Student attrition in community college online courses. *Community College Journal of Research and Practice*, 36(8), 580-590. <https://doi.org/10.1080/10668920903054907>
- Uddin, M. (2014). Teachers' Pedagogical Belief and Its Reflection on the Practice in Teaching Writing in EFL Tertiary Context in Bangladesh. *European Journal of Educational Sciences*, 1(3), 58-80. <https://eric.ed.gov/?id=EJ1236758>
- Vongkulluksn, V. W., Xie, K., & Bowman, M. A. (2018). The role of value on teachers' internalization of external barriers and externalization of personal beliefs for classroom technology integration. *Computers & Education*, 118, 70-81. <https://doi.org/10.1016/j.compedu.2017.11.009>
- Voss, T., Kunter, M., & Baumert, J. (2011). Assessing teacher candidates' general pedagogical/psychological knowledge: Test construction and validation. *Journal of Educational Psychology*, 103 (4), 952–969. doi:10.1037/a0025125
- Watters, N. (2014). *An exploration of the concept and practice of active learning in higher education* (Doctoral dissertation, University of Glasgow). <http://theses.gla.ac.uk/id/eprint/5450>
- Woods, D., & Çakır, H. (2011). *Two dimensions of teacher knowledge: The case of communicative language teaching. System*, 39(3), 381-390. <http://dx.doi.org/10.1016/j.system.2011.07.010>
- Wong, K. T., Teo, T., & Russo, S. (2012). Influence of gender and computer teaching efficacy on computer acceptance among Malaysian student teachers: An extended technology acceptance model. *Australasian Journal of Educational Technology*, 28(7). <https://doi.org/10.14742/ajet.796>

- Kind, V., & Chan, K. K. (2019). Resolving the amalgam: connecting pedagogical content knowledge, content knowledge, and pedagogical knowledge. *International Journal of Science Education*, 41(7), 964-978. <https://doi.org/10.1080/09500693.2019.1584931>
- Lan, W., & Lam, R. (2020). Exploring an EFL Teacher's Beliefs and Practices in Teaching Topical Debates in Mainland China. *Iranian Journal of Language Teaching Research*, 8(1), 25-44. <https://eric.ed.gov/?id=EJ1239812>
- Levin, B. B., He, Y., & Allen, M. H. (2013). Teacher beliefs in action: A cross-sectional, longitudinal follow-up study of teachers' personal practical theories. *The Teacher Educator*, 48(3), 201-217. <https://doi.org/10.1080/08878730.2013.796029>
- Liepertz, S., & Borowski, A. (2019). Testing the Consensus Model: relationships among physics teachers' professional knowledge, the interconnectedness of content structure and student achievement. *International Journal of Science Education*, 41(7), 890-910. <https://doi.org/10.1080/09500693.2018.1478165>
- Malva, L., Leijen, Ä., & Baucal, A. (2020). Towards measuring teachers' general pedagogical knowledge—A mixed-method investigation of a pilot test. *Studies in Educational Evaluation*, 64, 100815. <https://doi.org/10.1016/j.stueduc.2019.100815>
- Mansour, H. (2014). Using Technology to Encourage Students' Engagement with Feedback: The Live Essay Feedback Checklist (LEFC). *Journal of Academic Development and Education*, 1(1), 46-57. <https://journal.alt.ac.uk/index.php/rlt/article/download/836/1087/>
- Miller, E. R. (2017). *Predicting the use of instructional technology among community college instructors: An extension of the Technology Acceptance Model (TAM)*. The University of South Alabama. <https://eric.ed.gov/?id=ED576326>
- Morris, D. B., Usher, E. L., & Chen, J. A. (2017). Reconceptualizing the sources of teaching self-efficacy: A critical review of emerging literature. *Educational Psychology Review*, 29(4), 795-833. <https://doi.org/10.1007/s10648-016-9378-y>
- Perlovsky, L. (2013). A challenge to human evolution—cognitive dissonance. *Frontiers in Psychology*, 4, 179. <https://doi.org/10.3389/fpsyg.2013.00179>
- Schraw, G., & Olafson, L. (2015). Assessing teachers' beliefs. *International handbook of research on teachers' beliefs*, 87-105.
- Song, Y., & Looi, C. K. (2012). Linking teacher beliefs, practices and student inquiry-based learning in a CSCL environment: A tale of two teachers. *International Journal of Computer-Supported Collaborative Learning*, 7(1), 129-159. <https://doi.org/10.1007/s11412-011-9133-9>
- Sorge, S., Kröger, J., Petersen, S., & Neumann, K. (2017). Structure and development of pre-service physics teachers' professional knowledge. *International Journal of Science Education*, 41(7), 93– 121. <https://doi.org/10.1080/09500693.2017.1346326>

- Taylor, J. M. (2002). *The use of principles for good practice in undergraduate distance education* (Doctoral dissertation, Virginia Tech).
- Tirrell, T., & Quick, D. (2012). Chickering's seven principles of good practice: Student attrition in *community college online courses*. *Community College Journal of Research and Practice*, 36(8), 580-590. <https://doi.org/10.1080/10668920903054907>
- Uddin, M. (2014). Teachers' Pedagogical Belief and Its Reflection on the Practice in Teaching Writing in EFL Tertiary Context in Bangladesh. *European Journal of Educational Sciences*, 1(3), 58-80. <https://eric.ed.gov/?id=EJ1236758>
- Vongkulluksn, V. W., Xie, K., & Bowman, M. A. (2018). The role of value on teachers' internalization of *external barriers and externalization of personal beliefs for classroom technology integration*. *Computers & Education*, 118, 70-81. <https://doi.org/10.1016/j.compedu.2017.11.009>
- Voss, T., Kunter, M., & Baumert, J. (2011). Assessing teacher candidates' general pedagogical/psychological knowledge: Test construction and validation. *Journal of Educational Psychology*, 103 (4), 952–969. doi:10.1037/a0025125
- Watters, N. (2014). *An exploration of the concept and practice of active learning in higher education* (Doctoral dissertation, University of Glasgow). <http://theses.gla.ac.uk/id/eprint/5450>
- Woods, D., & Çakır, H. (2011). *Two dimensions of teacher knowledge: The case of communicative language teaching*. *System*, 39(3), 381-390. <http://dx.doi.org/10.1016/j.system.2011.07.010>
- Wong, K. T., Teo, T., & Russo, S. (2012). Influence of gender and computer teaching efficacy on computer acceptance among Malaysian student teachers: An extended technology acceptance model. *Australasian Journal of Educational Technology*, 28(7). <https://doi.org/10.14742/ajet.796>

A Study on Impact of Mid-Day Meal Program on School Education in India: with reference to Krishna District, Andhra Pradesh, India

Dr. Rajesh C. Jampala¹ Dr. P. Adi Lakshmi² Dr. Srinivasa Rao Dokku^{3*}

¹P.B. Siddhartha College of Arts & Science, Andhra Pradesh, India

²P.V.P. Siddhartha Institute of Technology, Andhra Pradesh, India

³P.V.P. Siddhartha Institute of Technology, Andhra Pradesh, India 520 007,

Email: srinu_dokku@yahoo.co.in. (*Corresponding author's Dr. Srinivasa Rao Dokku email)

ABSTRACT:

The MDM programme aims to improve school enrollment, attendance, and retention to better the children's school performance, and to improve the nutritional status of primary school children. The objective of the study is to know the Impact of Mid-Day Meal Program on Educational Attainment in Krishna District, Andhra Pradesh, India. The primary data was collected with the help of specially prepared interview schedule (questionnaires). The study has covered schools numbering 180 located in Krishna District of Andhra Pradesh, India. The data was analysed with the help of SPSS and Excel. Percentages and Chi-Square test was used to analysed the data. The results of the study on the educational component indicated that, student's attendance has improved, increased retention rate with reduced dropout rates, and a marginal improvement in the scholastic performance. Not only the Mid-Day Meal program in Krishna District have a significant, positive effect on overall enrollment rates, but the effect was also more pronounced for those with the least educated parents and lowest economic status.

Key words: Mid-Day Meal, Education, Enrollment, Attainment, Retention,

Introduction:

Mid-Day Meal (MDM) Scheme was launched by the Government of India which helps poor pupils from rural and urban areas and resolves issues of lack of nutrition, food security and access to education. With the help of this programme free lunch is provided on school working days for children in Primary and Upper Primary Classes in Government, Government Aided, Local Body STC, Madarsas and Maqtabas i.e supported under Sarva Shiksha Abhiyan (SSA). The Scheme was launched in January, 2003 for the children studying in Primary Schools (Classes I to V) and in October 2008, the same was extended to the children studying in Upper Primary Schools (Classes VI to VIII) and to the children studying in High Schools (Classes IX & X) with 100% state funds. This was further extended to the children studying in Special Schools under NCLP from the academic year of 2010-11.

Mid-Day Meal in schools has had a long history in India. In 1925, a Mid-Day Meal Programme was introduced for disadvantaged children in Madras Municipal Corporation. By the mid-1980s three States viz. Gujarat, Kerala and Tamil Nadu and the UT of Pondicherry had universalized a cooked Mid-Day Meal Programme with their own resources for children studying at the primary stage. By 1990-91 the number of States implementing the mid-day meal programme with their own resources on a universal or a large scale had increased to twelve states.

Policy on midday meal programme in India:

The Central Government of India established the mid-day meal scheme in 1995 to give free prepared meals to children in government and government-aided primary schools (classes I–V; ages 6–10 years). The National Programme of Nutritional Support for Primary Education had planned to cover all government schools. However, due to institutional constraints, only a few states promptly ramped up the programme. Data from the 1999 National Sample Survey (NSS)–consumer expenditure survey (CES)–suggest that just 6% of all girls aged 6–10 years received mid-day meals at school. However, between 1999 and 2004, the programme's coverage expanded in many states. This was after the Supreme Court ordered state governments to provide prepared lunches in primary schools. Table – 1 shows the coverage of midday meals programme in India from 2010-11 to 2020-21. The programme benefitted over 10.46 crore children in 2010-11. During the last five years the programme covered more than 10 crore children every year.

Table – 1

Trends of coverage (in cores)

Years	Primary	Upper primary	Total
2010-11	7.33	3.13	10.46
2011-12	7.18	3.36	10.54
2012-13	7.2	3.47	10.67
2013-14	7.1	3.69	10.79
2014-15	6.66	3.56	10.22
2015-16	6.68	3.55	10.23
2016-17	7.25	3.2	10.45
2017-18	6.75	2.71	9.46
2018-19	7.3	2.9	10.20
2019-20	7.62	3.07	10.69
2020-21	8.41	3.39	11.80

Source: mdm.nic.in

Government Budget allocation and release for Midday Meal Scheme in India:

Table - 2 shows the total year wise government outlay and final release amount. The government is allocating more than 80 per cent of revised estimations during the years 2007-08 to 2020-21. The government is increasing allocation for MDM program in India.

Table: 2

Year Wise Outlay under Mid-Day Meal Scheme (Rs. in Crores)

Year	Budgeted Estimation
2007-08	7324.00
2008-09	8000.00
2009-10	8000.00
2010-11	9440.00
2011-12	10380.00
2012-13	11937.00
2013-14	13215.00
2014-15	13215.00
2015-16	9236.40
2016-17	9700.00
2017-18	10000.00
2018-19	10500.00
2018-19	9,949
2019-20	11,000
2020-21	13,400
Total	1,41,896.4

Source: <http://mdm.nic.in/>, note: data as on 14.12.2022

Review of literature:

One of the major objectives of National Programme of Nutritional Support to Primary Education (Mid Day Meal Scheme) is to improve the nutritional status of primary school stage children by providing a hot cooked nutritious lunch in recess time. A little research is available in this area. On the basis of this available literature on Mid Day Meal Scheme and improvement in nutritional status of children it can be concluded that nutritional status of urban children was found to be better than that of rural and slum children (Planning Commission (2010, KV RameshwarSarma, D Hanumantha Rao, K Mallikharjuna Rao, ChGalreddy, Sharad Kumar, Vishnu Vardhan Rao and N Pralhad Rao,2012). Mid Day Meal Scheme is not without benefit and in most cases impacting positively on nutritional status of primary school children (Rajshri Jayaraman, Dora Simroth and Francis De V Ericour ,2001).

A number of research studies (Farzana Afridi 2010) reported positive impact of Mid Day Meal Scheme on attendance. The trend of studies (National Institute of Nutrition, Hyderabad, 1991; Yazali Josephine & Vetukuri P.S. Raju (2008) and Venkatarangaiya Foundation, 2008 and The Times of India, 2015) indicated the positive impact of Mid Day Meal Scheme in retaining the children in schools.

The World Bank (1983) found overall significant improvement in attendance and deterioration in academic standards after the introduction of Mid Day Meal Programme. Network for Social Accountability (2008) reported that Ministry of Human Resource development had not assessed the impact of the programme in terms of increase in enrolment, attendance and retention levels of children.

Need for the study:

Given the correlation between educational attainment and economic growth, policies that both effectively and efficiently decrease the financial barriers to primary school education in developing countries are of extreme interest to government and non-government organizations alike. In 1995, the Government of India implemented a school-feeding program to incentivize children to attend primary school through the provision of a subsidized mid-day meal. As the scheme is having significant bearing on attaining social objective of inclusive growth there is a need for critical understanding about the implementation of the scheme at local level. This proposed research study tries to evaluate the implementation of the Mid-Day Meal Program in Krishna District by analyzing the impact of receipt of the program on primary school enrolment, retention, and nutritional benefits on school going children.

Objectives of the study:

The objective of the study is to know the impact of Mid-day meal programme on school education in India.

Methodology of the study:

The broad methodology to be followed encompasses both qualitative & quantitative approach to enable an in-depth understanding of the Impact of Mid-Day Meal Program on Educational Attainment in Krishna District, Andhra Pradesh.

Samplings/Participants

The proposed study is intended to confine to Krishna District only. The sampling was done keeping in mind that the Impact of Mid-Day Meal Program on Educational Attainment in Krishna District, Andhra Pradesh, Krishna District might run across similar lines, therefore it was felt that a sample size of 180 schools out of 3340 different schools which are implementing Mid-Day Meals Scheme would be sufficient to develop a perspective of the problems associated with the implementation of the scheme. Multistage sampling technique which is a complex form of cluster sampling was applied to select Government aided schools of Urban & Rural areas in Krishna District out of 3340 schools which are implementing Mid-day meal scheme and thus enables coverage of all types of schools like, primary, secondary, municipal, anganvadies

Characteristics of Participants

The interpretation was made by analyzing the data primarily collected from 180 schools including Anganwadis, Primary, upper primary, ZPH Schools, municipal of Krishna District, Andhra Pradesh. The study finding throws light on various issues related with mid day meal programme and tries to look into the major impact of MDM programme on enrolment, attendance, retention and nutritional status of school going children in the selected district. About fifty percent of the samples are collected from ZPH and Municipal Schools. Primary and Upper Primary schools constitute around one fourth of the sample size (table – 3).

Table – 3

Sample Distribution

School/ Class	Total
Per KG	51
1 to 5 th class	23
Up to 7 th Class	17
Up to 10 th class	89
Total	180

Research Tools/Instruments:

The study considers both primary as well as secondary data. Specifically, the primary data is collected with the help of specially prepared interview schedule (questionnaires). The schedule include the questions related to the general information about children's socio-economic background, academic performance, retention rate, etc,. The main sources of secondary data includes study reports, records, annual action plans, bulletins and documents prepared by Ministry of women and child development, Planning Commission, Economic Survey, Government of Andhra Pradesh websites, etc. The secondary data collected from the administrative guidelines of Ministry of Rural Development, Government of India web sites, apart from the books, journals, and seminar papers also formed the main sources.

Data Analyses tools used:

For the analysis of the data, the study has used Chi-square for data analysis. For the analysis of data statistical packages like SPSS and Ms-Excel are used.

Results of the Study: results of the study has presented in table -4.

Quality of mealy served under MDM Programme

More than fifty percent of the respondents felt that the food quality is having more than above average quality. Except one respondent the remaining respondents felt that the quality (around fifty percent) is having average quality. The Chi- Square result shows that the satisfaction is depended on the type of the school. It is evident that the beneficiaries at high school and municipal schools expressed low satisfaction when comparatively other schools.

Type of kitchen facility availability:

It is observed that around one third schools do not have any special facility for cooking and about one fourth schools have permanent facility available for cooking. Around forty percent schools have temporary construction available exclusively for cooking. Significant differences are observed in terms of kitchen facility among different types of schools. It is observed that most of the Anganwadi schools do not have any kitchen facility and cooking is done mostly in the classrooms. It is also observed that most of the cooking agencies are not getting Gas subsidy and are using wood for cooking which is not environment friendly.

Impact of MDM programme on teaching:

More than 95 per cent of the respondents feels that, the programme doesn't disrupt the teaching and about to 5 per cent of the respondents feels that, the programme disrupting the teaching. Significant differences are observed among different schools towards the disruption caused by MDM programme

Enrollment of children under MDM programme:

Seventy five percent of the respondents feel that there is strong relation between school enrolment and midday meal programme in Krishna District. Twenty five percent of respondents feel that there is no relation between MDM programme and schools enrollment. It is also observed that the there is a strong relation between MDM programme and enrollment in Anganwad and upper Primary Schools. From the analysis of the data, a significant difference is observed among different schools and enrollment under MDM programme in Krishna District.

Increase in Percentage of enrollment:

Nearly twenty five percent of the schools reported that, there is no increase in enrollment due to MDM programme. Fifty per cent of the schools reported that, their enrollments are increased up to 10 percent. Twenty per cent of the schools reported that they registered ten percent to twenty percent higher enrollment and six schools reported that twenty percent to forty percent higher enrollment. One school registered above forty percent enrollment due to MDM programme. From the analysis of the data, a significant difference is observed among different schools and percentage of enrollment under MDM programme in Krishna District.

Drop outs of the students after introduction of MDM Programme:

Nearly forty five percent of dropouts decreased due to MDM program in Krishna District. It can also observe that the dropout percentage is very low in high schools and municipal schools. Nearly fifty five percent of schools reported that, MDM programme will not stop the dropouts in the selected area. In case of anganwadis, primary schools, the dropout ratio is very high. From the analysis of the data, a significant difference is observed among different schools and dropouts after implementation of MDM programme in Krishna District.

Opinion related to quality of food:

The study observed that, 95 percent teachers said that, chalderns getting quality of food was good whereas less than 5 per cent school headmasters feel that the quality of food was below average as very often watery food was supplied by the SHG members. From the analysis of the data, a significant difference is observed among different schools about quality of food in MDM programme in Krishna District.

Student Health improvement in MDM

It is observed that, around eight nine per cent of the school administrators feels that there is a tremendous improvement in child health after implementing the MDM programme. Only 11 per cent of the school administrators feel that, there is not improvement in children health. From the analysis of the data, a significant difference is observed among different schools about health improvement for the children under MDM programme.

Table – 4

Test results

	Chi-square test results	Df.	Level of significance
Quality of mealy served under MDM Programme	237.672	12	.000
Type of kitchen facility availability	204.574	8	.000
Impact of MDM programme on teaching	18.534	8	.018
Enrolment of children under MDM programme	69.610	8	.000
Increase in Percentage of enrollment	227.597	16	.000
Drop outs of the students after introduction of MDM Programme	113.252	8	.000
Opinion related to quality of food	12.886	4	.012
Student Health improvement in MDM	149.037	4	.000

Conclusion:

The study has identified that there is a fair amount of high levels of retention of school going kids is due to the successful implementation of mid-day meal scheme. It was also mentioned by school administrators that in rural areas kids from lower economic strata are attending school for the sake of getting meals. As eggs and fruits were also supplied every week there is a significant improvement in the nutritional status of children.

It was observed that in more than 70 per cent of the selected schools surveyed there are no proper infrastructural facilities for cooking. Availability of manpower is fairly adequate. Lack of storage facilities for rice and other groceries is another concerning factor. In most of the schools at villages cooking is done by using firewood and not with LPG.

As the number of schools serving mid day meals in Krishna district is around 4000 it was observed that lot of coordination is required among the implementing and regulatory bodies. Many of the SHGs who are preparing food have suggested that the payment of their bills must be settled quickly. It is also suggested that LPG must be provided on higher subsidy to the cooking agencies. The stipulated minimum honorarium which is pegged at Rs 1000/- at present is not adequate. The authorities must look for considerable hike in the remuneration. Minimum basic infrastructural facilities must be provided for proper cooking and dining. Hand wash facilities must be provided in all schools.

Reference:

- Bobonis, Gustavo, Edward Miguel and CharuPuri-Sharma. (2006). "Anemia and School Participation." *Journal of Human Resources*, 41(4): 692-721.
- Chetan Bhagat "We the half educated people" *The Times of India*, January 26, 2015.
- Dreze, Jean and Geeta Gandhi Kingdon. (2001). "School Participation in Rural India". *Review of Development Economics*, 5(1): 1-24.
- Emerson, Patrick M. and Andre Portelz Souza. (2003). "Is There a Child Labor Trap? Inter-Generational Persistence of Child Labor in Brazil." *Economic Development and Cultural Change* 51(2): 375-398.
- Farzana Afridi (2010), "Child welfare programs and child nutrition: Evidence from a mandated school meal program in India" *Journal of Development Economics* 92 (2010) 152-165.
- Friedman, Willa, Michael Kremer, Edward Miguel, and Rebecca Thornton. (2011). "Education as Liberation?" *NBER working paper*.
- Government of India " Second Review Mission on Mid Day Meal Scheme: Andhra Pradesh" Government of India, Ministry of Human Resource Development, *Department of School Education & Literacy*, 23rd August to 1st September, 2010.
- KV RameshwarSarma, D Hanumantha Rao, K Mallikharjuna Rao, ChGalreddy, Sharad Kumar, Vishnu Vardhan Rao and N Pralhad Rao (2012), research on Impact of Midday Meal Program on Educational and Nutritional Status of School-going Children in Andhra Pradesh, India, The Midday Meal Program(MDM) is in operation in several states of India, *Asia Pac J Public Health* January 1995 8: 48-52.

- Planning Commission (2010), "Performance Evaluation of Cooked Mid-Day Meal (CMDM)" Programme Evaluation Organisation, Planning Commission, Government of India, New Delhi, May, 2010.
- Rajshri Jayaraman, Dora Simroth and Francis De V Ericour (2001), research report on The Impact of School Lunches on Primary School Enrollment: Evidence from India's Midday Meal Scheme, *isid.ac.in*.
- Ravallion, Martin, and Quentin T. Wodon. (2000). "Does Child Labor Displace Schooling? Evidence on Behavioral Responses to an Enrollment Subsidy." *The Economic Journal*, 110(462): 158-175.
- Schultz, Paul T. (2004). "School Subsidies for the Poor: Evaluating the Mexican Progresa Poverty Program." *Journal of Development Economics*, 74(1): 199-250.
- Stephanie Bonds " Food for Thought: Evaluating the Impact of India's Mid-Day Meal Program on Educational Attainment" Department of Economics , University of California, Berkeley , May 2012
- Swaminathan research foundation "The School Feeding Programme in India" *Swaminathan research foundation*, August 2011.
- The Times of India, "Bad days for students as Centre cut funds to midday meal scheme", *the Times of India*, Mar 5, 2015.
- The World Bank. (2008, September 16). Press Release: New Data Shows 1.4 Billion Live on Less than U.S. \$1.25 A Day, But Progress Against Poverty Remains Strong. Washington, DC. Retrieved from <http://www.worldbank.org> .
- United Nations. (2010, June 20-22). High-level Plenary Meeting of the General Assembly. New York, NY. Retrieved from <http://www.un.org> .
- Venkatarangaiya Foundation (2008), "A Report on Social Audit of the Mid Day Meal scheme in Five Districts of Andhra Pradesh", Hyderabad.
- Yazali Josephine & Vetukuri P.S. Raju (2008), "A Study of Best Practices In the Implementation of Mid-day Meals Programme in Andhra Pradesh" Department of Educational Administration, Department of Comparative Education and International Cooperation, National University of Educational Planning and Administration, July 2008.

Impact of Online Classroom Transition on Teachers Mental Health

Mastoora Hassan^{*1} Zaika Manzoor²

University of Kashmir, India

Central University of Kashmir, India

fatimatmastoor14@gmail.com (* mirzaiqa5@gmail.com)

ABSTRACT

Covid- 19 pandemic has brought unforeseen consequences on all aspects of human life and has enormous disruptive implications including for education. Education an important sector has the responsibility of making individual enlightened with the changing circumstances which cannot be expected without teachers. Teachers as irreplaceable figure were adversely affected due to sudden inclusion of online learning. The absolute transition to digital learning without adequate proficiency turn out to be cause of mental stress among teachers. Teaching via online is full of chaotic as motivating and engaging students, managing discipline, pay individual attention, technical problems and constant power cuts unfold various challenges to teachers. The present study aims to predict the effect of online teaching on the mental health of primary school teachers in terms of working conditions, administrative pressure and teachers well being. Total 524 samples were selected from north region of India by using purposive sampling technique out of which 482 responses were functional. Factor Analysis technique determines the factorial structure of scale. The self constructed scale helps to specify the mental conditions among teachers and Simsek (2021) online teaching competency scale was used to assess online teaching. Regression analysis reveal there is significant impact of digital learning on teachers' mental health. The paper recognizes various factors affecting teachers' mental health and will identify healthy interventions for the same.

Keywords: Teachers, Mental Health, Transition, Online learning

Introduction

It has been three years of pandemic now and the world is still facing colossal challenges. Health and safety of an individual is the utmost priority and maintaining the same is challenging. The complete lockdown as a preventive measure against the spread of Covid -19 has affected normal life of an individual and the use of digital devices increased globally. (Allen et al., 2019; Aziz Rahman et al., 2020; Duraku Linda Hoxha 2020; Pandhya and Lodha, 2021). This radical change in people's life and work due to digital transformation has

brought various desolations to mental health. Excessive use of information communication technology (ICT) creates feeling of tension, anxiety, exhaustion and decreased job satisfaction (Cuervo et al., 2018). However, these were the only alternative tools to remain emotionally and socially connected.

Education has become impacted sector disrupted unimaginably. School and university teaching were transformed over night into a virtual modality and no one was willing to embrace this change (Al lily et al., 2020; Besser et al., 2020; Kim and Asbury, 2020). This respond to the pandemic by going online not only affected the students mental state (Cachon-Zagalaz et al.,2020) certain level of stress is also witnessed by teachers accompanied with symptoms of anxiety, depression, sleep disturbances, domestic violence and divorce, which restrict the ability to teach properly (Al Liliy et al.,2020). The demand to shift teachers to the virtual format and transition of education from offline to online mode without assessing experience of teachers creates confusion, stress, uncertainty among teachers (UNESCO, 2020).

Teachers reported a number of difficulties during the online teaching learning process, including network issues, a lack of training, a lack of knowledge, a lack of motivation, a lack of personal touch, and a lack of engagement (Arora and Srinivasan, 2020). Teachers who teach online without sufficient training encounter numerous challenges when it comes to utilizing technology in the classroom (Sharma, 2020). Teachers described the experience of teaching online as tiring and demotivating (Press Trust of India, 2020).

Literature Review

Initial outbreak of the COVID-19 in China and WHO declaration of international public health emergency, psychological responses of the general public after an event was 53.8% as measured by IES-R (Impact of Event Scale-Revised). The prevalence of moderate to severe depressive symptoms was 16.5%, moderate to severe anxiety symptoms was 28.8% and 8.1% moderate to severe stress as measured by the DASS-21 (Depression Anxiety & Stress Scale). It revealed that more than half of the respondents rated the psychological impact as moderate-to-severe, and about one-third reported moderate-to-severe anxiety (Wang et al., 2020). In Italy 5.1% people confirmed PTSD (Post Traumatic Stress Disorder) symptomatology associated to the Covid-19 sprout and 48.2% reported lower levels of psychological well being linked with less vitality, lower self control, negative well-being, higher level of anxiety distress and mood disorders (Favieri et al., 2021). The respondents in Austria reported 21% moderate depressive symptoms, 19% moderate anxiety symptoms and 16 % moderate or severe clinical insomnia (Pieh et al., 2020). In UK, 52% respondents estimated to be positive for a general mental illness and 28% shown to be positive for clinical insomnia. It is also revealed that adults under 35, women, unemployed youth and low income group are involved in severe mental health problems (Pieh et al., 2021). A study carried

out in Iran assessed the prevalence of anxiety and are significantly high as of prepandemic times. 95% women are found more stressed than men and people from 21-40 age group experience more anxiety than other age groups. Consequently, the levels of anxiety symptoms were higher among educated people, people who followed covid news and had atleast one covid positive in family or relative (Moghanibashi and Mansourieh, 2020). A cross sectional study was conducted in Greece to examine the psychological effects of Covid-19 pandemic on secondary school teachers. 34% of teachers reported mild anxiety and 8% of teachers experience severe depressive symptoms. However, the prevalence of psychological distress, anxiety, and depressive symptoms were found more in the female teachers (Stachteas and Stachteas, 2020). In a study conducted in Spain with sample of 1633, results revealed that 50.6% teachers indicated suffering from stress, with 4.5% reporting extremely severe stress conditions and about 14.1% exhibit severe stress. About 49.5% of teachers showed anxiety, 8.1% reported extremely severe symptoms and 7.6% severe symptoms. Finally, 32.2% reported suffering from depression, of which 3.2% exhibit extremely severe symptoms and 4.3% severe symptoms (Ozamiz-Etxebarria et al. 2021). In china, a study conducted by Haung & Zhao, (2020) found that 35.1 of teachers and 21% moderate symptoms of depression, whereas in Germany teachers experienced a medium to high amount of stress during lockdown (Klapproth et al,2020). In the United Kingdom teachers reported high level of anxiety (Allen 2020) and in Chile, the pandemic negatively affected teacher's quality of life especially among women and younger teachers (Lizana, 2021). Several studies carried out in Austria, China, Poland and Philippines revealed gender differences in stress levels, in which women exhibits higher levels of stress than men. The presence of gender difference in term of stress was due to gender roles and domestic task distribution. The work-family conflict intensified due to the adoption of mandatory timework while living in ongoing pandemic (Hidalgo et al., 2021). In India, Covid 19 affected 64.9% peoples mental status (Chakraborty ., et al 2020) and more than 80% felt need of help for their mental well being (Roy et al., 2020) 52% of the participants' felt social isolation due to restrictions imposed during pandemic (Kumar et al., 2020) 87% of any kind of mental stress was reported among people (Gosh et al., 2020) and 39.5% reported moderate to severe stress (Nair et al., 2020).

Research Objectives

To assess whether the predictive variable (Online Teaching) contributes to the dependent variable (Mental Health)

Hypothesis

H0: There is no significant impact of Online Teaching on Teachers Mental Health.

Methodology

Research Design

For the present study, 524 responses from north India were collected through purposive sampling technique in which 482 were functional. Assessment of mental health of teacher was done by self constructed tool and for online teaching Simsek (2021) online teaching competency scale was used.

Questionnaire Design

Initially 48 items were drafted out which was evaluated by subject experts (Tull and Hawkins, 1994). Factor Analysis technique was employed for the scale construction in which various variables are grouped in accordance to moderate or high correlation with each other (Fraenkel et al., 2012). Using principal component and Varimax rotation as the main approaches in EFA the sample adequacy in KMO was found to be .915 with Bartlett's Sphericity test (X^2) statistically significant with a value 2780.95. Initially 44 items were extracted under 6 factors, some items were removed on the basis of commonalities having factor loading below .05 (Leech, 2005). Items with cross loadings were also removed which consequently reduced the items consisting a structure of 23 items under 3 factors. The 3 factors is having total explained variance 65.309, after identifying the factors CFA was carried out to determine the values of model fit.

Measurement model

For testing measurement model AMOS was used to run CFA in which fit indices were computed. Factor loadings for each item were assessed and none of the item was removed as all item loadings were $> .50$. The measurement model was used to assess overall goodness and badness of fit (CMIN/df, GFI, CFI,TLI,SRMR and RMSEA). All the fit indices values lies within acceptance range (Ullman, 2001; HU and Bentler, 1998). The values for 3 factor model Working Conditions (WC), Administrative Pressure (AP) and teachers Well Being (WB) is shown in the Table 1.

Table 1

Recommended Value	Source (s)	Obtained Value
Insignificant	Bagozzi and Yi (1988)	.000*
3-5	Less than 2 (Ullman,2001) to 5 (Schumacker & Lomax, 2004)	1.51
>.90	Hair et al (2010)	.900
>.90	Bentler (1990)	.964
>.90	Bentler (1990)	.958
<.08	Hu and Bentler (1998)	.049
<.08	Hu and Bentler (1998)	.054

Reliability

Cronbach alpha (α) and Composite reliability (CR) was assessed for constructive reliability. Cronbach alpha for each construct was found over .70 (Nunnally and Bernstein, 1994). Composite reliability was found above the .70 benchmark (Hair et al., 2010). Hence composite reliability for each construct is shown in Table 2.

Validity

Validity was assessed by using Average Variance Extracted (AVE) and Discriminant validity.

AVE is computed as a sum of squares of factor loadings and dividing it by no. of items in the unobserved latent variables (Bagozzi and Yi, 1988). A Fornell and Lacker criterion was used to assess the Discriminant validity is shown in Table 2.

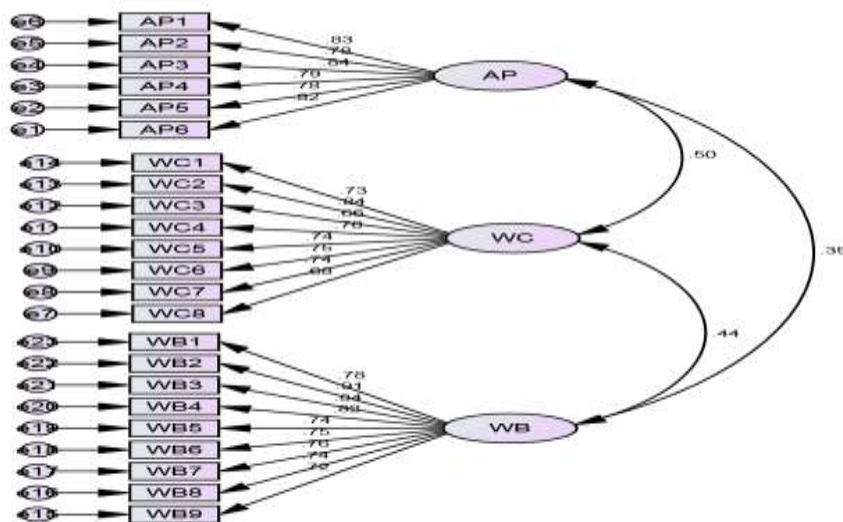
Table 2

ITEM LOADINGS FOR CFA				
ITEMS	DIMENSIONS	ESTIMATES	COMPOSITE	AVERAGE
			RELIABILTY	VARIANCE EXTRACTED
			CR	AVE
AP1	I feel lack of administrative support	.832	0.98	0.65
AP2	I get encouragement from school authorities	.776		
AP3	I free stressed to deal with my superiors	.840		
AP4	I face communication problems with my authorities	.787		
AP5	I feel stressed to maintain unreal target	.780		
AP6	I feel pressurized on high demand performance	.824		
WC1	I feel stress due to constant work load	.727	0.98	0.53
WC2	I feel exhausted of long working hours	.844		
WC3	I feel students are less motivated	.657		

WC4	I feel it is difficult to handle students' misbehaviour via online	.700		
WC5	I feel it is difficult to engage every student	.738		
WC6	I feel I am not able to manage time properly	.747		
WC7	I feel face to face interaction better than online	.685		
WC8	I face difficulty in maintaining mutual agreement with my colleagues	.735		
WB1	I am unable to provide quality time to family.	.785	0.99	0.62
WB2	I have amicable discussion with my colleagues	.910		
WB3	I feel lack of regular social interaction via online	.836		
WB4	I face trouble in sleeping	.825		
WB5	I confront problems related to health	.742		
WB6	I face emotional breakdowns	.748		
WB7	I feel lack of concentration during interaction	.765		
WB8	I feel video interaction more consuming and draining	.742		
WB9	I am unable to maintain daily activities	.716		

DISCRIMINANT VALIDITY

	AP	WC	WB
AP	0.806		
WC	0.497	0.728	
WB	0.386	0.442	0.787



Measurement Model

Analysis

The Hypothesis tests online teaching carries no significant impact on teachers' mental health. The dependent variable Mental Health (MH) was regressed on predictable variable Online Teaching (OT) to test the H0. Online teaching (OT) significantly predicted Mental health (MH), $F(1,216) = 83.389, p > .001$, which indicates that the online teaching had a significant role on teachers mental health ($\beta = -.569, p > .001$). These results clearly depict the effects of online teaching on teachers' mental health. Moreover, the $R^2 = .266$ depicts 26.6% of the variance in Mental Health Table 3 below shows the summary of the findings:

Table 3

Hypothesis	Regression Weights	Beta Coefficient (β)	R ²	F	p-value	Hypothesis supported
H0	OT → MH	.569	.266	83.389	.000	NO

Note. * $p < 0.05$. OT: Online Teaching, MH: Mental Health

Discussion

To determine impact of online teaching on teachers' mental health self constructed scale was used. The scale consists of 3 factor structure having 23 items which revealed that due to online transition mental health of teachers suffer in terms of inapt use of online tools in educational process or lack of technical competencies (Gang & Shanxi,2015); technical knowledge (Denis et al., 2004), lack of administrative support (Einar M. Skaalvik) and feeling of high demand of performance (Rebecca J.Collie,2021), not being able to provide quality time to family (Tennant et al., (2007), lack of regular social interaction via online (Smith and Lim, 2020), confront problems related to health, trouble in sleep (Rajkumar,2020) and face emotional breakdowns/exhaustion (Rebecca J.Collie,2021). The results of the study depicted statistically significant difference between online teaching and mental health of teachers. The rapid spread of pandemic had have placed adverse effect on mental health of teachers due to school closure, uncertainty about duration and lack of familiarity with distance education (UNESCO, 2020). Moreover, increased dependence on technology, strenuous work conditions, students low motivation and discipline problem (Skaalvik et al., 2018), role conflict, role ambiguity (Me'rida-Lo'pez and Extremera 2017), pressure to introduce new curriculum changes (Putwain, 2019) and poor relation with administration and colleagues were some factors to induce occupational stress among teachers (Manzoor and Hassan, 2021). Due to unpleasant work conditions lead to exhaustion by creating less confidence and make it more difficult to manage student behavior (Buric and Kim, 2020).

Conclusion

The teaching related experiences during pandemic were mostly aversive as online transition intensifies teachers work stress due to lack of ICT knowledge, administrative pressure and strenuous working conditions. Furthermore, it is evident that continual work schedule impede daily routine of teachers, self care and social and family ties which consequently effect teachers well being. These studies identify some imperative suggestion:

- Online teaching competencies should be provided through capacity building programmes for effective learning.
- Online teaching approaches in teaching, learning and assessment should become part of curriculum for continual practice.
- Low student ratio makes work load manageable and
- Administrative support should be ensured for inclusion of diverse technological strategies.

References

- Allen, M. S., Walter, E. E., and Swann, C. (2019). Sedentary Behaviour and Risk of Anxiety: A Systematic Review and Meta-Analysis. *J. Affect. Disord.* 242, 5–13. doi:10.1016/j.jad.2018.08.081
- Al Lily, A. E., Ismail, A. F., Abunasser, F. M., & Alqahtani, R. H. A. (2020). Distance education as a response to pandemics: Coronavirus and Arab culture. *Technology in society*, 63, 101317.
- Aziz Rahman, M., Hoque, N., Sheikh, M., Salehin, M., Beyene, G., Tadele, Z., et al. (2020). Factors Associated With Psychological Distress, Fear and Coping Strategies During the COVID-19 Pandemic in
- Besser, A., Lotem, S., & Zeigler-Hill, V. (2020). Psychological stress and vocal symptoms among university professors in Israel: implications of the shift to online synchronous teaching during the COVID-19 pandemic. *Journal of Voice*.Australia. Global. Health. 16, 1–15. doi:10.1186/s12992-020-00624-w
- Burić, I., & Kim, L. E. (2020). Teacher self-efficacy, instructional quality, and student motivational beliefs: An analysis using multilevel structural equation modeling. *Learning and Instruction*, 66, 101302.
- Cashon- Zagalaz, J., Sanchez-Zafra, M., Sanabrias- Moreno, D., Gonzalez- Velaro, G., Lara- Sanchez, A.J., and Zagalaz- Sanchez, M.L. (2020). Systematic review of the literature about the effects of Covid 19 pandemic on the lives of school children. *Front.psychol.* 11: 2457.doi: 10.3389/fpsyg.2020.569348
- Skaalvik EM., Skaalvik S. Job demands and job resources as predictors of teacher motivation and well-being. *Social Psychology of Education*. 2018; 21(5): 1251–1275. (<https://doi.org/10.1007/s11218-018-9464-8>)
- Me´rida-Lo´pez S, Extremera N, Rey L. Emotion-regulation ability, role stress and teachers' mental health. *Occupational Medicine*. 2017; 67(7): 540–545. (<https://doi.org/10.1093/occmed/kqx125>) PMID: 29016826
- Putwain DW, von der Embse NP. Teacher self-efficacy moderates the relations between imposed pressure from imposed curriculum changes and teacher stress. *Educational Psychology*. 2019; 39(1): 51–64. (<https://doi.org/10.1080/01443410.2018.1500681>)
- Cuervo Carabel, T., Orviz Martınez, N., Arce Garcıa, S., & Fernandez Suarez, I. (2018). Tecnoestres en la Sociedad de la Tecnologıa y la Comunicacion: Revision bibliografica a partir de la Web of Science. *Archivos de Prevencion de Riesgos Laborales*, 21(1), 18-25.
- Pandya, A., & Lodha, P. (2021). Social connectedness, excessive screen time during COVID-19 and mental health: a review of current evidence. *Frontiers in Human Dynamics*, 45.
- Duraku, Z. H., & Hoxha, L. (2020). The impact of COVID-19 on education and on the well-being of teachers, parents, and students: Challenges related to remote (online) learning and opportunities for advancing the quality of education. *Manuscript submitted for publication*]. *Faculty of Philosophy, University of Prishtina*.
- United Nations Educational, Scientific and Cultural Organization.(2020a). COVID-19 impact on education data.COVID-19 education disruption and response.Paris, France: The United Nations Educational, Scientific and Cultural Organization, UNESCO.

- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International journal of environmental research and public health*, 17(5), 1729.
- Favieri, F., Forte, G., Tambelli, R., & Casagrande, M. (2021). The Italians in the time of coronavirus: psychosocial aspects of the unexpected COVID-19 pandemic. *Frontiers in psychiatry*, 12.
- Pieh, C., Budimir, S., & Probst, T. (2020). The effect of age, gender, income, work, physical activity, and relationship status on mental health during coronavirus disease (COVID-19) lockdown in Austria. *J. Psychosom. Res.*
- Pieh, C., Budimir, S., Delgadillo, J., Barkham, M., Fontaine, J. R., & Probst, T. (2021). Mental health during COVID-19 lockdown in the United Kingdom. *Psychosomatic medicine*, 83(4), 328-337.
- Moghanibashi-Mansourieh, A. (2020). Assessing the anxiety level of Iranian general population during COVID-19 outbreak. *Asian journal of psychiatry*, 51, 102076.
- Manzoor, Z. & Hassan, M (2021). Occupational
- Stachteas, P., & Stachteas, C. (2020). The psychological impact of the COVID-19 pandemic on secondary school teachers. *Psychiatrike= Psychiatriki*, 31(4), 293-301.
- Ansoleaga, E., Díaz, X., & Mauro, A. (2016). Associação entre estresse, riscos psicossociais e qualidade do emprego de trabalhadores assalariados chilenos: uma perspectiva de gênero. *Cadernos de Saúde Pública*, 32, e00176814.
- Ozamiz-Etxebarria, N., Berasategi Santxo, N., Idoiaga Mondragon, N., & Dosil Santamaría, M. (2021). The psychological state of teachers during the COVID-19 crisis: The challenge of returning to face-to-face teaching. *Frontiers in Psychology*, 11, 3861.
- Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry research*, 288, 112954.
- Klapproth, F., Federkeil, L., Heinschke, F., & Jungmann, T. (2020). Teachers' Experiences of Stress and Their Coping Strategies during COVID-19 Induced Distance Teaching. *Journal of Pedagogical Research*, 4(4), 444-452.
- Allen, R., Jerrim, J., & Sims, S. (2020). How did the early stages of the COVID-19 pandemic affect teacher wellbeing. *Centre for Education Policy and Equalising Opportunities (CEPEO) Working Paper*, (20-15), 20-15.
- Lizana, P. A., & Vega-Fernandez, G. (2021). Teacher teleworking during the covid-19 pandemic: Association between work hours, work-family balance and quality of life. *International Journal of Environmental Research and Public Health*, 18(14), 7566.

- Hidalgo-Andrade, P., Hermosa-Bosano, C., & Paz, C. (2021). Teachers' mental health and self-reported coping strategies during the COVID-19 pandemic in Ecuador: A mixed-methods study. *Psychology Research and Behavior Management, 14*, 933.
- Denis, B., Watland, P., Pirotte, S., & Verday, N. (2004, April). Roles and competencies of the e-tutor. In *Networked learning 2004: A research based conference on networked learning and lifelong learning: Proceedings of the fourth international conference, Lancaster* (pp. 150-157).
- Gang, L., & Shanxi, T. V. (2015). Analysis of online tutor's ability improvement in contemporary distance education. *Journal of Shanxi Radio & TV University, 4*, 17-19.
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., ... & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes, 5*(1), 1-13.
- Smith, B. J., & Lim, M. H. (2020). How the COVID-19 pandemic is focusing attention on loneliness and social isolation. *Public Health Res Pract, 30*(2), 3022008.
- Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian journal of psychiatry, 52*, 102066.
- Collie, R. J. (2021). COVID-19 and teachers' somatic burden, stress, and emotional exhaustion: examining the role of principal leadership and workplace buoyancy. *Aera Open, 7*, 2332858420986187.
- Haw Simsek, I., Kucuk, S., Kose Biber, S., & Can, T. (2021). Development of an online teaching competency scale for university instructors. *Open Praxis, 13*(2), 201-212.
- Kins, D. I., & Tull, D. S. (1994). *Essentials of marketing research*. Macmillan Publishing Company.
- Rawat, D., Dixit, V., Gulati, S., Gulati, S., & Gulati, A. (2021). Impact of COVID-19 outbreak on lifestyle behaviour: a review of studies published in India. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 15*(1), 331-336.
- Chakraborty K, Chatterjee M. Psychological impact of COVID-19 pandemic on general population in West Bengal: a cross-sectional study. *Indian J Psychiatry* 2020; 62(3):266e72.
- Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian Journal of Psychiatry* 2020; 51:102083.
- Kumar M, Dwivedi S. Impact of coronavirus imposed lockdown on Indian population and their habits. *Int. J. Sci. Healthcare Res.* 2020; 5(2):88e97.
- Nair DR, Rajmohan V, Raghuram TM. Impact of COVID-19 lockdown on lifestyle and psychosocial stress - an online survey. *Kerala Journal of Psychiatry* 2000; 33(1):5e15.
- Ghosh A, Arora B, Gupta R, Anoop S, Misra A. Effects of nationwide lockdown during COVID-19 epidemic on lifestyle and other medical issues of patients with type 2 diabetes in north India. *Diabetes & Metabolic Syndrome: Clin. Res. Rev.* 2020; 14(5):917e20.

- Press Trust of India. (2020, April 9). From technological queries to distress calls, teachers struggle with challenges posed by lockdown [Web log post]. Retrieved from <https://www.ndtv.com/education/from-technological-queries-to-distress-calls-teachers-struggle-with-challenges-posed-by-lockdown-2208957>
- Arora, A. K., & Srinivasan, R. (2020). Impact of pandemic COVID-19 on the teaching–learning process: A study of higher education teachers. *Prabandhan: Indian journal of management*, 13(4), 43-56.
- Joshi, A., Vinay, M., & Bhaskar, P. (2020). Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments. *Interactive Technology and Smart Education*.
- Joshi, A., Vinay, M., & Bhaskar, P. (2020). Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments. *Interactive Technology and Smart Education*.

Exploration and analysis of gamified interactive practice software in flipped classroom in the 21st century

SHANG Yuqi¹ Jaemjan Sriarunrasmee²

Zhujiang College, South China Agricultural University, China

Faculty of Education Srinakharinwirote university, Thailand

* 1320977767@qq.com

ABSTRACT

Nowadays, many colleges and universities are actively adopting the flipped classroom teaching method, and the reverse learning arrangement has corresponding potential in improving students' learning concept. This research paper proposes a synthesis of gamified interactive application software to enhance and support the flipped classroom. The method uses qualitative synthesis techniques to collect data from social science articles submitted for publication between 2005 and 2022.

After summarizing the results of several papers, it is found that students who use interactive software can be divided into three groups: 1) students using traditional teaching methods (TI); 2) students using pure flipped classroom learning (CFL); 3) students Using Gamified Interactive Practice Software and Flipped Classroom (GIPSFL). The combined findings also found that the use of interactive software improved students' academic performance, initiative, independent inquiry, engagement, and metacognitive abilities.

Keywords: gamification, flipped classroom, modern educational technology, interactive practice software

INTRODUCTION

Based on the background of educational technology in the 21st century, the teaching method of flipped classroom is widely used, and its concept is proposed by Bergmann and Sams (2012). Relying on information technology, teachers change their teaching methods from traditional teaching to providing teaching videos or other course content materials as the main form of learning resources. Students need to complete the viewing and learning of instructional videos and other learning resources before class. A new teaching mode in which teachers and students jointly answer questions, expand, interact and collaborate (Zhang Weina, 2015). Its

purpose is to be student-centred, so that students have more opportunities to practice in the classroom with the help of their classmates and teachers. Some researchers have adopted the flipped classroom teaching model to address students' initiative, self-exploration and participation in classroom learning (Yang Hongyu et al., 2021). At the same time, many studies have shown that flipped classroom teaching can improve academic performance and have a positive impact on the learning outcomes of college students (Lax et al., 2017). Develop creativity and critical thinking skills (Horn, 2013), improve learning interest, satisfaction and engagement (Awidi & Paynter, 2019; Ramnanan & Pound, 2017), and improve self and self-regulation (Enfeld, year 2013). Other researchers have indicated that the flipped classroom teaching model has a significant positive effect on students' cognitive learning outcomes compared to the traditional classroom teaching model (Balaban et al., 2016; Wasserman et al., 2017), but other studies have No statistical differences in cognitive learning outcomes or performance were reported between flipped and traditional classrooms (Krahenbuhl, 2017). The flipped classroom also puts forward requirements for students' basic literacy. Simple flipped classroom There is no better way to improve students' understanding and active participation in learning content (Qin Chao et al., 2020).

Educational software technology is a branch of software. It is the specific performance of software in education and teaching. It is different from other software. It includes all the functions of the software, as well as the functions of learning and education. Educational software is an information intelligence tool for educating learners. It is an effective way and method to use modern digital technology for innovative teaching, and it has been more widely used in the field of media. The use of digital technology teaching software can provide more support for students to use technology correctly, and even improve students' independent inquiry ability, thinking ability (Geiger et al, 2010) and perception ability.

Gamification is widely accepted in today's society and used in various jobs and occupations such as sports (Rojas Tor rijos, 2020), business (Rocha et al., 2019), psychology (Alhalafawy & Zaki, 2019), mathematics (Zhao Jiahua, 2019)) et al., 2021) and other fields. Gamification has been analyzed and studied from many different angles in the education industry (Albert D. Ritzhaupt, 2021). Among the numerous learning structures, gamification is defined as an effective way to add game elements to learning activities to increase students' interest, engagement and achievement (Yang et al., 2020, Ge, 2018). And researchers have also demonstrated that gamification can use game design elements in non-game contexts and, when applied to formal education, can effectively influence students' emotional and behavioral performance (Albert D. Ritzhaupt, 2021). The gamification method of the course provides students with a virtual simulated learning experience and environment, where students can feel happy and relaxed, so as to subtly improve students' active learning ability and deepen their deep understanding of learning content. And strengthen students' ability to ask questions

(Prensky, 2007). Some previous studies have shown that many game elements are implemented in the form of rankings, cartoons, badges, points, etc. (Alomari et al., 2019). But slowly found that there are many more elements that can be used in a gamified learning environment, such as choice, level, personalization, time limit, collaboration, etc. (Ortiz et al., 2016; Subhash & Cudney, 2018). These are all It can reflect the development potential of gamification. (Jihua ZHAO et al., 2021, Hwang, 2015) raised the importance of using mobile technology to connect learning before, during and after class, as software can be embodied in gamification and use electronic systems to collect and share information and data, and access and querying of resources.

This article will present a summary of the flipped classroom and gamified interactive practice software that are important for empowering students in the 21st century. We summarize and synthesize papers published between 2005 and 2022.

Objectives

1. Propose the synthesis of gamified interactive application software to strengthen and support the flipped classroom
2. Propose a gamified interactive application software component of flipped classroom.

LITERATURE REVIEW

Flipped classroom

Flipped classrooms are known as blended learning strategies (Lewis et al. 2017; Yilmaz 2017). The concept of flipped classroom is mainly to change the traditional teaching method and shift the focus of the classroom from teachers to students. Centered (Pierce and Fox, 2012). For flipped classroom learning, teachers need to release learning materials before class, and students can complete the learning of basic content before class independently. As a result, teachers can save time explaining basic course content in the classroom (Lewis et al., 2017) to deepen and enhance classroom practice. Pre-class materials mainly provide students with instructional videos or other media learning materials that enable them to learn and understand the basic concepts of the class before class (Cilli-Turner, 2015). Students studying in the flipped classroom can attend classes at a speed that they can adapt to, which enhances students' sense of autonomous control over the learning process (Braun et al., 2014). Because students have learned the basic knowledge before class and have a preliminary understanding of the theory, they will have more time and space to participate in more classroom practice activities in the classroom. For example, students can complete more exercises in class. And you can also bring questions about the pre-class practice assignments to the class discussion. This will enable teachers

to quickly identify problems they encounter in their learning (Herid & Schiller, 2013), and students can fully enjoy and participate in class discussions or other interactive sessions. Several current research reports show the positive impact of flipped classrooms on student engagement and learning (Fisher et al., 2018). To give another example, (Chiang & Wang, 2015; Foldnes, 2016; Galway et al., 2014) pointed out that students who used the flipped classroom reported that they had a better understanding of the course content and mastered a deeper level of knowledge, enable them to get higher grades.

In addition, some researchers have found that if course content is completely devoid of guidance and prompting, some low-achieving and less able students may not be able to keep up with the issues discussed in class and go straight to the discussion. Anxiety or self-defeating responses appear (Sun et al., 2017). At the same time, flipped classrooms are often discussed in small groups. However, he points out that the literature on collaborative learning often reports on the challenges and problems students encounter in group work. For example, students' lack of communication and collaboration skills hinders the speed of group discussions and the accumulation of knowledge (Popovetal, 2012; Ross, 2008).

Based on the above reference materials, I think flipped classroom is a relatively innovative and influential teaching method. By preparing materials before class and students' self-study methods, teachers can save time in traditional course content teaching, and use class time as an extension of interaction and content. This allows students to be more motivated in the classroom, but also does not avoid students who are lazy and lack solid fundamentals. Due to the lack of accurate guidance from teachers in the early self-study content, students cannot effectively master and test their learning outcomes. This also led to a decline in the enthusiasm of some students to study. Therefore, the flipped classroom teaching method cannot satisfy all or more students.

Therefore, although flipped classroom has a positive effect on students' learning, students must have certain learning participation, metacognition and conscious inquiry skills through appropriate prompting and guiding strategies. Therefore, the focus of this study is to develop a method to assist flipped classroom teaching to indirectly improve and strengthen students' effective participation in film and television soundtrack lessons. This development is based on a proper game interaction method.

Gamified Interaction

In recent years, (Lo & Hew, 2018) pointed out that the game method is increasingly used in education, its purpose is to better encourage students and promote their active participation in learning activities, indirectly improve their learning motivation, and help them expand themselves learning ability. knowledge and deep understanding. Gamification is the use of game elements and ways of playing in non-game contexts (Robson,

K., Planger et al., 2015; Stott, J. & Neustaedter, C. 2013; Deterrence, S., Dixon, D., Khalid, R. & Nak, L. 2011). In order to participate in learning in a fun way, use the interactive function of games to guide students to understand and solve their own learning problems (Jin J. 2011). However, from my own experience and classroom research data, simple game elements cannot effectively attract the attention of college students. With long-term active practice and love, students' metacognition and academic performance of the course have not improved. For this, we need more interactive ways to add to this gamified learning software to increase focus on analysis, motivation, satisfaction, commitment and participation in the higher learning process (Simoies, J., Redondo et al. 2013; Urh, M., Vikovic, G., Jereb, E. & Pinta, R. 2015).

Combined with the above references, gamified interaction is a positive method that can improve students' attention and engagement, and it can be embodied not only in gamified elements, but also in non-gaming contexts, which allow students to engage in a fun environment Solve the problem.

Flipped classroom and gamified interactive software

From a synthesis of papers in the scope of word flipped classroom and gamified interaction software, the researchers classified the use of this strategy into three types.

1) Adopt traditional teaching method (TI) - traditional teaching method means that teachers prepare lessons before class, all content is accumulated in the classroom, and teacher-led teaching imparts curriculum knowledge to students.

2) Adopt pure flipped classroom learning (CFL) - the teaching method of flipped classroom means that teachers record the teaching content into video in advance, and send it to students before class, so that students can complete the teaching content independently, with students as the center. Students bring the knowledge they have learned or don't know into the classroom, conduct questions, group discussions, etc., teachers help students answer, and interact with students to practice, and impart some extended content of knowledge.

3) Using gamified interactive practice software and flipped classroom (GIPSFL) - Using gamified interactive practice software and flipped classroom refers to adding practice software before class and in class on the basis of flipped classroom teaching methods.

METHOD

1. This method uses qualitative synthesis techniques to collect data on social science articles submitted for publication between 2005 and 2022.

2. Standards for research scope of flipped classroom and gamified interactive software.

3. Analyze the concepts of integrated flipped classroom and gamified interactive software.

RESULT

For objective1: Comprehensive results of gamified interactive application software to enhance and support the flipped classroom, (Jiahua Zhao et al., 2021) such as:

Academic performance was tested using the Kolmogorov-Smirnov test for normality of the data (Figure 1).

表2三组学生学习成绩后测的描述性数据和ANCOVA结果

变量	组	N	平均	S.D	调整平均	F	高级职员
测试后 (1) GIEBFL组	(1) GIEBFL组	42	67.38	18.39	65.83	23.33**	(1) > (2)
	(2) CFL组	40	62.63	20.88	61.84		(1) > (3)
	(3) TI组	48	38.48	19.08	41.49		(2) > (3)

***p < .001

figure1

According to the students' answers after the questionnaire and examine the learning motivation of the three groups of students (Figure 2)

表3对三组学生对学习动机进行问卷调查后的ANCOVA结果

变量	组	N	平均	S.D	调整平均值	F	高级职员
学习动机	(1) GIEBFL组	42	4.16	0.60	4.30	4.02*	(1) >
	(2) CFL组	40	4.08	0.66	4.04		(2)
	(3) TI组	48	4.07	0.69	3.95		(1) >
	(3)						(3)

*p < .05

figure 2

The post-questionnaire method was used to investigate the metacognitive tendencies of the students in each group (Figure 3)

表4三组元认知倾向问卷的ANCOVA结果

变量	组	N	平均	sd	调整平均值	F	高级职员
元认知倾向	(1) GIEBFL组	42	3.96	0.6	4.02	4.32*	(1) >
	(2) CFL组	40	4.00	6	4.08		(3)
	(3) TI组	48	3.78	0.7	3.67		(2) >
	(3)			2	0.90		(3)

*p < .05

figure3

The chart shows that among the types of teaching methods in the self-flipped classroom, the GIEBFL type is the most effective method. The GIEBFL in this table is what we call GIPSFL, and they have common tools for gamification, interactivity, electronic data, practice and learning.

For objective2: Gamified interactive application software components for the flipped classroom.

From the comprehensive research papers of gamified interactive application software, researchers design components from the specific analysis of gamified interactive application software, which is a suggestion that gamified interactive software components should behave in applications. (Jiahua Zhao et al., 2021)

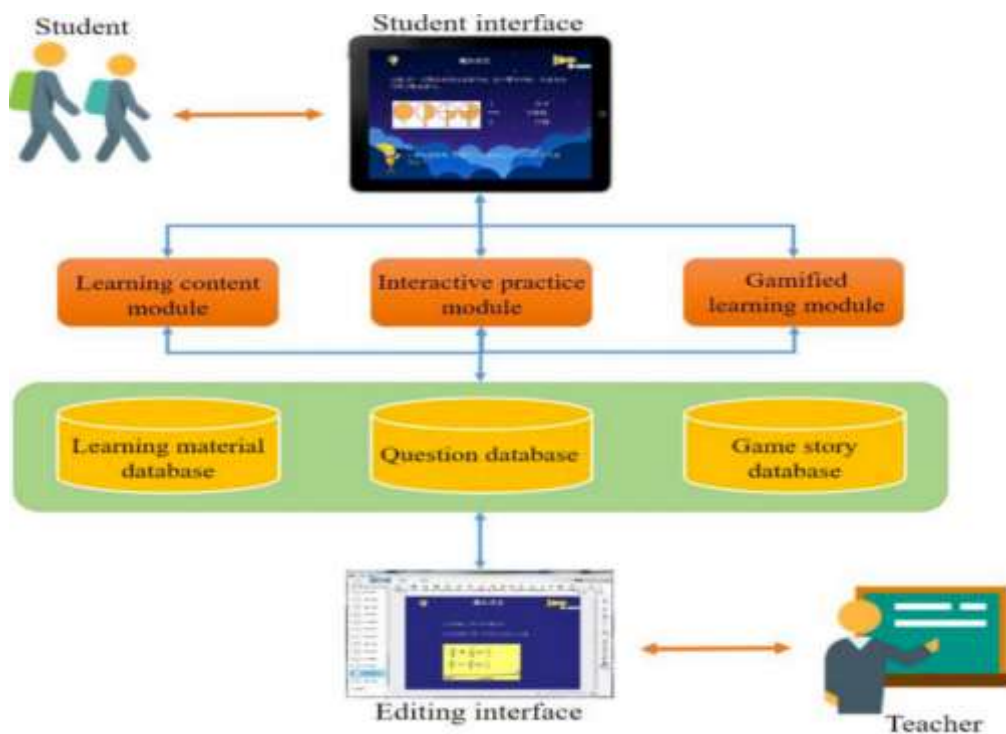


Figure 4. System structure of gamified interactive exercise software

The main purpose of the learning content module is to provide students with the concept of learning the course, the purpose is to help students understand the basic knowledge and the purpose of the exercises that the course needs to master. The gamified interactive question selection practice module is designed to provide students with practice questions and to inform the accuracy of the answers one by one through game elements. The interactive answer report is a basic analysis report on the mastery of knowledge in the form of a data report and in the form of students' practice answers after students complete a set of practice questions.

The software interface is displayed, as shown in Figure 5:

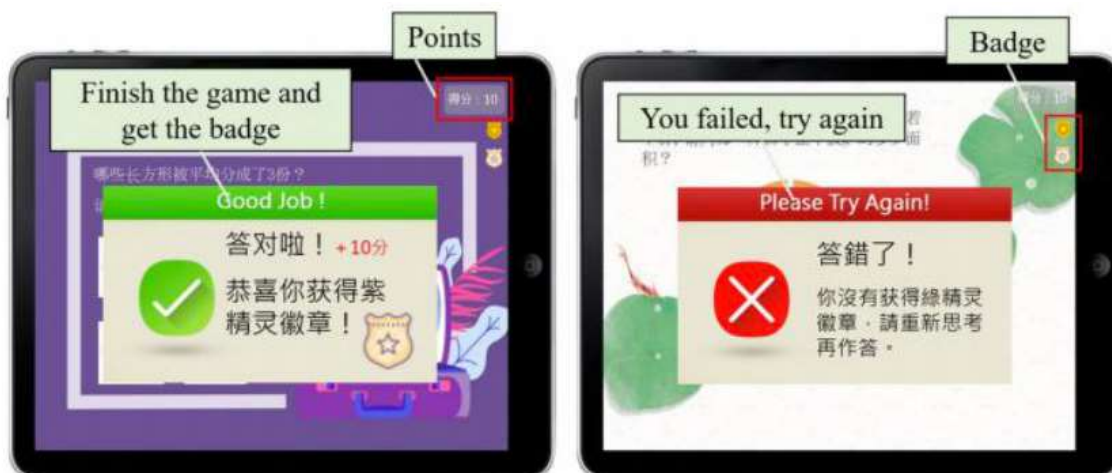


Figure 5

DISCUSS

Starting from the results, the display method based on gamification interactive practice software is studied, and the method is combined with the teaching mode of flipped classroom, and applied to actual classroom teaching. Academic performance, initiative, self-inquiry, engagement, and metacognition were examined.

Combining the above examples and research papers published from 2005 to 2022, GIPSFL is the most famous method for improving students' learning ability. (Lo & Hew 2018) pointed out that in order to improve students' learning performance, the use of gamification intervention in flipped classroom learning can effectively promote students' participation in classroom learning, and can also improve students' interaction in learning. At the same time, we can also see that the simple use of the flipped classroom teaching model has played a positive role in improving students' performance, but the effect is not obvious. The study synthesis also showed that the GIPSFL type outperformed the other two groups in terms of learning initiative, self-inquiry ability, and metacognitive understanding. However, we also found that the data on whether students in the CFL group are easy to understand the classroom content is not higher than that of traditional teaching, but slightly lower. This shows that the flipped classroom teaching mode is affected to a certain extent by students' awareness, comprehension and other abilities, resulting in a complete student-centered approach without teachers giving proper guidance and guidance, making it difficult for students to fully absorb and digest the learning content independently. This coincides with (Qin Chao et al., 2020) that a simple flipped classroom cannot improve students' understanding of the learning content.

The final study shows that the participation of students in the GIPSFL group is higher than that of the other two groups, indicating that the learning method based on gamified interactive practice software is embedded in the teaching mode of flipped classroom, which can improve students' classroom participation. Well-designed game tools are encouraging Students play an important role in actively participating in learning discussions. And the students in the CFL group are also higher than the TI group, which also proves that the "student-centered" "centered" pedagogy of the flipped classroom can also allow students to participate more actively and not always accept that they can express themselves views and questions.

CONCLUSION

In general, gamified interactive practice software in the 21st century is worthy of continued research and promotion in the flipped classroom. It can not only enrich the teaching links of today's flipped classroom, but also quickly and effectively cultivate students' comprehension ability and improve the positive effect of flipped classroom. The development and use of this type of software, combined with the widely used flipped classroom teaching model, has effectively improved students' academic performance, initiative, self-inquiry ability, participation and metacognitive ability. This exploration and analysis not only found a method that can assist the flipped classroom to improve the teaching effect, but also put forward some suggestions for everyone: when completing the flipped classroom, it is not completely "freeing students". Provide students with a large number of auxiliary materials for self-study and practice. The purpose is to prevent students from uneven understanding of classroom content caused by excessive differences. Teachers need to constantly remind and ask. At the same time, the gamified interactive practice software also requires teachers to constantly update the question bank, so that students can repeatedly practice and contact new knowledge points, so that students can learn more about the mastery of their learning content.

REFERENCES

- Wang Ying, Teng Yuemin (2020), Discussion on "Three Apartments and Three Styles" Teaching Method of Ideological and Political Course in Film and Television Soundtrack. CNKI.
- Zhang Weina (2015), A preliminary study on the "flipped classroom" model of college Chinese. CNKI.
- Yang Hongyu, Yang Tongji (2021) Stimulation of college students' learning initiative-based on the use of flipped classroom. CNKI
- Qin Chao, Wang Xin (2020) Qualitative research on "MOOC + flipped classroom" blended learning for college students in local ethnic universities. CNKI
- Awidi, I., & Paynter, M. (2019). The impact of a flipped classroom approach on student learning experience. *Computers & Education*, 128, 269–283.
- Alhalafawy, W. S., & Zaki, M. Z. T. (2019). The effect of mobile digital content applications based on gamification in the development of psychological well-being. *International Journal of Interactive Mobile Technologies*, 13(8), 107–123. <https://doi.org/10.3991/ijim.v13i08.10725>
- Alomari, I., Al-Samarraie, H., & Yousef, R. (2019). The role of gamification techniques in promoting student learning: A review and synthesis. *Journal of Information Technology Education: Research*, 18, 395–417. <https://doi.org/10.28945/4417>

- Albert D. Ritzhaupt¹ · Rui Huang¹ · Max Sommer¹ · Jiawen Zhu¹ · Anita Stephen¹ · Natercia Valle² · John Hampton¹ · Jingwei Li¹ (2021) , A meta-analysis on the influence of gamification in formal educational settings on affective and behavioral outcomes. <https://doi.org/10.1007/s11423-021-10036-1>
- Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. International Society for Technology. in Education.
- Balaban, R. A., Gilleskie, D. B., & Tran, U. (2016). A quantitative evaluation of the flipped classroom in a large lecture principles of economics course. *The Journal of Economic Education*, 47(4), 269–287.
- Braun, I., Rittter, S., & Vasko, M. (2014). Inverted classroom by topic: A study in mathematics for electrical engineering students. *International Journal of Engineering Pedagogy*, 4(3), 11–17. <https://doi.org/10.3991/ijep.v4i3.3299>
- Cilli-Turner, E. (2015). Measuring learning outcomes and attitudes in a flipped introductory statistics course. *Primus*, 25(9–10), 833–846. <https://doi.org/10.1080/10511970.2015.1046004>
- Chiang, Y.-H., & Wang, H.-C. (2015). Effects of the in-flipped classroom on the learning environment of database engineering. *International Journal of Engineering Education*, 31(2), 454–460.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining 'gamification'. *Proceedings of the 15th International Academic MindTrek Conference*. pp. 9–15. Retrieved from <https://doi.org/10.1145/2181037.2181040>
- Enfeld, J. (2013). Looking at the impact of the flipped classroom model of instruction on undergraduate multimedia students at CSUN. *TechTrends*, 57(6), 14–27.
- Foldnes, N. (2016). The flipped classroom and cooperative learning: Evidence from a randomised experiment. *Active Learning in Higher Education*, 17(1), 39–49. <https://doi.org/10.1177/1469787415616726>
- Fisher, R., Perényi, Á., & Birdthistle, N. (2018). The positive relationship between flipped and blended learning and student engagement, performance and satisfaction. *Active Learning in Higher Education*. <https://doi.org/10.1177/1469787418801702>
- Geiger, V., Faragher, R., & Goos, M. (2010). CAS-enabled technologies as 'agents provocateurs' in teaching and learning mathematical modelling in secondary school classrooms. *Mathematics Education Research Journal*, 22(2), 48–68.
- Ge, Z. G. (2018). The impact of a forfeit-or-prize gamified teaching on e-learners' learning performance. *Computers & Education*, 126, 143–152. <https://doi.org/10.1016/j.compedu.2018.07.009>
- Galway, L. P., Corbett, K. K., Takaro, T. K., Tairyan, K., & Frank, E. (2014). A novel integration of online and flipped classroom instructional models in public health higher education. *BMC Medical Education*, 14, 181–190. <https://doi.org/10.1186/1472-6920-14-181>
- Horn, M. (2013). The transformational potential of flipped classrooms: Different strokes for different folks. *Education Next*, 13, 78–79.

- Hwang, G. J., Lai, C. L., & Wang, S. Y. (2015). Seamless flipped learning: a mobile technology-enhanced flipped classroom with effective learning strategies. *Journal of Computers in Education*, 2(4), 449–473. <https://doi.org/10.1007/s40692-015-0043-0>
- Herreid, C. F., & Schiller, N. A. (2013). Case studies and the flipped classroom. *Journal of College Science Teaching*, 42(5), 62–66.
- Krahenbuhl, K. S. (2017). An engaging, yet failed flip. *Journal of Scholarly Teaching*, 12, 132–144.
- Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. *Journal of Economic Education*, 31(1), 30–43.
- Lewis, C. E., Chen, D. C., & Relan, A. (2017). Implementation of a flipped classroom approach to promote active learning in the third-year surgery clerkship. *The American Journal of Surgery*, 215(2), 298–303.
- Kim, A.J. (2011, March 23). Gamification 101: Designing the player journey. Google Tech Talk. Retrieved from <https://youtu.be/B0H3ASbnZmc>
- Lax, N., Morris, J., & Kolber, B. J. (2017). A partial flip classroom exercise in a large introductory general biology course increases performance at multiple levels. *Journal of Biological Education*, 51(4), 412–426.
- Lo, C. K., & Hew, K. F. (2018). A comparison of flipped learning with gamification, traditional learning, and online independent study: the effects on students' mathematics achievement and cognitive engagement. *Interactive Learning Environments*. <https://doi.org/10.1080/10494820.2018.1541910>
- Ortiz, M., Chiluitza, K., & Valcke, M. (2016). Gamification in higher education and STEM: A systematic review of literature. *EDULEARN16 Proceedings* (pp. 6548–6558). <https://doi.org/10.21125/edulearn.2016.0422>
- Prensky, M. (2007) *Digital Game-Based Learning*. Saint Paul, MN: Paragon House.
- Pierce, R., & Fox, J. (2012). Vodcasts and active-learning exercises in a “flipped classroom” model of a renal pharmacotherapy module. *American Journal of Pharmaceutical Education*. <https://doi.org/10.1007/s12257-012-9388-8>
- Popov, V., Brinkman, D., Biemans, H. J. A., Mulder, M., Kuznetsov, A., & Noroozi, O. (2012). Multicultural student group work in higher education. *International Journal of Intercultural Relations*, 36, 302–317. <https://doi.org/10.1016/j.ijintrel.2011.09.004>
- Rocha, E. M., Pereira, G. M., & Pacheco, D. A. d. j. (2019). The role of the predictive gamification to increase the sales performance: A novel business approach. *Journal of Business & Industrial Marketing*, 35(5), 817–833. <https://doi.org/10.1108/JBIM-01-2019-0005>
- Rojas Torrijos, J. L. (2020). Gamification of sports media coverage: An infotainment approach to Olympics and Football World Cups. *Communication & Society*, 33(1), 29–44. <https://doi.org/10.15581/003.33.1.29-44>
- Ross, J. A. (2008). Explanation giving and receiving in cooperative learning groups. In R. M. Gillies, A. Ashman, & J. Terwel (Eds.), *The teacher's role in implementing cooperative learning in the classroom* (pp. 227–242). Springer. https://doi.org/10.1007/978-1-4020-5688-8_ajpe7610196

- Re, A. M., Benavides-Varela, S., Pedron, M., De Gennaro, M. A., & Lucangeli, D. (2020). Response to a specific and digitally supported training at home for students with mathematical difficulties. *Frontiers in Psychology*, 11, 2039. <https://doi.org/10.3389/fpsyg.2020.02039>
- Ramnanan, C. J., & Pound, L. D. (2017). Advances in medical education and practice: Student perceptions of the flipped classroom. *Advances in Medical Education and Practice*, 8, 63–73.
- Robson, K., Plangger, K., Kietzmann, J., McCarthy, I., & Pitt, L. (2015). Is it all a game? Understanding the principles of gamification. *Business Horizons*, 58 (4): 411–420. Retrieved from <https://doi.org/10.1016/j.bushor.2015.03.006>
- Stott, A.J., & Neustaedter, C. (2013). Analysis of Gamification in Education. Retrieved from <http://clab.iat.sfu.ca/pubs/Stott-Gamification.pdf>
- Simões, J., Redondo, R. D., & Vilas, A. F. (2013). A social Gamification framework for a K-16 learning platform. *Computer in Human Behavior*, 29(2), 345-353. Retrieved from <https://doi.org/10.1016/j.chb.2012.06.007>
- Sun, J. C. Y., Wu, Y. T., & Lee, W. I. (2017). The effect of the flipped classroom approach to OpenCourseWare instruction on students' self-regulation. *British Journal of Educational Technology*, 48(3), 713–729. <https://doi.org/10.1111/bjet.12444>
- Subhash, S., & Cudney, E. A. (2018). Gamified learning in higher education: A systematic review of the literature. *Computers in Human Behavior*, 87, 192–206. <https://doi.org/10.1016/j.chb.2018.05.028>
- Urh, M., Vukovic, G., Jereb, E., & Pintar, R. (2015). The Model for Introduction of Gamification into E-learning in Higher Education. 7th World Conference on Educational Sciences (388-397). Science Direct. Retrieved from <https://doi.org/10.1016/j.sbspro.2015.07.154>
- Wasserman, N. H., Quint, C., Norris, S. A., & Carr, T. (2017). Exploring flipped classroom instruction in calculus III. *International Journal of Science & Mathematics Education*, 15(3), 545–568.
- Jiahua Zhao¹ · Gwo-Jen Hwang² · Shao-Chen Chang³ · Qi-fan Yang⁴ · Artorn Nokkaew⁵ (2021) 。 Effects of gamified interactive e-books on students' flipped learning performance, motivation, and meta-cognition tendency in a mathematics course.
- Yang, Q. F., Chang, S. C., Hwang, G. J., & Zou, D. (2020). Balancing cognitive complexity and gaming level: Effects of a cognitive complexity-based competition game on EFL students' English vocabulary learning performance, anxiety and behaviors. *Computers & Education*, 148, 103808. <https://doi.org/10.1016/j.compedu.2020.103808>
- Yilmaz, R. (2017). Exploring the role of e-learning readiness on student satisfaction and motivation in flipped classroom. *Computers in Human Behavior*, 70, 251–260.

The Proposing on the Application of Virtual Reality Technology in Mock Court Training

Chen Xiaofang¹, Jaemjan Sriarunrasmee²,

¹Law School of Jiangnan University, China

²Faculty of Education Srinakharinwirot University, Thailand

*1173280072@qq.com (Corresponding author's email)

ABSTRACT

This research is focus on the application of virtual reality (VR) technology for teaching in mock court because VR technology can create a virtual judicial environment closer to reality in mock court training. In this situation, students freely choose their roles and use legal knowledge to analyze and solve cases. Through VR, a virtual simulation technology, students can be "immersive", so as to have a more intuitive understanding and analysis of legal facts and relations. It not only strengthens students' grasp of legal knowledge, but also exercises students' ability and level of using their learned knowledge in practice. The objective of this study is to synthesize VR Technology in the practice of teaching and to propose the guideline on how to apply VR Technology in the mock court teaching classroom. The methodology used quantitative synthesis from 16 research papers in recent five years(2018-2022). The result showed that at present, there are four types of VR system: desktop VR system, immersive VR system, distributed VR system and enhanced VR system. VR for using in mock court training is the desktop VR system, the most components of the desktop VR system are 3D animation technology, a sense of reality and an "immersive" learning environment.

Keywords: VR technology, mock court, training

Introduction

In the wave of the continuous development of the technology and education industry, VR technology has been developing rapidly under the impetus of "Internet plus" and has gradually applied to traditional education. VR technology can highly simulate learning scenes, so as to improve students' class efficiency and learning interest. With the rapid development of science and technology, VR technology has become the focus of social research and brought a new experience to the reform of education and teaching. The combination of virtual reality

technology and classroom teaching has become the focus of attention of colleges and universities (Liu Shiqin and Xiao Li 2021).

Law is a highly practical subject. As one of the important modes of law practice teaching, simulated court teaching is set up in major judicial vocational colleges. However, the current model of simulated court teaching is relatively backward and deviates from its original direction and goal. Today, with the rapid development of information technology, the introduction of vr virtual reality technology into simulated court teaching can make up for the disadvantages of traditional simulated court teaching and enable students to better experience the real scene and atmosphere of judicial trial in the virtual environment (Li Huilong 2020).

Through VR technology, students majoring in law can immersively experience the court trial procedure in mock court training, repeatedly perform independent role-playing in the virtual teaching environment, be familiar with the legal operation procedure, exercise the court trial skills, and cultivate the ability of language expression and logical reasoning. The environment created by VR technology has a sense of immersive and real experience. The students can be integrated into it and their learning initiative and enthusiasm can be enhanced. By simulating exercises in the virtual environment, students can systematically review the theoretical knowledge they have learned and realize the consolidation and application of theoretical knowledge.

Research Objectives

This study firstly demonstrates the disadvantages of traditional simulated court teaching, then deeply analyzes the necessity of introducing VR technology into simulated court teaching, and summarizes the guiding principles of VR technology in simulated court teaching classroom and the application of VR technology in teaching practice on the basis of quantitative synthesis of relevant research papers.

Methodology

Quantitative synthesis. In order to synthesize the relevant literature on VR and mock court training, the author works on CNKI(<https://www.cnki.net/>). A total of 58 articles were found. All articles were written by Chinese scholars. The most common keywords are obvious, including VR technology, simulated court, practical teaching and talent training.

After screening, 16 articles closely related to this study in recent 5 years (2018-2022) were selected for in-depth analysis. By combing and summarizing the literature, the author summarizes the purpose of this paper.

Questionnaire survey. Design the questionnaire, conduct the preliminary investigation on the application of virtual reality technology in geography teaching, and use SPSS software to analyze the data to determine the necessity and feasibility of the research.

Samplings/Participants

By means of questionnaire, the surveyed students were anonymous, and the students of the law department of Jiangnan University were sampled by stratified sampling and random sampling. A total of 100 questionnaires were sent out and 100 were recovered, including 99 valid questionnaires, with a validity rate of 99%.

Research Tools/Instruments

The survey results were analyzed by spss19.0 for processing and analysis.

Procedure

At present, the author mainly considers the following two aspects when designing the questionnaire for students majoring in virtual technology:

1. Students' interest in the mock court practice course and the frequency of participating in role simulation;
2. Students' attitude towards the application of VR technology in simulated court teaching.

Data Analyses

The author mainly investigates from the following aspects:

Investigation on the practice course of mock court:

Table 1

Questionnaire for Mock Court Practice Courses

Problem	How interested are you in taking mock court practice courses?				Do you often participate in role simulation in mock court practice courses?		
Option	0~30%	30~60%	60~80%	80~100%	Never do	Occasionally	Do it in every class
Findings	27%	22%	32%	19%	86%	12%	2%

The data can best reflect the problem. As can be seen from the table, there are obvious differences in students' interest in the mock court practice course. Those with low interest accounted for 27%, while those with relatively high interest accounted for 32%. However, law, as a highly practical subject, students' practical ability and professional skills are very important, and teachers' teaching methods and students' learning environment also affect students' interest in the mock court practice course.

As for the problem of participating in role simulation, we can see that the percentage of never participating is the highest. Only when students participate in role simulation in person can they gradually have the professional skills of this role. Therefore, teachers should be aware of this problem and improve it.

Students' interest in using VR technology to show learning content:

Table 2

Questionnaire on Students' Attitudes towards VR Technology

Problem	Are you interested in using VR technology to flexibly show the court scene?		
Option	Have interest in	Indifferent	Uninterested
Findings	87%	12%	1%

It can also be seen from the table that students are very interested in using VR technology to show learning content, which is in line with the trend of cognitive development. There are also some students with an indifferent attitude, which can reflect the students' learning psychology. Therefore, we should pay attention to the students' psychological status. Similarly, it also reflects the students' attitude towards the current situation of traditional teaching. The performing role simulation is boring, and students hope to have the opportunity to conduct role simulation in the real scene.

For the application of VR technology in simulated court teaching:

Table 3

Questionnaire on the Application of VR Technology in Simulated Court Teaching

Problem	Do you think applying VR technology to simulated court teaching will help you?		
Option	No	Just so-so	It is very useful and easier to understand the content
Findings	3%	38%	58%

It can be seen from Table 3 that the students think it is very helpful, which shows that the students are very sure of the new teaching methods and technologies and the research.

In short, from the data analysis in Table 3, we can get that the prospect of this study is good, and the students' attitude is positive, recognized and supported. Therefore, it is very necessary to apply VR technology to simulated court teaching, and it has certain practical significance.

Results

According to the investigation, we can see the disadvantages of traditional simulated court teaching. The employment rate of law graduates in Colleges and universities in China is not high, or it is difficult to quickly adapt to practical work, which is related to the traditional law teaching mode (Yang Xinmiao and Chen Hui 2021). Therefore, it is necessary to reform the teaching mode of simulated court and apply virtual simulation technology to simulated court teaching.

Limitations of simulated court training in Colleges and Universities

Firstly, the simulated court training with college teachers as the guidance core is not easy to improve students' comprehensive practical skills. Professor Li Yougen believes that the goal of setting up a mock court is not to train all graduates to become judges or lawyers in the future, but that he has such comprehensive legal practical skills that he can adapt to all legal posts. The purpose of legal practice teaching is to let students feel the environment, atmosphere and skills of legal practice (including court trial technology and legal application technology), rather than just let students master more basic legal knowledge (Wang Pengxiang and Chen Junfeng 2019). This requires colleges and universities to break the traditional teaching method of filling and cramming, turn passive

absorption into active learning, stimulate students' learning enthusiasm, guide students to actively think, find and solve problems, and participate in curriculum teaching (An Yonghua 2019).

Secondly, the degree of attention is not enough. Students have insufficient understanding of mock court. Some students believe that there are too many performance components of the mock court, lack of original materials of the case, and the evidence is not real materials. There is no investigation and confirmation. The script has been written before the court session, just like filming, which lacks the confrontation and authenticity of the court. Others believe that the career in the future is uncertain, and the role of the mock court is of little significance (Liu Peng 2021). The traditional offline teaching mode has some disadvantages, such as the limited number of students' experience participation and the limited role of part-time practical teaching teachers outside the school, which needs to be optimized and improved (Yao Ming 2020).

Finally, an important goal of mock court is to train students' on-the-spot response skills, but at present, the performance of most mock court teaching and training is very obvious. The common mock court is often written by teachers or students first, rehearsed and performed before the formal start, and finally commented or scored by teachers (Han Junying and Shen Hui 2018). An important feature of the so-called "performance" is that both parties are familiar with each other's attack and debate content in advance, that is, there is a "dress rehearsal". However, there is no "dress rehearsal" in legal practice, and everyone should pay for their actions. The significance of simulated court training is to tap students' ability to analyze legal problems and cultivate students' skills to solve practical problems (Cao Jinqiu and Guo Jinliang 2018).

The necessity of applying VR technology to simulated court teaching

Firstly, it helps to promote the deep integration of modern information technology and legal experimental teaching. In recent years, the rapid development of information technology has brought unprecedented major changes to social life and unprecedented opportunities for simulated court teaching. VR court simulation scheme is to constantly explore how to achieve specific and refined, highly immersive simulation effect. For future legal professionals, their main concern is how to quickly and legally solve the interest disputes between the parties in reality, calm social contradictions and stabilize social order, and cultivate a kind of practical knowledge and skills. Therefore, VR mock court may be a better choice for them (Wang Pengxiang and Chen Junfeng 2019).

Secondly, it helps to expand the breadth and depth of simulated court teaching content. Traditional experimental teaching is often subject to the limitations of venues and teachers, which can not benefit every student. The virtual simulation experiment system is pre loaded with a large number of experimental projects to distinguish different professional directions and difficulty levels, so that each student can participate in them. At the same time, teachers can also choose experimental projects that match students' ability according to students' mastery of

professional knowledge, gradually go deep into teaching and constantly expand the depth of experimental teaching.

Thirdly, it helps to extend the time and space of law experiment teaching. There are few class hours in mock court. The mock court based on VR technology can break through the limitation of time and space, make full use of learners' extracurricular time, and extend the time and space of mock court teaching.

Finally, it helps to improve the teaching quality and level of mock court. The traditional mock court has become a performance based on materials, with no new ideas and vitality. Using VR technology in the process of simulated court teaching, a more vivid, intuitive and specific experiential teaching method is adopted, which is no different from the traditional simulated court teaching method, so it improves the quality and level of teaching (Sun Yi 2019).

VR Technology in the simulated court teaching classroom.

The essence of legal education is vocational education (Zhang Jigang 2021). The professionalism of legal education is closely related to its practice. The professionalism of legal education is based on practice, and the practicality of legal education is expressed by professionalism. At present, VR technology should be introduced in combination with the background of the Internet era to promote the practicality of legal education.

One is to build a legal professional training laboratory based on VR technology: at present, with the increasing improvement of computer technology, the legal professional training should also keep up with the development of the times. Build a suitable training laboratory with the help of advanced computer technology, build professional laboratories such as simulated court based on VR technology, and promote virtual simulation training in the legal profession. Participants also need to master relevant knowledge in the legal field through independent research. This VR training laboratory helps to break through the limitation that the current mock court cannot conduct training at any time according to the needs of students due to the limitation of time and place, and greatly improve students' learning enthusiasm and learning efficiency. VR training laboratory is a reproduction or simulation of the real environment. It uses 3D animation to show cases and let students immerse themselves. Through the guided training process operation, it helps students get familiar with and master each link of case handling. Through the analysis and research of cases, it improves students' ability to understand legal knowledge, legal logic thinking, application of legal evidence Legal professional ability and professional quality such as legal document writing ability (Wang Na and Zhang Yinghui 2020).

Figure 1

Example of Interface in the First Instance Trial Stage from <http://www.ilab-x.com>



The other is simulated learning based on VR technology: one of the biggest advantages of VR technology is that it can give participants an immersive experience. In the simulated court training, students can choose roles, carry out simulation training, and use the learned legal knowledge to analyze and deal with cases, Train their ability to solve legal problems. With the help of VR simulation characteristics, let students experience different roles, exercise students' teamwork ability, enhance students' legal thinking ability and improve their professional quality. Teachers can summarize the students' practical training, sort out the students' analysis and response to legal cases, and guide them in combination with the knowledge taught in the classroom, so as to effectively improve the students' ability to analyze and solve problems (Li Jun and Peng liming, 2019).

Discussion

The application of VR technology in teaching practice has become the focus of attention for colleges and universities. The VR system used in simulated court teaching is desktop VR system, and its characteristics are shown in Table 4.

Table 4 Types of VR System (Liu Xiaoyi and Jin Hao 2020)

Desktop VR system	Immersive VR system	Distributed VR system	Enhanced VR system
-------------------	---------------------	-----------------------	--------------------

<ul style="list-style-type: none"> ● It can be realized by using a set of ordinary desktop computer system ● Users can interact with the virtual environment through keyboard and mouse ● The utility model has the advantages of simple structure and low cost, and is conducive to popularization 	<ul style="list-style-type: none"> ● The system is complex. It isolates users from the outside world, eliminates external interference, and enables users to devote themselves to the virtual environment ● Users interact with the virtual environment through sensor devices such as helmet mounted display, data gloves and data clothes ● It is expensive and difficult to popularize 	<ul style="list-style-type: none"> ● The network is used to connect the immersive virtual reality systems distributed in different geographical locations ● In order to achieve a common purpose, make full use of various resources distributed in different geographical locations to create a virtual environment 	<ul style="list-style-type: none"> ● Integrate real environment and virtual environment ● Replacing part of the real environment with virtual environment can not only reduce the cost of forming the real environment, but also operate some real objects, which truly achieves the state of organic combination of virtual and reality
--	--	--	--

Teachers can flexibly use the advantages of VR technology to build scenes to enable students to learn knowledge personally. For example, they can reproduce historical scenes and story scenes, bring new experiences to students, stimulate learning motivation and promote students' all-round development (Wu Jiawei 2021). According to the characteristics of desktop VR system, this kind of VR system is mainly used in the teaching process of geography, history and language. Students can understand and master the knowledge more intuitively in the virtual environment.

With the embedding of VR technology, immersive teaching can make the classroom lively and lively. In class, students only need to wear VR equipment to enter the simulated real environment or interact closely with the roles in the environment, so as to make classroom teaching colorful and greatly improve the effect of classroom teaching. Therefore, this kind of VR system is mainly used in the experimental teaching of engineering disciplines and the teaching of tourism courses. The highly immersive environment has a stronger sense of substitution. The simulated virtual world is constructed through a three-dimensional model and sensitive human-computer interaction. Users can recognize themselves in the virtual world and quickly integrate into the design of virtual

roles for knowledge learning, so as to make the teaching objectives of the course clear (Yan Wenjun and Ling Qing 2019).

Distributed VR creates an interactive virtual reality space through the network. Multiple terminal learners in different places can enter the same virtual space and carry out resource sharing, collaborative interaction, situational experience, and other activities according to the objectives set by the scene. Its remarkable advantage is that it can effectively alleviate the loneliness and anxiety easily caused by individual learning, It has a good regulatory effect on the learning process (Liu Geping and Wang Xing 2020). Therefore, this kind of VR system is mainly used in surgery, online synchronous video and other teaching, which helps students improve their learning investment and carry out high-level thinking activities.

Augmented reality technology can provide a new experience of virtual real interaction. The Archaeological Museum of the capital of the Netherlands projects the restoration map of the original building on the ancient Roman site through augmented reality technology, which strengthens the user's understanding of ancient Roman Architecture (Xiao Yalong and Liang Poyuan 2020). VR is mainly used in the complex teaching environment, so it can reduce the overhead of such systems.

Curriculum: VR mock court breaks through the disadvantages of fixed place and limited participants of traditional mock court, and has the characteristics of openness and mobility. We can use information technology to create an application software to put relevant matters in the simulated court, such as case related information, submitted legal documents, relevant requests of participants, instructions of teachers, etc. on the platform, so that participants can consult and communicate anytime and anywhere. This not only improves the efficiency of the mock court, but also increases the variables in the mock court, which undoubtedly exercises the resilience of participants (Li Huilong 2020).

Conclusion

Through literature analysis, we can divide VR simulated court teaching into two types: one is that the teacher abstracts the corresponding practice process, designs and loads the experimental project, then imparts professional knowledge and explains the operating procedures. Finally, the students complete the practical project and generate a report, and the teacher guides and evaluates it according to the report (Sun Yi 2019). For students, students can complete multiple simulations of different roles without leaving home, which reduces students' dependence on physical facilities such as simulated courts, legal clinics and public security and law practice departments, shortens students' leap process from abstract legal theory to real experience, and enables

students to quickly clarify the gap between their own quality and required vocational skills, And adjust the direction and focus of future learning (Chen Zhi, 2019).

The other is that the VR system has designed practical projects, and students only need to operate according to steps. In the teaching process, the guidance and Q & A of teachers and the interaction between teachers and students are very important, which directly determines the quality of teaching effect. In the process of VR simulated court teaching, teachers need to monitor the whole process of the trial, answer students' questions in time and evaluate students' performance. In terms of role allocation, each participant should be able to play different roles and obtain different professional experience.

limitations and suggestions

The literature sample selected in this study is relatively small, and only 16 literature samples were selected from domestic journals for quantitative synthesis. It is recommended that future research increase the number of literature and expand the literature sources to foreign language journals. Furthermore, this study investigated students' perceptions of VR technology being applied to moot court teaching, but did not directly examine changes in their academic performance, and future research should address these limitations to better guide teachers in using VR for classroom teaching.

Acknowledgment

We would like to thank the students of the law department of Jiangnan University . Through their questionnaire survey, I understand that it is necessary to apply VR technology to simulated court teaching.

References

- An Yonghua.(2019).Research on the dilemma and outlet of simulated court teaching method.Journal of Yulin University,16(4),41-45.
- Chen Zhi.(2019).The Model, Effect and Prospect of the Construction of Legal Virtual Teaching Platform.Research on Legal Education,18(3),189-204.
- Cao Jinqiu and Guo Jinliang.(2018).Research on the Innovation of Law Practical Education in Colleges and Universities--from the Perspective of the Relationship between Practical Training Courses and Simulated Court.Journal of Liaoning University (Philosophy and Social Sciences Edition),46(4),186-194.

- Cai Jun.(2021).Example of Interface in the First Instance Trial Stage.Retrieved from <http://www.ilab-x.com>
- Han Junying and Shen Hui.(2018).The Problems Existing in the Practice Teaching of Simulated Court and its Improvement Suggestions.Higher Education Forum,12(1),55-57.
- Liu Shiqin and Xiao Li.(2021).Research on the Application of Virtual Reality Technology in Immersive Teaching.Nanfang Agricultural Machinery,52(20),159-161.
- Li Huilong.(2020).Research on the Application of VR in Simulated Court Teaching in Judicial Vocational Colleges.Legal System Expo,36(5),210-211.
- Li Jun and Peng Liming.(2019).Analysis on the Application Prospect of VR in Practical Teaching of Legal Vocational Education.Knowledge Economy,36(15),153-155.
- Liu Peng.(2021).Research on the Practice of Improving the Teaching Quality of Simulated Court in Colleges and Universities.Heilongjiang Education (Higher Education Research and Evaluation),12(2),36-39.
- Liu Geping and Wang Xing.(2020).Virtual Reality Reshapes Online Education: Learning Resources, Teaching Organization and System Platform.Audio Visual Education in China,12(11),87-95.
- Sun Yi.(2019).Research on the Application of Virtual Simulation Technology in Law Experiment Teaching under the Background of Educational Informatization.Legal System Expo,36(32),211-213.
- Wang Pengxiang and Chen Junfeng.(2019).VR Mock Court:a Sociological Improvement of Mock Court.Journal of Zhoukou Normal University,36(4),125-129.
- Wang Na and Zhang Yinghui.(2020).Research on the Construction Path of Intelligent Legal Virtual Simulation Laboratory based on Effective Teaching.Experimental Technology and Management,37(4),24-27.
- Wu Jiawei.(2021).A Summary of the Research on the Application of Virtual Reality in Education.Heilongjiang Science,12(19),136-137.
- Xiao Yalong and Liang Boyuan.(2020).Support and Application of Virtual Reality and Augmented Reality Technology to Teaching.Proceedings of the 2020 (24th) Hunan Annual Computer Education Conference,26-29.
- Yan Wenjun and Ling Qing.(2019).Research on Teaching Mode based on Virtual Reality. Modernization of education,6(95),188-190.
- Zhang Jigang.(2021).Discussion on the guidance optimization of simulated court course in Colleges and Universities based on career orientation.Journal of Hubei open vocational college,18(8),25-28.

Fostering Students' Critical Literacy through Android-Based English Multimedia: Is It Engaging?

Intan Permata Hapsari

Graduate School of Technological and Vocational Education, National Yunlin University of Science and Technology, No. 123, Sec. 3, University Rd., Douliou, Yunlin, 64002, Taiwan, ROC

English Department, Faculty of Languages and Arts, Universitas Negeri Semarang, Kampus Sekaran, Gunungpati, Semarang 50229, Indonesia

intan74@mail.unnes.ac.id ; D11043012@yuntech.edu.tw

ABSTRACT

This study aims at portraying students' perception towards the android-based English multimedia in fostering their critical literacy as an attempt to make English learning more interesting. The data collecting technique used involves observation and interview to the students and the teacher. The seventh-grade students consisting of a total of 102 from a state junior high school in Semarang, Indonesia were observed while they were using the android-based multimedia for learning English texts. Meanwhile, the randomly chosen 10 students and 1 teacher were interviewed through Zoom to know their opinions towards the multimedia. The result emerged from the descriptive analysis that there is a demand among the students and English teacher on the use of android-based English multimedia for engaging students' critical literacy. As the form of learning media innovation which adjusted to the current development in the digital literary era, this multimedia could make the students feel comfortable in learning English. In addition, teachers' role in integrating ICT as a learning tool into a learning environment may help their students learn English.

Keywords: critical literacy, information and communication technology, android-based multimedia

Introduction

The new literacies made possible by the development of hi-tech electronic devices and internet that facilitate global connectedness. This effects on the increasing spread and use of information that ease the communication process. Additionally, the condition has led to a rising challenge: determining how humans will survive in the face of information outbreaks, including in the education field. The ease of access to information via websites and any social media may pose a threat to students as part of the digital society because the validity

of the information provided is often unclear, leading to confusion among them. This phenomenon is added by the unexpected situation of Covid-19 pandemic that makes students change their learning setting from offline to online learning in which they frequently have to make use of their gadgets. The importance of what it might be called critical media literacy, telling us students' strategies for stopping the spread of misinformation by reading multiple trust-worthy sources. Therefore, the role of teachers is needed to help their students who often find difficulties in selecting the right information as their references in learning (Ahmadi et al., 2019).

Indonesia's literacy is still far behind compared to other countries around the world. The study about World Most Literate Countries conducted by the President of Central Connecticut State University (CCSU) showed that Indonesia was in the 60th rank out of 61 countries (Arungbudoyo, 2018). Knowing this condition, one of the efforts to foster students' critical literacy is by preparing and developing multimedia for them to learn. Using multimedia, teachers could train their students' ability to critically select the right information and to not only focus on what is presented from the text but also think about what is within the text. They could then reveal the implicit content of the text with their own words (Bonsor Kurki, 2015). Coffey (2015) argued that becoming critical literate students means that they have ability to evaluate and critique messages in texts to better comprehend whose knowledge is being privileged. Relating to fostering students' critical literacy, the advent of information and communication technology (ICT) is also considered to be an effective, practical tool for educational reform (Gilakjani, 2017). Thus, integrating ICT into a learning environment can help students discuss and reflect, as well as complete learning tasks (AŞık et al., 2020).

Modern approaches to language learning (including EFL learning) have begun utilizing technology to create successful learning environments that could promote students' critical literacy. English as a foreign language (EFL) in Indonesia becomes a compulsory subject in the school curriculum starting from junior high school level to university level. For junior high school students who learn English at the beginning level, it will be difficult, stressful, and boring. Therefore, it is essential to create English learning situations that will increase students' opportunities to engage in English class, which will in turn increase their learning motivation and interest. Multimedia as a tool in online English learning could ease students to have more exposure to English in an individualized learning environment at their own pace and time, it also could help students extend English critical literacy to familiar environments outside their classroom as well as presenting other contextual learning situations. Ko and Lim (2021) revealed that contextual learning has the potential to expand both learning resources and scenarios aimed at promoting personalized English acquisition. Therefore, improving students' critical literacy based on their contextual learning situation should be facilitated and set through the assistance of English teachers by using current developing technology to enhance quality of education field.

Smartphone is one of media with advance and modern technology with various operation system installed in it (Al Fawareh & Jusoh, 2017), and a popular operating system that is owned by people from all backgrounds of life is Android. This could be a great opportunity to create an android-based application to assist students in learning English. Android-based multimedia is effective and considered feasible to be used to learn independently (Bahri et al., 2020). Considering (1) the position of English as one of compulsory subjects taught in the junior high school curriculum in Indonesia, (2) the importance of critical literacy that helps junior high school students to read English texts in deeper and more meaningful, and (3) the vast advancement of technology that encourages the independent learning for every student in improving their English critical literacy, this study is an attempt to foster students' critical literacy and to make English class more engaging using android-based multimedia.

Research Objectives

This study seeks to answer the following research question:

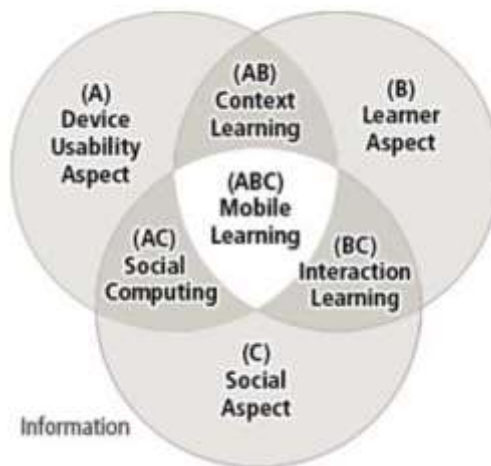
How is junior high school students' perception towards the android-based English multimedia in fostering their critical literacy?

Methodology

This study that was conducted in one of the state junior high schools in the odd semester of academic year 2021 employed qualitative research method. The data that the researcher gained were from observation and interview. The obtained data from the observation was aimed at portraying the students' engagement during the learning process using the android-based English multimedia. Meanwhile, in-depth interviews with the English teacher and selected students were done based on the Framework for the Rational Analysis of Mobile Education (FRAME). The FRAME model was developed to describe mobile learning as a process resulting from the convergence of mobile technologies, human learning capacities, and social interaction (Koole & Ally, 2006). The interview was conducted for exploring the students' perception towards the implementation of android-based English multimedia in fostering their critical literacy as an attempt to make English learning more interesting. The FRAME model is represented by a Venn diagram (Figure 1).

Figure 1

The FRAME Model



Samplings/Participants

The subject in this study included the seventh-grade students from three classes in a state junior high school in Semarang, the capital city of Central Java, Indonesia. To be specific, a total 102 students from three classes (7C, 7D, 7F) participated in this study through a non-randomized sampling method. The three classes were appointed by the English teacher based on the schedule of English class on the days the study was conducted. 7C class consists of 34 students, 7D class consists of 34 students, and 7F class also consists of 34 students. Their age ranges from 12-13 years old. Most of the students come from the area around western part of Semarang. Mostly they grow from middle to lower class families.

Research Tools/Instruments

The data in this study were taken through classroom observation for examining the implementation process of android-based English multimedia in English class. Non-participant observation was used to observe the aspects of students' engagement by giving a checklist in the observation sheet. Meanwhile, an open-ended interview was done by interviewing the English teacher and 10 selected students through Zoom to explore the students' perception towards the implementation of android-based English multimedia. The questions asked were about their experiences during applying the multimedia in the English learning process to foster their critical literacy. The interview data were analyzed qualitatively by using FRAME model. The English teacher and students'

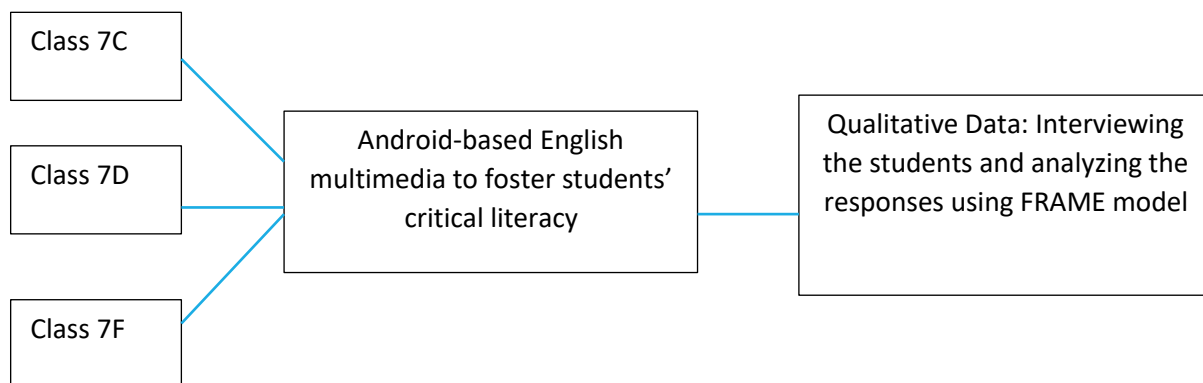
responses were analyzed to evaluate whether they have positive or negative perceptions towards the use of android-based English multimedia in their English classes.

Procedure

In this study, to control the variable related to the English teacher, an Indonesian English teacher with more than 25 years of English teaching experience was invited. In the classroom, the teacher was teaching the same content to the classes of 7C, 7D, and 7F respectively using android-based English multimedia. During the learning process, each student was provided by a computer that has already been installed with the application. The topic, *Healthy Living*, that they learned through the multimedia is based on the seventh grade of junior high school curriculum 2013. After the class observation done by the researcher was completed, it was followed by conducting the in depth-interview on the other day by using Zoom. To explore the students' perceptions towards the implementation of multimedia, qualitative data regarding students' responses during the multimedia implementation at classes were analyzed by using FRAME model.

Figure 2

Research Procedure



Data Analyses

The data from the three classes were gathered by conducting an observation and administering an interview based on FRAME model. The data results were used to portray the students' perception towards the implementation of android-based English multimedia in their English learning and would be analyzed in a qualitative way. *Healthy Living* learning materials were employed for fostering students' critical literacy. The aspects of students' engagement in the classroom were observed using a checklist in the observation sheet. The

observed aspects covered students' positive body language, consistent focus, participation, and confidence which then each aspect was analyzed whether it was consistent, inconsistent, non-existent, or not observed. The changes in the students' engagement in learning were described based on the observation of the whole three classes.

The open-ended interview session to 10 selected students covered questions relating to device usability, learner, and social aspects as formulated in the FRAME model. Then, the questions were elaborated to the aspects of context learning, social computing, interaction learning, and mobile learning process.

Results

The results of the study are presented as follows.

Students' perception toward the android-based English multimedia in fostering their critical literacy

All the participants were Seventh Graders, ranging in the age from 12 to 13 years, from three classes out of eight classes. Each class consisted of 34 students. Since English as a compulsory subject started to be taught in the seventh grade, so most of the students possessed English learning experience when they were in the seventh grade. In addition, most of them who came from lower-class families lacked English learning experience with computers, android-based multimedia, and frequency of online activity. Some of them also admitted that they did not have technology-based activities or experiences, and availability of technology or supporting environment to access online learning materials. This was added with the situation that the traditional English teaching environment was often perceived. The teacher frequently taught English using textbook and Power Point slides. She mainly focused on teaching grammar, vocabulary, translating the text which led to few opportunities for the students to communicate each other in English. Therefore, learning English using multimedia was new for them in which this condition would be one of the factors they were enthusiastic and interested in learning EFL. Implementing android-based English multimedia was feasible in practice and needed to assist with the English learning process. Table 1 shows the result of observation seen from the aspects of students' engagement during the English learning process at class.

Table 1

Aspects of Students' Engagement Observed

Aspects	Class 7C				Class 7D				Class 7F			
	C	I	N-E	N-O	C	I	N-E	N-O	C	I	N-E	N-O
Positive Body Language	√				√				√			
Consistent Focus	√				√				√			
Participation	√				√				√			
Confidence	√				√				√			

C: Consistent I: Inconsistent N-E: Non-Existent N-O: Not Observed

Positive body language the students showed during the implementation of android-based English multimedia in English learning was their eyes on the teacher when she explained the learning materials, and on the computers when they practiced using the application. They kept in appropriate posture of studying. For the aspect of consistent focus, the students did not move from their positions, remained seated, paid more attention to their multimedia, and sometimes gave non verbal responses such nodding (when they agreed or understood), and shaking heads (when they responded *no*). They participated actively during the learning process such as volunteering answering the questions delivered by the teacher, attending the discussion with their peers, and following the directions/instructions from the teacher. Learning using multimedia grew the students' confidence. The cooperation happened among the students who had got learning experience with computers/multimedia and the ones who did not which finally led them to work individually. The students were not shy being self-starting in centres and were willing to share their ideas. From the observation, it was clear that the use of android-based English multimedia could foster the students' critical literacy and make them engaged in the learning process. The interviews with 10 selected students and English teacher revealed important information about the implementation of android-based English multimedia that covered aspects of device usability, learner, and social aspects, context learning, social computing, interaction learning, and mobile learning process as stated in FRAME model. The interview using Zoom was conducted in Indonesian to avoid misunderstanding to the given questions. It was directly recorded by Zoom. The recorded data were then transcribed and translated into English.

The device usability aspect refers to the physical, technical, and functional description of multimedia. The English learning application android-based multimedia uses Articulate Storyline 3 as its software that can be used to

create presentations. Having the same function as Microsoft Power Point, Articulate Storyline can produce more comprehensive and creative presentations. This application was designed for android which could be used for not more than 64 MB of RAM. It can be operated online and offline. This software also has features such as timeline, movie, picture, and others that are easy to use that have a significant impact on the physical and psychological comfort levels of the users (Koole & Ally, 2006). A selection of students' responses illustrated the ease and friendly users of its multimedia.

"The media is easy to use. It's interesting."

"I can operate it easily."

"Yes, it is not confusing. I just click the sign."

"The instructions are understandable for me."

"It's fun. Learning using this kind of multimedia is the first time for me."

Figure 3

The Android-Based English Multimedia with the Learning Topic "Healthy Living"



At first, few of the students who were lack of technology-based activities were confused when faced with something new. It was normal in the beginning of the activity. After they were used to it, it would not be a problem anymore, and it would be good for them. The students equipped with well-designed multimedia would be able to focus more effectively on their cognitive tasks, engage in the learning process, and certainly would foster their critical literacy.

From the aspect of learner, this multimedia could provide situations and tasks in which the students need to succeed. The learning topic *Healthy Living* provided in the multimedia was based on the seventh grade curriculum. The students also learnt *adjectives* and *Simple Present Tense* from the available texts. This multimedia considered students' cognitive abilities and prior knowledge. The responses of the students proved that this media helped them what they should learn.

"I learn new vocabulary related to food with this multimedia."

"I learn the spelling and know how to pronounce the words."

"I could practice saying English. And using this multimedia, I could repeat the exercises all the time."

"Using this media, I learn new words around me. It is helpful."

The English teacher also agreed that the multimedia had many affordances, including playing a role in enriching students' vocabulary, in helping them pronouncing and spelling the correct words, and fostering their critical literacy.

"This multimedia is really good and can be a solution to overcome students' literacy. It provides pictures, texts, grammar, vocabulary, pronunciation, and exercises. It makes the students engaged and want to learn more."

Social aspect in the implementation of the multimedia refers to the students' processes of interaction and cooperation during the learning using android-based English multimedia. Through this multimedia, the students exchanged information with their peers about the given topic which affected them develop their knowledge and sustain cultural practices. This condition was supported by the responses of the English teacher.

The students exchange information about their favourite and healthy food they usually eat. They also could learn other traditional food by exchanging information with their friends.

Based on FRAME model, context learning intersection in the android-based English multimedia is defined by its ease of use, mobility, and capacity to give information anywhere, at any time. With this multimedia, the students might use it to move to more relevant or comfortable areas. The context learning intersection of the multimedia could provide cognitive tasks to the students that is the acquisition of information about the given topic as well as effective storage of information as explained by some students.

"After I install the application to my mobile phone, I could learn the materials at any time."

"I could learn English everywhere I want."

Meanwhile, for social computing intersection which refers to the ability of the students as the users to communicate with each other and also to gain access to other networked systems in this multimedia has not developed yet. This multimedia was made for more comprehensive and creative presentations of English materials for the students to learn. In addition, the interaction learning intersection of the multimedia is represented by the students who could interact with the written course materials. One of the students mentioned that: *"The materials in the multimedia benefits me in increasing my vocabulary and improving my pronunciation."* The

English teacher also added: *"The materials presented help the students' critical literacy; moreover, it is completed with interactive exercises to measure their understanding and comprehension."*

Figure 4

The use of android-based English multimedia for engaging students' critical literacy



As mobile learning, this android-based English multimedia can empower the students by assessing relevant information, reconsidering their understanding of concepts within a growing of information or reference on the internet. Therefore, it is important for the students to be able to identify any relevant and accurate information as stated by the English teacher: *"This multimedia can be a solution to overcome students' critical literacy, especially knowing the vast growing of information on the internet. The reference given in the multimedia could train students' ability to critically select the right information."* Therefore, as the students interact with the multimedia, they reshape what they need to learn. They also expect the multimedia to be developed to meet their needs in learning English better as explained by one of the students: *"I like this media. It will be more interesting, if it is added by more visual pictures and interactive games."* Moreover, the English teacher added: *"This multimedia can be added by more simple reading texts to enrich students' vocabulary and pronunciation."* From the interview, it is found that most students from three classes like learning English using android-based multimedia. Overall, the multimedia is interesting, fun, understandable, friendly user, and could support English classroom learning activities especially for fostering the students' critical literacy. Based on the observation, the multimedia also makes the students engaged during the learning process.

Discussion

This study was conducted to portray the students' perception towards the android-based English multimedia in fostering their critical literacy as an attempt to make English learning more interesting. Critical literacy becomes crucial issues in creating the media as it views the students as active learners in the reading process and invites them move beyond passively accepting the text's message to question, examine, or dispute the power relations that exist among readers and authors (Coffey, 2015). Digital critical literacy in Indonesia is also echoed through

the National Literacy Movement, the Indonesian Ministry of Education and Culture that stated the definition of digital literacy as the importance of having digital literacies abilities in the digital age. Digital literacy is needed to filter the overflowing information that comes to the students.

The process of creating the android-based multimedia follows a five-stages progression. Firstly, the researcher began with the needs analysis stage. In this stage, the materials were developed according to basic competencies of the seventh graders. The materials chosen were based on material analysis because there were some materials that were difficult to understand. Therefore, this application provides additional features such as pictures and sounds that are needed to ease and facilitate the students to understand the materials better. Secondly is creating the design. After analysing the students' needs, adjusting the learning topic was needed in developing the learning multimedia. The third stage is developing the application. It was validated by two expert validators to obtain the validity of good learning resources. In general, suggestions and input were given from the two validators relating to learning resources such as writing, font of typing, layout colour composition, pictures, and adding sources to images. The next stage is the implementation. The students and teacher were asked to download the application learning media on their android playstore. It was then continued by testing the application in the learning process. The observation and interview as the instruments of the study were carried out to find out their responses and perception to test the practicality of learning media. The last stage is the evaluation of the implementation of multimedia. Based on the observation and interview, it can be concluded that android-based English multimedia is practical and interesting to foster students' critical literacy. The English teacher also reported that technology-based language learning offered advantages to today's learners. She also mentioned that integrating the android-based multimedia with the school's learning materials was possible. The application could help her in giving clearer examples and more interesting materials (relating to reading skills) to make her students engaged in the learning process. However, the English teacher emphasized that the programs could only be run in a classroom supported by computers or laptops and internet connection. The use of mobile phones for students during the learning process at school was limited. They had to get permission first from the teacher and school. One that should be added to the improvement of the learning media is developing media spaces or computer-mediated communications environments that will assist learners to communicate even though they are physically and temporally separated.

Conclusion

This study provides information on how the students' perception towards the android-based English multimedia in fostering their critical literacy as an attempt to make English learning more interesting. On average, there is a

need for android-based English multimedia that could support the improvement of the students' critical literacy. Both the English teacher and students evaluated the learning multimedia positively and seemed to embrace android-based English multimedia for students' critical literacy. However, this study is only limited to the development phase, so in the upcoming study the researcher will investigate how android-based English multimedia might have an impact on the improvement in vocabulary knowledge and reading skills such as pronunciation. Moreover, further studies on the effectiveness of the android-based English multimedia in improving students' critical literacy should also need a longer period of time for doing multimedia-experiments and in-depth evaluation of the multimedia. Meanwhile, as English literacy teachers, they should continue to grapple with how best to prepare their students to make the most of digital literacies for global meaning making and provide appropriate learning methods which encompass or blend technology into traditional education.

Acknowledgment

This research is funded by Research and Community Services Institute of Universitas Negeri Semarang, Indonesia.

References

- Ahmadi, F., Hapsari, I. P., Rozi, F., & Bishop, C. (2019). Improving australian students' cognitive critical literacy through e-bipa based on android. *International Journal of Innovation, Creativity and Change*, 9(5), 119–128.
- Al Fawareh, H. M. Azer, & Jusoh, S. (2017). The use and effects of smartphones in higher education. *International Journal of Interactive Mobile Technologies*, 11(6), 103–111. <https://doi.org/10.3991/ijim.v11i6.7453>
- Arungbudoyo, W. (2018). *Paling Rendah Se-Asia Tenggara, Peringkat Berapa Minat Baca Masyarakat Indonesia?*, <https://lifestyle.okezone.com/read/2018/05/17/196/1899292/paling-rendah-se-asia-tenggara-peringkat-berapa-minat-baca-masyarakat-indonesia>
- AŞık, A., Köse, S., Yangın Ekşi, G., Seferoğlu, G., Pereira, R., & Ekiert, M. (2020). ICT integration in English language teacher education: insights from Turkey, Portugal and Poland. *Computer Assisted Language Learning*, 33(7), 708–731. <https://doi.org/10.1080/09588221.2019.1588744>

Bahri, A., Ramly, Z. A., Nur, M. S., & Pagarra, H. (2020). Android-Based Mobile Learning Supported the Independent Learning of Senior High School Students in Covid-19 Pandemic. *Proceeding of The International Conference on Science and Advanced Technology (ICSAT)*, 22–32.

<https://ojs.unm.ac.id/icsat/article/view/17567>

Bonsor Kurki, S. E. (2015). Investigating Adolescent Critical Literacy Engagement. *Language and Literacy*, 17(3), 13. <https://doi.org/10.20360/g2jc7w>

Coffey, H. (2015). Critical Literacy. *Critical Literacy*, 1–10. <https://doi.org/10.4324/9781315635385>

Gilakjani, A. P. (2017). A Review of the Literature on the Integration of Technology into the Learning and Teaching of English Language Skills. *International Journal of English Linguistics*, 7(5), 95.

<https://doi.org/10.5539/ijel.v7n5p95>

Ko E, L. K. (2021). Promoting English Learning in Secondary Schools: Design-Based Research to Develop a Mobile Application for Collaborative Learning. *Asia-Pacific Education Researcher*, 1–13.

Koole, M., & Ally, M. (2006). Framework for the Rational Analysis of Mobile Education (FRAME) model: Revising the ABCs of educational practices. *Proceedings of the International Conference on Networking, International Conference on Systems and International Conference on Mobile Communications and Learning Technologies, ICN/ICONS/MCL'06, 2006* (October), 216.

<https://doi.org/10.1109/ICNICONSMCL.2006.103>

Study on the Pros and Cons in the Management of Higher Education in India

Dr. Gaurav Agrawal

Anand Engineering College, India

gaurav.23nov@gmail.com

Abstract:

Educational Management is termed as the development of integrate the proper human and material resources that are made accessible and made useful for achieving the purposes and objectives of an educational organisation.

Reason being a huge number of organisational functions in Universities, Colleges and Institutions are derived from some educational functions, Basic Functions in the administrative management of Indian universities, Colleges and Institutions are called social management.

This study analyzes the mismanagement of educational management in Universities, Colleges and Institutions in India, discusses the development methods of educational management in Universities, Colleges and Institutions, and hopes to propose innovative suggestions.

Keywords: Management; Education; Modernization; Organizational and Managerial

1. Introduction

At present, the national and local administrative management mode is the administrative management system implemented by Indian universities. The state is responsible for the allocation of administrative power and macro-control. The state has delegated administrative power to many universities. Local colleges and universities will organize administrative personnel to manage according to the personnel structure, teaching quality, running scale and other factors, and set corresponding authority and responsibilities, to continuously improve the administrative management service level of colleges and universities. At present, there are still many problems in the administration of colleges and universities in India, such as generalization of management power, low management efficiency, and unclear management responsibilities, which hinder the stable development of the administration of colleges and universities. According to the current situation, the administrative management of

colleges and universities should develop the management mode, authority and personnel innovatively so as to promote the rapid development of educational administrative management in colleges and universities in India [1].

2. Problems existing in the administrative management of Indian higher education system

2.1 Rigid management power and management mode

When the lower level departments are engaged in daily administrative affairs, they need the authorization or consent of the senior leaders at different levels, which makes the power of educational administration in colleges and universities become rigid and brings many conflicts and contradictions to the educational administration in colleges and universities.

First, part of administrative authority restricts teachers' teaching and research activities, resulting in contradictions between administration and scientific teaching and research. Many university leaders have too much administrative power to affect the daily education and teaching. This kind of contradictions cannot be solved through consultation. Only by thoroughly reforming the administrative management mode can they solve such problems smoothly.

Secondly, the rigidity of administrative management mode is an important problem of educational administration in colleges and universities. The management process of many university management departments is too complicated and trivial, which is too complicated in management subjects, building talents, cultivating the style of study, building the party and building the work, student status files, and teaching management of teachers and students. Many administrative departments pursue formal and procedural management. Because some managers have a low level of education and are limited by their responsibilities and authority, they cannot complete daily management tasks and cannot flexibly organize and manage content. The lack of flexibility and autonomy in work has become one of the drawbacks of administrative affairs management in colleges and universities[2].

2.2 Administrative power seriously squeezes academic power

Creation and academic research are the eternal subjects of universities. Only in this way can the rapid development of universities be promoted. New ideas are pregnant with innovative ideological and cultural construction. Therefore, to serve academic creation, the right of academic management is of vital importance. At present, the phenomenon of the supremacy of administrative power in university management in India is very serious. Academic power is contaminated by administrative power, and there is a serious problem of academic decline, which causes administrative power to decline. At present, many universities take the form of academic

seminars to improve their academic level. However, because there is not enough administrative support to meet the teaching and research needs of teachers, the proposals of academic experts are not taken seriously. These problems generally exist in current universities. At present, the thought of official standard in colleges and universities is serious. Administrative power intrudes upon academic power and hinders the development of academic research in colleges and universities. This phenomenon of unequal status is not conducive to the healthy development of universities and academic innovation. Therefore, the administrators of universities should guarantee the normal operation of academic research and serve academic research with a reasonable working mechanism.

2.3 Lack of fairness management efficiency

The main problem of educational administration in many universities is the inappropriate management and distribution of human resources and financial resources. Because in the process of college education administration, management resources and educational resources are different. Some administrative departments are short of personnel resources, while others are overstaffed. Therefore, if the coordination between departments is not smooth, the duties and powers of administrative departments will not be clear, and they will blame each other, resulting in low administrative efficiency.

The problems existing in the administrative departments of colleges and universities cannot be solved in a short time due to the huge amount of tasks and its heavy contents. These kind of problems cannot be solved in a short term. At the same time, the personnel structure of different administrative departments will be readjusted as time goes by, which makes the administrative management lack fairness. Under the inducement of interests, some administrative departments will allocate educational and teaching resources to their related departments. If the main body of education has no close contact with the administrative departments, it cannot obtain the full support of administrative policies and financial funds.

2.4 Management personnel have low service awareness

Generally, the entry threshold of grassroots administrative personnel is not high, and the administrative management of college education is usually to complete the daily administrative indicators, but there is no correct awareness of administrative services. If there are too many daily administrative affairs, the subjective demands of teachers and the demands of students are often ignored by the administrative departments of colleges and universities, not to mention the implementation of corresponding administrative services for education and teaching[3].

Therefore, the disconnection between education, teaching activities and administrative management has become an important issue of administrative management in colleges and universities. However, the low efficiency of administrative management and poor service quality in colleges and universities are all related to the low service awareness of administrative staff.

Service is the gist of university administration. Any administration is to serve people. Therefore, the people-oriented concept should be integrated into the administrative work of colleges and universities, and the service concept should be linked with practical actions from the practical interests of people.

Education, teaching and research are the basic service functions of the administrative departments of colleges and universities. Therefore, the administrative management of colleges and universities should start from the needs of the grass-roots level of schools, and serve the grass-roots level well, so as to change the work style and service attitude of the administrative management in colleges and universities.

3. Research on educational administrative measures in colleges and universities

3.1 Simplify the personnel structure of administrative management

The innovative construction and implementation of the administrative management system should start from the characteristics of administrative affairs in colleges and universities, such as hierarchy and centralization. Because these characteristics are the key reasons why the administrative management work confront problems, the current administrative management mechanism, structure and system should be reformed, in order to promote the development of administrative management. How to simplify the top-level design of administrative management has become the primary task in front of the administrative management of college education. First of all, we should decentralize the power of department leaders so that middle-level cadres can enjoy more administrative rights. Then, the lower-level staff only need to report and request to the middle-level cadres when performing the corresponding administrative work.

Finally, to simplify the multiple levels of administrative departments, they should clamp down on a similar subject or administrative department and let a single administrative body to be in charge of specific work. The implementation process of examination and approval should be simplified, so that significantly enhance the quality and efficiency of administrative management, to ensure the rapid advance of daily administrative work.

3.2 Innovate administrative management system and evaluation mechanism

It is necessary to carry out targeted reform and innovation according to different educational administration in colleges and universities. The establishment of the educational administrative management system in colleges and universities should start with the administrative affairs management personnel and be target-oriented when formulating the administrative management system. First, colleges and universities should divide the responsibilities and authorities of hierarchical administrative organs and administrative personnel, and re-formulate the management system of coordination and cooperation between institutions, so that the administrative personnel of colleges and universities can act independently and assume their respective responsibilities. Secondly, colleges and universities should lay emphasis on the development goals of administrative management according to different administrative management contents. In particular, the administrative contents related to education and teaching, recruitment and enrollment should increase the input of human resources and financial resources. Finally, colleges and universities should strengthen the evaluation and supervision of administrative staff, carry out the implementation of administrative tasks and different administrative evaluation work for different administrative staff. If it is not in line with the requirements, it should be punished according to policies, in order to constantly improve the work of educational administration in colleges and universities.

3.3 Improve the professional quality and service consciousness of administrative staff

The main goal of administrative management in colleges and universities is to bring more efficient and convenient administrative services for teachers and students. University administrators should serve teachers and students sincerely and it is their significant duty to complete it. Improving the professional quality and service consciousness of the administrative staff in colleges and universities can make the administrative affairs carry out efficiently and improve the comprehensive ability of the administrative staff in colleges and universities as a whole[4]. Each university should assess the administrative workload of the university, strengthen the training of administrative personnel in logistics, employment, scientific research, party building and educational affairs, to improve the professional quality of university administrative personnel, and strengthen the service awareness and responsibility awareness of university administrative personnel. The major administrative departments in colleges and universities should cooperate with each other to promote the smooth progress of administrative work in colleges and universities.

4. Conclusion

Under the historical background of deepening the reform of college education and teaching, the reform of college education administration should also expedite, innovate and reform the content and means of administration, so as to make the college education administration develop healthily. The author hopes that the research of this topic can arouse social attention and contribute to the development of educational administration in colleges and universities.

References

- Driessen Julia, Castle Nicholas G, Handler Steven M. Perceived Benefits, Barriers, and Drivers of Telemedicine from the Perspective of Skilled Nursing Facility Administrative Staff Stakeholders [J]. *Journal of applied Gerontology: The official journal of the Southern Gerontological Society* 2018; 37(1): 110-120.
- Speller Brittany, Stolee Paul. Client Safety in Assisted Living: Perspectives from Clients, Personal Support Workers and Administrative Staff[J]. *Social Care in the Community* 2015; 23(2): 131-40.
- Gase Lauren N, Gomez Louis M, Kuo Tony, Glenn Beth A, Inkelas Moira, Ponce Ninez A. Relationships among Student, Staff, Administrative Measures of School Climate and Student Health and Academic Outcomes [J]. *Journal of School Health* 2017; 87(5): 319-328.
- Meguellati Achour, Mohd Roslan Mohd Nor, Mohd Yakub Zulkifli MohdYusoff. Islamic Personal Religiosity as a Moderator of Job Strain and Employee's well-being: The Case of Academic and Administrative Staff [J]. *Journal of Religion and Health* 2016; 55(4): pp.1300-1311.

THE EFFECT OF USING LOOSE PARTS ACTIVITIES ON CREATIVE THINKING OF YOUNG CHILDREN

Sulapha Jiraolarnmeth

Srinakharinwirot University/Faculty of Education, Thailand

sulapha.jiraolarnmeth@g.swu.ac.th

ABSTRACT

The purpose of this experimental study was to compare creative thinking in young children before and after the experiment. This is one-group design research. The sample group consisted of 16 students, both 5 to 6-year-old girls and boys, from Satit prasarnmit demonstration school (elementary) in second semester of academic year 2021. The following instruments were utilized in this study: 1) Loose Parts activity plan 2) Jellen and Urban's Test for Creative Thinking-Drawing Production (TCT-DP) (1986) 3) The Guildford Creativity Test period. The data was analyzed using a t-test dependent sample and a Related sample. The findings of this study revealed that after participating in the Loose Parts activities, the average scores of young children creativity was higher than those of before at the .05 level.

Keywords: loose parts, loose parts activity, creativity, young children

Introduction

In the twenty-first century, the world is fast changing. Advances in information and communication technology have had a significant impact on the economies and societies. So, it must increase competitiveness by focusing on the most crucial variable, namely human quality, through education management. The 12th National Economic and Social Development Plan (2017-2021) was produced by the Office of the National Economic and Social Development Board with the purpose of strengthening and growing people's knowledge and understanding potential. Make educational administration responsive to the direction of production and growth of individuals in the 4.0 era. The capacity to be creative and imaginative is one of the most crucial skills to possess. One of the most important abilities in the twenty-first century is creativity and innovation.

According to a study of data from (Department of Academic Affairs, Ministry of Education, 2008), children with the threshold had a much lower degree of inventiveness. The teaching quality of the professors is the most important factor. Through a mobilization forum for recommendations to the Child Development Policy Committee, Nongyao Kangphenkhae, Head of the Office of the Basic Education Commission (OBEC), addressed the topic of

early childhood play a proverb from childhood "Forced imitation destroys children's inventiveness." Write anything you need to write in a particular style. It can only be imitated in the end." The National Endowment for Educational Equity (NESDB), the Office of the Basic Education Commission (OBEC), and the Organization for Economic Co-operation and Development (OECD) undertook research to assist youngsters in developing their creative thinking skills. (Department of Public Relations News Agency, 2019, October 29.) The findings revealed that employing tools to foster and assess creative skills causes children to develop higher levels of creativity, implying that teaching and learning that promotes creativity will lead to higher levels of creativity.

The third stage of creative development in early childhood, according to Torrance Development Theory (Torrance, 1964, cited in Chonthicha Chewpreecha, 2011), This refers to a child's age range of 4-6 year. It is a time when people have a lot of imagination. Begin to enjoy the process of planning and generating predictions. Children will be more likely to participate freely in creative experiential activities if they are given support, encouragement, and enough time and opportunity. It will assist children in reaching their full creative potential. Dare to start new projects that match to the skills that society requires and lead to innovation for the betterment of society and the nation in the future.

Children ages 3-6 learn through using their five senses, exploring, playing, experimenting, and self-discovery, according to the Early Childhood Education Curriculum Manual, B.E. 2560 (Bureau of Academic Affairs and Educational Standards, 2018). Those in charge must consequently nurture and provide opportunities for youngsters to develop to their maximum potential. Children's play and learning should be used to encourage them to explore and create. Because play allows youngsters to channel their boundless energy and inventiveness. Toys that are instructional resources and are vital for early childhood learning development should not be ready-made devices with predetermined play methods. However, toys that can encourage thinking in a number of ways should be chosen. It's the same as if you were playing with open-ended stuff.

This research takes use of materials that are found in nature. Materials made by humans as well as materials that have been recycled. It's easy to find, affordable, and child-friendly. Natural materials such as plant seeds, feathers, stones, pinecones, etc., man-made materials such as rubber bands, beads, ropes, miniature wooden blocks, etc., and recycled items like as bottle caps, straws, popsicle sticks, tissue cores, etc. were utilized to organize activities that lead to the creation of ideas in young children.

As a result of the aforementioned notions, children's creativity should be consistently nurtured beginning in kindergarten. Missing such a period in a child's growth will result in development that falls short of the child's full potential. Loose Parts Play uses a variety of materials. Allow children the freedom to develop their own creations on their own.

Research Objectives

The researcher has established the following goals for this study:

1. To develop Loose Parts activities for enhancing young children's creative thinking.
2. To compare young children's creative thinking before and after engaging in Loose Parts play activities.

Methodology

This is an experimental study in which the researcher used the One-Group Pretest Posttest Design research paradigm to conduct an experiment (Luan Saiyot and Angkana Saiyot, 1995)

Samplings/Participants

This study's sample group consists of both boys and girls. The students in Kindergarten 3, 2nd semester of Academic Year 2021, Srinakharinwirot University Prasanmit Demonstration School (Primary Department) were obtained by cluster random sampling for 1 classroom and selected a specific sample group (Purposive Sampling) to define a sample of 16 people who met the following criteria:

1. Parents were willing and ready to assist in the preparation of Loose Parts play sessions throughout the study.
2. Parents allowed their children to participate in Loose Parts play activities throughout the study.

Research Tools/Instruments

1. The Lesson Plans for 16 Loose Parts activities.
2. The Test for Creative Thinking – Drawing Production (TCT-DP) (Jellen & Urban, 1986)
3. Creativity Test: Guilford's Alternative Uses Task (Guilford, 1967).

Procedure

This study took place during the second semester of the academic year 2021. The experiment lasted eight weeks, with two days per week, per day (45 minutes). The experiment was repeated 16 times between the hours of 1 p.m. to 1.45 p.m. The steps are listed below in order.

1. The class teachers and parents were explained about the process of using Loose Parts activities.
2. The researcher examined the sample group's creativity before the experiment.
3. On Mondays and Wednesdays, from 1p.m. and 1:45 p.m., the researcher acted as a teacher taught young children in sample group for 45 minutes each day. Parent's role was assistance in the preparation of Loose Parts play sessions throughout the study. Until the end of the Loose Parts activities.

4. Following the trial, the researcher examined the creativity of the sample group after 8 weeks.

Data Analyses

1. Before and after the experiment, determine the basic statistics of creativity. Calculate the average, the percentage, and the standard deviation.

2. Using the t-test Dependent Samples for statistics, compare creativity before and after the experiment.

Results

1. Allowing parents to join in Loose Parts Play activities via zoom application can build Loose Parts activities for increasing young children's creative thinking. The researcher sent the Parents' Instructions and 27 Loose Parts using three types of materials: natural, man-made, and recycled. It's easy to find and suitable for children. Plant seeds, feathers, stones, pinecones, and other natural materials, as well as man-made elements like as rubber bands, beads, ropes, miniature wooden blocks, and recycled objects such as bottle tops, straws, popsicle sticks, tissue cores, and other recycled goods. Then, utilizing a basic theme such as plant, shape, community, communication, and so on, design and construct children's work.

2. For t-test analysis, it is evident that the students' creative thinking scores in post-test was higher significantly than those of before at the .05 level.

Discussion

The young children who took part in the Loose Parts Play activities using loose parts were considerate. They're a lot more creative than before the experiment at the .05 level, it was statistically significant, which was in line with the hypothesis. It has been demonstrated that using Loose Parts activities led in higher creativity among early childhood children in terms of fluency, flexibility, originality, and elaboration thinking which can be discussed as follows:

1. The creative abilities of children in their early years are increased. Because children have the opportunity to choose from a variety of Loose Parts to execute activities such as pine cones, feathers, hoops, ropes, rubber bands, tissue cores, and so on, there are variables that stimulate the organization of activities to play with Loose Parts. The children have practiced on their own, using their imaginations and thinking. During the first week, children will be unable to produce a large amount of work and will be required to work with less detail. Children, on the other hand, become more imaginative and detailed in their work after the experiment. The students will be aware of the steps and have agreed to participate in each activity. Children are energetic, interested, and excited to participate in activities and act in a fun and enjoyable manner during the activity.

Because the learning environment encourages children to think freely, they are more likely to speak up and express themselves through words and design. know how to plan and make decisions The use of questions to encourage creativity during the activity leads to the development of distinct and unique creativity. There are three techniques to encourage creativity, according to Torrance (Torrance, 1975, referenced in Aree Rangsinan, 1983): 1. Irregularities Openness 2. Making something and putting it to use 3. Making Use of Pupil Questions. It's also in line with Guilford's assertion that creativity is a brain activity that everyone possesses. Creativity is a multifaceted concept. It was discovered that the aforementioned features are innate in a person, but occur more or less depending on different stimuli (Guildford, 1950, referenced in Aree Rangsinanan, 1989).

2. For children, the action of playing with Loose Parts is a concrete activity ability to convey their creativity. This is in line with Erikson developmental theory, which argues that youngsters aged 3 to 6 years are the most creative. Children's creativity will blossom if they are encouraged to freely participate in Loose Parts Play activities. Putting together Loose Parts Play activities results in a one-of-a-kind work of art. Each child's thinking habits produce a diversity of works, resulting in higher creativity after the experiment than before. According to Chonthicha Chewpreecha (2011) investigated the influence of banana leaf art activities on preschool children's creativity. After the activity, the inventiveness of the children was higher than before the experiment at the .01 level, the difference is statistically significant. It's also corresponding to Warunee Nuanchan (1996) investigated the findings of study on creative arts activities as an extension of works affecting preschool children's creativity. The study found that early childhood children who were given creative arts activities in addition to their regular creative activities had more creativity than those who were given regular creative activities. Every human being, according to Abraham Maslow, has a desire to discover new things in order to satisfy his or her own needs and desires. As a result, the child has considered and planned to play with a Loose parts. There are various subjects during each activity. Children design and construct works based on their personal interests and requirements, therefore they progress in creative thinking process.

Conclusion

1. Suggestions for application

1.1 If teachers or parents have extra time, they can allow classmates to ask questions and make comments on other children's works in the presentation section.

1.2 Children may be given the choice of picking a design theme and constructing their work around it.

1.3 Parents are free to bring Loose Parts to their homes to help set up the setting to foster children's creativity and self-assurance via free play.

2. Suggestions for future study

2.1 A research of the effect of using Loose Parts activities should be conducted different subjects, such as math, science, language. These activities may use to enhance collaboration, critical thinking, planning and solving problem, risk-taking and fine and gross motor skill development.

2.2 A research of the effect of using Loose Parts activities should be conducted home-based learning education.

2.3 A study of the effect of using Loose Parts activities with outside activities should be undertaken.

2.4 A study of the effect of using Loose Parts activities on creativity of young children with special needs.

2.5 A study of the effect of using Loose Parts activities should be conducted in order to promote creativity in each component of creativity.

Acknowledgment

I cannot thank my advisor and co-advisor, Dr. Suchanin Buntunantakul and Assistant Professor Dr. Suthawan Hankajornsuk, enough for their constant support and encouragement. I express my gratitude for the educational opportunities they have provided. Without the help of the teacher and students in Kindergarten 3 at Srinakharinwirot University Demonstration School (Primary Division). Also, I wouldn't have been able to finish my project otherwise. I'd want to thank Srinakharinwirot University for providing me with the opportunity to continue my graduate studies through the 70th Anniversary Project, which comprises 70 scholarships, SWU, and giving back to society. In addition, I would want to express my gratitude to my beloved family for their unwavering support. The researcher is grateful for your kindness. As a result, I'd like to express my sincere gratitude for the chance.

References

- Aree Rangsinan. (1983). Creativity. Srinakharinwirot University, Bangkok. (Department of Guidance and Educational Psychology Faculty of Education).
- Aree Rangsinan. (1989) Creativity. Bangkok: Phrae Pittaya.
- Chonthicha Chewpreecha. (2011). Creativity of preschool children doing art activities with banana leaves. (Master's Degree Thesis). Srinakharinwirot University, Bangkok.

Department of Academic Affairs, Ministry of Education. (2008). Early Childhood Education Curriculum 2008. Bangkok: Teachers Council of Thailand Printing House Ladprao.

Guilford, J. P. (1967). *The nature of human intelligence*: McGraw-Hill.

Jellen, & Urban. (1986). *Assessing creative potential via drawing production*. NY: Trillium.

Luan Saiyot and Angkana Saiyot. (1995). *Educational Research Techniques*. Bangkok: Suwiryasan.

Office of Academic Affairs and Educational Standards. (2018). *Guidelines for promoting the development of children aged 3-6 years for parents and guardians*.

Department of Public Relations News Agency. (2019). 29 October. OBEC joins hands with NESDB to reduce inequality in education.

Torrance, E. P. (1962). *Guilding Creative Talent*. New Jersey: Prentice-Hall.

Warunee Nuanchan. (1996). *Organizing creative arts activities as an extension of works towards creativity of early childhood*. Bangkok: Srinakharinwirot University.

Teaching Orientation and Performance Evaluation of Foreign Teachers in Selected Government Schools in Thailand

Reydante M. Olavidez, M.A.Ed., SMRIEdr

Teacher at Bangbowitthayakhom School, Thailand and Ed.D. student

*rey.olavidez2011@gmail.com

ABSTRACT

This study determined the relationship between the foreign teachers' orientation and their performance, as assessed by their department heads, and the foreign teachers themselves. The study employed the quantitative method using the descriptive-survey research design. The researcher also employed Kruskal – Wallis H test and Spearman Rho correlation for inferential statistics. Results of the study showed that majority of the respondents were males in their tricenarian and quadragenarian, degree holders with 6-10 years of teaching experience, rank 2, and with an exceptionally good teaching experience. The extent of teaching orientation of foreign teachers as assessed by two groups of respondents in terms of professional knowledge, instructional planning, instructional delivery, assessment of learning, assessment for learning, and assessment as learning yielded a result that foreign teachers are highly oriented. Both the foreign teachers and department heads who participated in the study were assessed as highly oriented in terms of the indicators. Most of the foreign teachers' performance evaluations showed a very satisfactory rate. There were no significant differences in foreign teachers' teaching orientation when they were grouped according to profile. And there is no significant relationship between the foreign teachers' teaching orientation and their performance evaluation. Based on the findings of the study, it is recommended that the teaching evaluation tool developed by the researcher will be used in assessing and evaluating the teaching performance of foreign teachers and to develop a training program for foreign teachers to ensure a holistic approach and competitiveness in teaching.

Keywords: orientation, performance, foreign teachers

Introduction

Many teacher education programs concentrate on bringing theoretical perspectives to bear on events of teacher practice. There is a concern for fostering critical analysis. Writing research can be one way of

promoting critical analysis. The beliefs associated with teacher professional learning involve those general understandings related to learning that a teacher holds to be true. This further suggests that when these beliefs become important for practice, they manifest themselves as values for teaching and learning. That is, values represent not just what a teacher thinks to be true about teaching and learning but what they would give high priority to in their own practice. Another aspect that the researcher wants to cover in this study is the teachers' performance evaluation. Performance appraisal is one of the strategic management functions aimed at ensuring continuous improvement of employees' performance. Basically, it serves dual purposes: administrative and developmental, but this study focuses on the developmental aspect of it. Performance management, therefore, is a systematic process of planning work and setting expectations, continually monitoring performance, periodically rating performance in a summary fashion, and rewarding good performance while poor performance is remedied.

The teaching profession is not an exception in this regard. Performance appraisal of teachers is important in understanding each teacher's abilities and competencies. It helps to measure the performance of teachers and to evaluate their contribution toward the attainment of specified school goals. Effective teachers are capable of inspiring significantly greater learning gains in their students when compared with their weaker colleagues. The factors affecting the performance and pedagogical achievement of foreign teachers in Australia found that most teachers, who were foreign teachers, faced social prejudice as the most influential factor, having an impact on their pedagogical performance as foreign educators (Green, 2017). Also, Finster et.al. (2018) argued that teacher performance appraisal systems (PESs) are central to policy efforts to increase teacher productivity and student education. The study showed that the impressions of PES by teachers are interrelated and connected to desires for enhancements in teaching practices and the possible effects on student learning. The teacher performance appraisal system provides teachers with meaningful appraisals that encourage professional learning and growth. Meaningful teacher evaluation involves an accurate appraisal of the effectiveness of teaching, its strengths, and areas for development, followed by feedback, coaching, support, and opportunities for professional development.

Background of the Study

Teachers' orientation may be different depending on the belief of the teacher as the one who facilitates the entire class. On the other hand, teacher performance evaluation continues to be one of the most contentious processes within the formal education system. Through its dual purposes of development (formative evaluation) and accountability (summative evaluation), many teachers still express fear and anxiety about the process, while others are welcoming of a standard process of evaluation and the ability to receive feedback on their work. In Thailand, employing foreign teachers to fill in the need for an additional educational workforce has been a normal practice. Foreign teachers, on the other hand, have to exert additional effort on their medium of instruction

since the English language is not Thailand's primary language. This makes this study interesting since teaching orientation and performance evaluation are the primary variables considered.

Many teacher preparation services rely on putting theoretical experiences into action in teacher practice activities. There is concern that critical thinking is promoted. Research writing can be one way of cultivating critical thinking. Another aspect that the researcher wanted to cover in this study is the teachers' performance evaluation. Performance appraisal is said to be part of management functions that ensure that employees' performances are enhanced. It served dual purposes: administrative and development, but this study focused on the developmental aspect of it. Quality management is a crucial element in enhancing professional performance and the quality of teaching. The effectiveness of student feedback on teaching is significantly related to its use of informative settings and to a positive feedback culture within schools. In addition, it is argued that the effectiveness of student feedback depends very much on the support of teachers when making use of the feedback (Rollett et.al., 2021). Managing the performance of workers is an important part that both managers and credit rating officers conduct during the year. It is as critical as managing financial resources and program results because the performance of the employee or the lack thereof has a profound impact on every organization's financial and program components. Consequently, performance management is a structured method of preparing research and setting goals, constant monitoring performance, regularly assessing results in a summary manner, and rewarding good performance while remedying poor performance.

One of the professions that were not exempted from management performance is the teaching profession. Teacher's appraisal is particularly important in dealing with the teacher's abilities and competencies and evaluating their contributions toward the attainment of school goals. Effective teachers have been said to be able to encourage substantially greater learning progress in their students as compared with their poorer colleagues. In this premise, the foreign teachers' orientation and performance were measured as these are integral to bringing Thailand's educational landscape to the forefront amidst global educational challenges. The researcher, being a foreign teacher himself, hoped to contribute vital information that would validate the relationship of the variable under study in these particular locales.

Setting of the Study. The study was focused on the Teaching Orientation and Performance of Foreign Teachers in Selected Government Schools in Thailand. The importance of English teaching methods in the Thai educational system was the main concern of both public and private institutions and to integrate English as a core component of the Thai curriculum. English subjects were taught by both local and foreign teachers. With these concerns, foreign teachers have considered being part of the Thai education system to teach Thai students conversation classes, providing a perfect example of language, helping students to speak, and being acquainted with science and mathematics lessons.

Theoretical Framework. This study on the teachers' orientation was anchored on Stronge's Performance Evaluation System for Teachers and Educational Specialists Framework (2019). In Stronge (2019), teachers are graded using seven performance assessment rubric guidance criteria. The rubric was a summary scale of conduct that defined appropriate standards of performance for each teacher orientation requirement. The scale incorporated the teachers' foreseen performance metric and an overall portrayal of what each rating entails. Teachers ought to be working at a compelling norm. Figure 1 provided the teacher guidance model structure developed by Stronge (2019), which was important for assessing teacher success – professional knowledge, instructional planning, delivery of instruction, assessment of learning, assessment for learning, assessment as learning, learning environment, professionalism, and student progress.

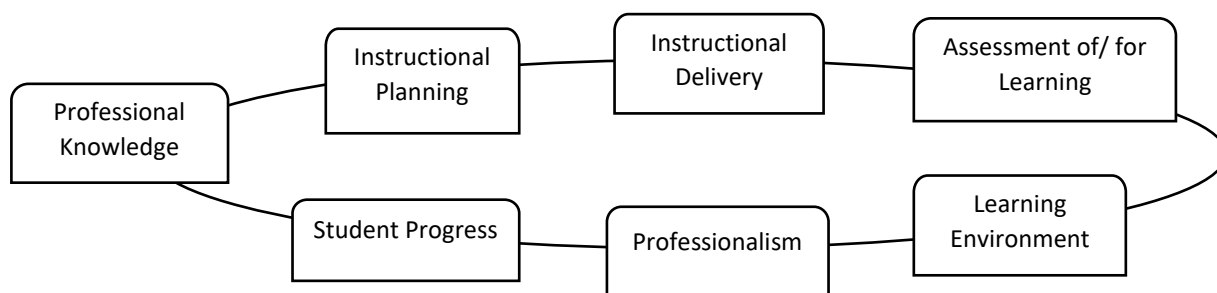


Figure 1. Teacher Orientation Framework by Stronge (2019)

Research Objectives

This study aimed to determine the relationship between foreign teachers' teaching orientation and performance in selected government schools at the secondary educational service area office 6 in Thailand namely: Bang Bo Witthayakhom School, Bangpleeratbamrung School, Poolcharoenwitthayakhom School, Samutprakan School, and Watsothonwaramworawihan School, as assessed by their department heads, and the foreign teachers themselves.

The Input – Process – Output Framework explains the flow of the study. The Input included research variables – the assessments of two groups of respondents on teachers' orientation in terms of professional knowledge, instructional planning, instructional delivery, assessment of learning, assessment for learning, assessment as learning, learning environment, professionalism, and student progress. Furthermore, the performance of foreign teachers based on the evaluation for the School Year 2018 – 2019 was also determined. The Process clarified how the gathered data are processed – tool/instrument survey administration to target respondents, data tallying and coding, and the use of statistical tools and techniques. Finally, the Output discusses how to use this

information to achieve the aim of designing/proposing a Faculty Performance Evaluation Tool for Foreign Teachers.

Methodology

This study employed a quantitative approach that uses the descriptive-survey research design to gather information on the relationship between the orientation of foreign teachers and their performance in selected government schools at the secondary educational service area office 6, as assessed by their department heads, and the foreign teachers themselves. Descriptive analysis is a study designed to provide an objective representation of the participants. To put it more simply, descriptive research is all about describing those who participate in the study (Kowalczyk, 2015).

Samplings/Participants

There are 50 foreign teachers and five department heads in five selected government schools at the secondary educational service area office 6 in Thailand. The researcher has likewise utilized the purposive sampling method also called judgment sampling. It is a nonrandom strategy that does not need a fixed number of participants or underlying theories. Total population sampling (TPS) or total enumeration sampling technique is a technique that involves the entire population that fulfills the criteria in the study being carried out (Etikan et.al., 2016). The researcher used Slovin's Formula in identifying the number of population and then classifying them into two groups.

Research Tools/Instruments

The research instruments used to obtain information needed for this study, are the following: survey questionnaire and performance evaluation tool or the faculty performance appraisal tool used by the school respondents for the S.Y. 2018 – 2019.

The questionnaire was adopted from Stronge (2019). The author has used the assessment method in numerous American schools. It summarizes in the Stronge and Associated report (2018) that teacher assessment matters because teachers matter. The researcher was very fortunate to have given them permission to use an assessment written by Dr. James H. Stronge.

Procedure

The procedure employed in this study underwent the following phases. In phase 1, a review of existing literature and studies was carefully examined. This will provide a picture for the researcher to produce and arrange data for the survey questionnaire. In Phase 2, the survey instrument was prepared to determine the foreign teachers' orientation in terms of professional knowledge, instructional planning, instructional delivery,

assessment of learning, assessment for learning, assessment as learning, learning environment, professionalism, and student progress. In Phase 3, the survey instrument was administered to all foreign teachers and department heads. After the survey questionnaire was administered, retrieval and collation of completed survey instruments were done. The data from the survey instruments were tabulated, analyzed, treated statistically, and interpreted.

Data Analyses

The researcher used both descriptive and inferential statistics to analyze the raw study data in-depth. The accompanying unmistakable statistics were utilized for tending to the study's specific problem by using a weighted mean. The study was only involved in the analysis of relationships; thus, an inferential statistic was important to be employed such as the Kruskal-Wallis H test, Spearman Rho correlation, and Mann-Whitney U test.

Results

The respondents' ages 31 – 40 years old got the highest frequency with 24 and a total percentage of 43.6%, followed by ages 30 and below with 18 or 32.7%, the third is 41 – 50 years old with ten or 18.2%, and the least ranges from 51 – 60 years old which has three or 5.5% with a total of 55 respondents. The sex distribution of respondents, most respondents are males with 28 or 50.9% of the total respondents, followed by females comprises of 27 or 49.1%. The majority of the respondents from the stratum of the educational background was 34 or 61.8 % are graduates of bachelor's degree that outnumbered other degrees; second is with units of Master's degree with 12 or 21.8%; third is with Master's degree with 8 or 14.5%, and least is with units of Doctorate with only 1 or 1.8%. In terms of teaching experiences, the majority of teachers fall in the range of 6 – 10 years with 24 or 43.6% followed by five years and below category with 19 or 34.5%. In terms of academic rank, the majority of the respondents or 50 were foreign teachers with a percentage of 90.9% while teacher 2 with 2 or 3.6%, and Master Teacher 2 with 2 or 3.6% and Master Teacher 1 with 1 or 1.8% were all Thai teachers or the department heads.

Table 1

Summary of Mean Responses of the Respondents on the Extent of teaching orientation of foreign teachers

Teaching Orientation	Foreign Teachers		Department Head		Total	
	Mean	V.I.	Mean	V.I.	Mean	V.I.
Professional Knowledge	3.38	HO	3.28	HO	3.33	HO
Instructional Planning	3.38	HO	3.68	HO	3.53	HO
Instructional Delivery	3.36	HO	3.75	HO	3.56	HO
Assessment of Learning	3.31	HO	3.75	HO	3.53	HO
Assessment for Learning	3.34	HO	3.78	HO	3.56	HO
Assessment as Learning	3.31	HO	3.53	HO	3.42	HO
Learning Environment	3.49	HO	3.80	HO	3.64	HO
Professionalism	3.43	HO	3.88	HO	3.65	HO
Student Progress	3.37	HO	3.75	HO	3.56	HO
Grand Mean	3.37	HO	3.69	HO	3.53	HO

Table 1 shows a summary of the extent of the teaching orientation of foreign teachers and department heads. Findings revealed that the foreign teachers' mean for professional knowledge was 3.38 (HO) while department head was 3.28 (HO) and a cumulative mean of 3.3 with the verbal interpretation of HO. As to the inclusion planning, findings revealed that the mean for foreign teachers was 3.38 (HO) and the mean for department heads was 3.80 (HO), and a cumulative mean of 3.53 with the verbal interpretation of HO (Highly oriented). Findings on the instructional delivery revealed that foreign teachers' mean was 3.36 (HO) and department head has a mean of 3.75 HO (Highly oriented). The inclusion of assessment of learning showed that foreign teachers mean was 3.31 (HO) and department head has a mean of 3.75 (HO) and with a cumulative mean of 3.53 and HO (Highly oriented) as verbal interpretation. The assessment for learning shows that foreign teachers' mean was 3.34 (HO) and department heads has a mean of 3.78 (HO) and a cumulative mean of 3.56 and HO (Highly oriented) as verbal interpretation. While results for assessment as learning reveals that the mean of foreign teachers was 3.31 (HO) and department head has a mean of 3.53 (HO) and a cumulative mean of 3.64, HO as verbal interpretation. The learning environment shows that foreign teachers' mean was 3.49 (HO) and department head has a cumulative mean of 3.68 (HO) and a cumulative mean of 3.64 with the verbal interpretation of HO (Highly oriented). Results for professionalism show that foreign teachers' mean was 3.43 (HO) and department head has a cumulative mean of 3.88 (HO) and a cumulative mean of 3.65 with the verbal interpretation of HO (Highly oriented).

Table 2

Frequency and Percentage distribution of the respondents in terms of teaching performance for S.Y. 2018 – 2019

Teaching Performance	Frequency	Percent
Excellent	20	36.4
Very Satisfactory	25	45.5
Satisfactory	5	9.1
Fair	3	5.5
Poor	2	3.6
Total	55	100.0

Table 2 above explains the teaching performances of the respondents. Most of the respondents have a very satisfactory rate with 25 or 45.5%; followed by excellent with 20 or 35.4%; third was satisfactory with 5 or 9.1%; followed by a fair rate with 3 or 5.5% and lastly over 55 respondents (teachers and department heads) only 2 or 3.6% have a poor rate.

Table 3

Spearman rho correlation test showing significant relationship between teaching performance and teaching orientation

		Teaching Performance	Teaching orientation	Interpretation
Spearman's rho Teaching Performance	Correlation	1.000	.092	
	Coefficient			
	p-value		.526	Not significant
	N	50	50	
Teaching orientation	Correlation	.092	1.000	
	Coefficient			
	p-value	.526		
	N	50	72	

Table 3 illustrates the results of the Spearman rho correlation test showing the significant relationship between teaching performance and teaching orientation. The result shows that the computed p-value (.526) is higher than 0.05, therefore, no significant relationship between variables. The existence of no significant relationship tells us that teaching performance and teaching orientation were not related. Moreover, the null hypothesis is accepted.

Discussion

Most of the teachers and department heads working in selected government schools in Samutprakan province were at the age ranging from 31 – 40 years old. That has been verified by McGrath et.al. (2019) study results that they viewed themselves as more physically suited for the teaching profession than their younger peers over the age of 30. These results suggest that age can affect the output of teachers in various aspects of their teaching profession. Individuals and professionals of different ages may also have discrepant goals, objectives, interests, and convictions in life. The findings on gender distribution imply that male and female teachers also have discrepant interests and priorities that may potentially influence their performance levels. In terms of personality and characteristics, there is a considerable difference between male and female individuals. The findings are corroborated by the results of another past study by Augburn (2015) which found that most of its teacher – respondents were male teachers with a total of 53 percent. It was revealed in the findings that most of the respondents strongly agreed that even though male and female teachers significantly differ in terms of attributes and skills, still opportunities to hone their competencies should be equally provided among them and that gender equality and sensitivity should always be an observed standard when meeting the needs of teachers and recognizing their achievements and contributions to the school community. It is worth noting that most of the foreign teachers were non-BSE graduates from the United States of America, and the United Kingdom while from the Philippines are Bachelor of Secondary Education graduates and others who have completed the mandatory minimum number of educational units as mandated by the Ministry of Education Thailand. The tenure or length of teaching experiences significantly impacts the quality of success of teachers in the profession. The number of years of teaching influences the degree, complexity, and variety of varied and multiple difficulties, problems with opportunities, successes, trials, and experiences that teachers encounter during their performance of teaching duties. Academic rank is an integral aspect of teachers' profession and endeavors as it defines the level of both the educational and professional accomplishments that they have achieved in the course of their teaching engagement.

The teacher demonstrated an appreciation of student lessons, their subject matter, and their growth needs through appropriate learning experiences for professional skills. To meet the needs of the target learning population, education professionals apply professional skills to demonstrate respect for the needs of various individuals, cultures, and learning (Stronge, 2019). The teacher intends to utilize the state norms, the curriculum, information, and engaging and effective strategies and tools for instructional planning to address the issues of all students. The educational specialists successfully design and oversee projects and administrators' consistency with the rules, strategies, and techniques characterized (Stronge, 2019). The teacher utilizes a research-based instructional technique to the subject area for instructional delivery that involves students in active learning, to motivate them to use their key skills and to meet individual adapting needs. The summative result indicates that

HO (Highly oriented), meaning that the foreign teachers and department heads are regularly and substantially exceeding performances and behaviors are consistently and significantly exceed the established standard.

Most of the respondents were high-performing educators or were achievers in their field. It implies that performance rating is a concrete and evident indicator of the level of teaching achievements of faculty members (Finster et.al., 2018).

The result of the relationship between teaching performance and teaching orientation can be explained by the reality that teaching performance is not just based on teachers' level of teaching orientation but many other integral areas or aspects such as level of commitment towards the learners' welfare and school development. Some teachers are also motivated to raise their performance for promotions and other personal purposes. Therefore, it only implies that teachers' performance highly depends on their motives or purposes and not only on their teaching orientation. This result can be explained that teachers who have been able to engage in in-service training or orientation have a higher degree of instructional effectiveness than those teachers who have not been directed in such programs (Lee, 2015).

Conclusion

Most of the respondents were males in their tricenarian and quadragenarian, degree holders, experienced teachers, rank 2, and with an exceptionally good teaching experience. Both the foreign teachers and department heads who participated in the study were assessed as highly oriented in terms of professional knowledge, instructional planning, instructional delivery, assessment of learning, assessment for learning, assessment as learning, learning environment, professionalism, and student progress. Most foreign teachers' performance evaluations showed that respondents have a very satisfactory rate. There were no significant differences in the assessment of the department head and teacher respondents on the foreign teacher' teaching orientation when they are grouped according to profile. Therefore, the null hypothesis is not rejected. Therefore, there was no significant relationship between the teaching orientation of foreign teachers and their performance evaluation.

Acknowledgment

This research is funded by the researcher. My acknowledgment would be incomplete without thanking the biggest source of my strength, my family, who never let things get dull or boring, have all made a tremendous contribution to helping me reach this stage of my life. I thank my supportive school director, the head of our department, and my colleagues at Bangbowitthayakhom School at Bang Bo District, Samutprakan province.

References

- Etikan, I. et.al. (2016). *Comparison of Convenience Sampling and Purposive Sampling*. American Journal of Theoretical and Applied Statistics. Department of Biostatistics. Near East University, Nicosia-TRNC, Cyprus. Retrive from https://www.researchgate.net/publication/304339244_Comparison_of_Convenience_Sampling_and_Purposive_Sampling.
- Green, Jackie R. (2017). *Factors Affecting the Performance and Pedagogical Achievement of Foreign Teachers in Australia*. Thesis. Monash University Australia
- Kowalczyk, Zbigniew (2015). *Study.com*. Retrieved from <http://study.com/academy/lesson/descriptive-research-design-definition-examples-type.html>.
- Lee, Austin H. (2015). *Assessment of Teacher Orientation Quality and Its Correlation with Teachers' Instructional Productivity*. Thesis. Monash University. Australia.
- Finster, Matthew & Milanowski, Anthony. (2018). *Teacher Perceptions of a New Performance Evaluation System and their Influence within- and between-school level analysis*. Education Policy Analysis Archives. Retrieved from <https://epaa.asu.edu/ojs/article/view/3500>.
- McGrath, Kevin F., Moosa S., & Bergen, P.V. (2019). *The Plight of the Male Teacher: An Interdisciplinary and Multileveled Theoretical Framework for Researching a Shortage of Male Teachers*. SAGE Journals. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/1060826519873860>.
- Rollett, W., Bijlsma, H.J.E. & Rohl, S. (2021). *Student Feedback on Teaching in Schools: Using Student Perceptions for the Development of Teaching and Teachers*. Springer. Retrieved from https://www.researchgate.net/publication/353924164_Student_Feedback_on_Teaching_in_Schools_Using_Student_Perceptions_for_the_Development_of_Teaching_and_Teachers.
- Stronge, James H. (2019). *Stronge Performance Evaluation System for Teachers and Educational Specialists – New Teacher Training 2019-2020*. Stronge & Associates Educational Consulting, LLC. <https://strongeandassociates.com/evaluating.html>

The Progressive Development for Aviation Business' Students in futurity by using EDFR Research Techniques for Online and Classroom Teaching

Subsiri Seniwong Na Ayudhaya^{1*}, *Sirikorn Rochanasak*², *Sarat Ritronsak*³, *Rattana Klinjuy*⁴,
*Wassana Chakkaew*⁵

¹*Suan Dusit University Thailand*

²*Suan Dusit University Thailand*

³*Suan Dusit University Thailand*

⁴*Suan Dusit University Thailand*

⁵*Suan Dusit University Thailand*

*sseniwong@hotmail.com

ABSTRACT

The present education is said to be the education for social learning combined with personalized learning, which can be started at an early age and passed on throughout their lives. It is the education that teaches people how to handle different kinds of situations that will lead to happy life with others in the same community or even in the various social cultures, both domestic and international. The quality of human development should include learning from physical acting, mindset, intellect, morals, popularity, and way of thinking. A person, whose role is a teacher, instructor, lecturer, or facilitator, is considered to be the most important person in building up a good learner. They must possess a future vision of new education, and the know-how to construct the lessons not only about knowledge stand point appears in textbook, but also from the environment surrounding us in order for students to receive the most truly learning benefits for their living in 21st - the century. The purpose of this research is to study the future image of the development of learning- management for future students of the aviation business field using EDFR (Ethnographic Delphi Future Research) techniques. There are experts who have conducted interviews with 20 people. Data were analyzed by percentage, mean, and median. Interquartile Range is applied in data analysis. As for focus groups being organized, it is comprised of 6 external experts, and context reviewing in which involved the instructors' roles in curriculum development with an emphasis on enhancing the students' needs for future skills. In essence, future skills of the 21st - century are necessary for the rapidly changing world. To explain, such skills are executive/managerial skills, IT skills, analytical thinking, critical thinking, and problem-solving skills, creative thinking, interpersonal/human skills,

English communicative skills, mathematics skills, and possessing a public-interested/civil mindset. The learning management for developing the above skills, besides many creative learning strategies and learning processes, the instructors have to be able to guide/instill STEM Education concepts, put focus on Hybrid Active Learning approach, and incorporate Problem-based Learning to the students. Equipping learners with the aforementioned skills would enable learners to become more skillful and innovative in dealing with the ever-evolving and challenging environments.

Keywords: Learning Management, Future Education, Required skills

Introduction

Modern-day education is education management in the era of learning-oriented society. Hence, inclusive education to help develop the potential or strengthen the power that exists in every human being. It can be done from the beginning and throughout the lifespan (Sirindra Klakpho, 2022). It is the training of cultivating habits in humans that can behave to coexist with other people, including the lifestyle of living and the future career. It can also contribute to the benefit of the society where they live. Being trained physically, mentally, intellectually, morally, values, and ideas, teachers are important people in building good learners and creating the future of the nation by changing the way of learning for students in the present and future era, which is considered to be very important in order to achieve the highly and truly results. Therefore, the focal point should be focusing on students building their contents of own knowledge, and to transcend the subject matter of learning for living in the 21st century, teachers must expand their knowledge without referring to the contents in the textbooks or giving a lecture to students to memorize, and then set it up as the proficiency test. Teachers need to teach people to be human beings who can use life skills in the 21st- century as learning designers, and facilitate students in hands-on learning which leads them to create more enthusiasm by searching or gathering knowledge from various sources to support it, creating a new paradigm instead of the old one. This kind of learning is called Project-Based Learning: PBL, in line with Critic Panich (2012, pp. 16-21), has stated that learning for life in the 21st-century should be based on learners' self-discovery by having teachers give advice and help to design activities that allow each student to assess their learning progress.

The concepts and strategies are the two important things in the management of learning, especially in the content of (Interdisciplinary) or the method of learning in the 21st – century, we have promoted 3 cores subjects content incorporating 21st-century skills as follows:

1. **Learning and Innovation Skills:** It will determine the readiness of students to enter today's increasingly complex world of work, such as creativity, innovation, critical thinking, problem-solving, communication, and cooperation.
2. **Information Media, and Technology Skills:** Nowadays, information is disseminated through many media and technologies. Therefore, learners must have the ability to demonstrate critical thinking skills and perform a variety of tasks by obtaining/gaining knowledge in key areas, including knowledge of information, media and technology.
3. **Life and Career Skills:** To live and work in the modern era successfully, students will need to develop key life skills, including flexibility and adaptability, creativity, social and cross-cultural social skills, such as Productivity, Accountability, and Responsibility.

Research Objectives

The main objective of this research is to study the development of learning management for future students of the Aviation Business field using EDFR research techniques.

- To prepare airline major students to enter the business's complexity world of work.
- Allow them to use their ability in media, and technology in solving the problem.
- Students will learn how to adapt and adjust themselves according to lifestyle, which includes flexibility, adaptability, and creativity.

Methodology

Applying EDFR research techniques, the research process and research methodology were as follows:

Step 1 Preparation of the research project: The researcher prepared the research project by analyzing the concept. Theories and literature related to essential skills of the future in Thailand and abroad from documents, textbooks, data, statistics, research results, and academic articles. Other related literary journals and various websites and then used to formulate a research conceptual framework.

Step 2 EDFR Research Technique Round 1 Expert Interview: 1. Preparation of experts: a group of experts used in future research by using EDFR research techniques, in this time, there were 3 groups: a group of educational management at the policy level of 5 people, a group of university professors of 5 people and 5 academics people, a group of 5 entrepreneurs...total of 20 people.

2. Procedure for interviewing experts:

2.1 The researcher used the relevant variables to prepare an unstructured interview form. (Unstructured Interview)

2.2 Bring an unstructured interview form to collect information from 21 experts by appointment in advance.

2.3 Use the collected data to analyze and synthesize (Content synthesis) to pain points and/or trends as a rating scale questionnaire.

Step 3: The second round of the EDFR research technique was to collect data from the questionnaires developed from the first round of interviews with experts. Then analyzed the data obtained with basic statistical means.

Step 4: EDFR Research Technique Round 3: Collected data from questionnaires, after that, experts received statistical feedback as a group based on the median and interquartile ranges. (Interquartile Range) of the group and their original answer to consider confirming or amending.

Step 5: Analyzing and presenting the future image of the researcher: analyzed the data and presented the prospective picture of the students' future skills development.

Step 6 Reporting the research results: The researcher collected the results from the data analysis, summarized the findings from the research, discussed results and suggestions. Then, prepared a complete research report.

Samplings/Participants

The sample groups used in data collection were 4 groups, a group of educational management administrators in aviation at the policy level of 5 people, a group of university airline business faculty members of 5 people, a group of academicians of 5 people, a group of entrepreneurs of 5 people...a total of 20 People.

Research Tools/Instruments

The researcher interviewed with 20 experts, submitted questionnaires in person, and synthesized work from pre/post-process documents.

Data Analyses

Collected all information from the synthesis of content, from the interviews and from related documents.

Results

The future direction of education management: be able to apply and create effective teaching and learning, be able to engage and motivate students both online and onsite. According to the study of educational leaders and educational management concepts, it was found that the education of the future comprises of 3 components to create learning quality:

1. Hybrid classroom management, which is a blended classroom management of learning in the real classroom and distance learning by connecting the two aspects. It is currently found that Hybrid Classroom

teaching is more or less efficient than whole physical classroom. If teachers and students can combine various online teaching materials, the quality of learning would increase, such as online video presentations, submission of lecture documents, and social networking. Thus, virtual combined with physically presence classrooms can help schools and teachers overcome challenges in distance learning situations.

2. Blended Teaching & Learning: is a blended-teaching method involving time arrangement between studying in-class or online and self-study time is 40: 60 or 30:70. However, this requires teachers to use various tools to combine teaching and learning to maximize efficiency. For example, creating learning content through Loom so that students can access content on-demand is one of the tools that is recommended. They are useful and effective for Asynchronous learning where teachers can record short video clips. With this, the assembly of presentation content is sent to learners before entering the class or creating classroom activities. Teaching through the organized process will allow students to access the content learning unit, Pre-Test, Post-Test that the teacher has prepared before and after class time. Using collaborative tools like Micro Whiteboard, ones can create unlimited spaces to share ideas, enabling students to participate in presenting their opinions and develop ideas and work processes creatively. It is another tool that will help teachers to create creative learning and at the same time, gain cooperation from students. The important skills for teaching and learning management important skills in the future are:

- 1) Responsibility skills and adaptation by self-responsibility and flexibility to the context of the establishment and community. Set high standards and goals for yourself and others, work towards them, and endure all obstacles
- 2) Communication Skills: Understand, manage, and create verbal communication methods, and write and multimedia effectively in various formats and contexts.
- 3) Creativity skills and curiosity: New ideas are developed and communicated, and open to others respond to various perspectives.
- 4) Critical and systematic thinking skills: practice reasoning to show understanding, make a variety of choices, and understand the connection between them in a systematic way.
- 5) Skills in using information and media: It is analyzed, accessed, managed, and integrated. Evaluate and create information in various forms of media.
- 6) Interpersonal and Collaborative Skills: It demonstrates teamwork and leadership, adapting to diverse roles and responsibilities. It will help students to work effectively with others, practice empathy, and respect for differing opinions.
- 7) Social Responsibility Skills: For the responsible skills, it shows how caring and responsibility for the benefit of society and show appropriate behavior towards individuals, places, and the context of society.

This is in line with the work of (Petchara Budsita-2022) which identified 8 essential characteristics for Gen Net/Tweenies learners, namely:

7.1 Responsibility and self-reliance in learning: This first skill is considered to be the most important and preferred skill. Cultivation is not from teachers, from the education system, or from society only since you still have to rely on the environment, especially the cultivation from the family is important.

7.2 Thinking skills: It is very important for 21st- century learners to develop creative thinking skills, analytical thinking reflection, and problem-solving skills.

7.3 Skills to work with others effectively: including being a good listener and co-worker which should be trained in participatory learning skills. The skills focus on effective basic communication skills.

7.4 Skills in searching for information: for the purpose of research, knowledge, information, and information that exist in great abundance both now and in the future. These skills cover the need for learners to have appropriate information selection/screening skills to be able to find the required information accurately, quickly, and efficiently.

7.5 Enthusiasm Learners should pay attention to learning, study content, ask/answer questions in a context that facilitates meaningful learning, and practice skills in expressing and expressing ideas appropriately and correctly.

7.6 Basic ICT skills: The ability of learners to maintain tools and/or systems at a basic level. It also refers to the learner's ability to use computer and telecommunication technologies, skills in using ICT communication tools, and/or skills in choosing the right software effectively.

7.7 Skills in using international languages: Knowledge and ability to use a second language, it is a language that is not the mother tongue or the main language of the society in which one is inhabited at a level that can communicate well with others.

7.8 Interest in culture and awareness of the possibilities in the world and 8 essential characteristics of future learners. It is a critical feature for effective learning in the 21st- century environment. In addition, the students themselves, Teachers, or people involved in education management, family, and all parties involved should turn to focus on such characteristics to jointly prepare for further students.

Trends in educational management in the future

1. It is a more open system and promotes lifelong education, which Sakrin Chonpracha (2019) has pointed out as an educational process. Encourage individuals to have lifelong learning, and emphasize encouraging individuals to learn and develop according to their potential to respond to the needs and adaptation of individuals and keep up with the changes and developments of the global social context. Lifelong education is imperative for individuals, especially in the changing context of the 21st- century world, the world economy, and society due

to the digital revolution and other contextual changes in the global society. Everyone will receive quality education and lifelong learning.

2. Emphasis on individualized education, it is a form of teaching. By allowing students to choose to study according to their abilities, and own interests taking into account, the principles of individual differences. These include differences in abilities, intelligence, needs, interests, physical, emotional, and social. Self-study is a joint application between techniques and teaching media following the differences between individuals, for example, program teaching, instruction set, and Flexible Scheduling modular teaching. These learning methods will fully enhance the efficiency of teaching and learning operations.

3. Emphasis on educational technology to promote self-learning as skills or ability to use information technology. It is a skill that will be useful in the workplace and bring new technology to help create a body of information or solve problems to work better properly. It can manage data, documents, and information systems, collecting them in a systematic way and using technology to help in searching for information quickly, accurately, and systematically. It can automatically create and organize data for collection or retrieval, or processing accurately, and quickly can bring technology. Let's create new works that are appropriate to keep up with current events. And be able to create innovations in technology learning to help solve problems and improve work.

Discussion

Management of learning in the future must have profound knowledge of the content taught. Knowledge and expertise in teaching can develop courses. Develop instructional plans and learner-centered learning styles, inventing and implementing teaching methods that all learners can learn from the quest for knowledge. Help learners understand and be open to learning, and provide opportunities for learners to develop attitudes and skills that help learners to have sustainable learning which must be aware and focus on skills, and develop teachers in the following areas:

(1) Create teachers who have integrated skills, knowledge, and abilities to use tools and formulate strategies for classroom activities and to build teachers' ability to analyze and formulate learning activities appropriately.

(2) Create perfection in the dimension of teaching by using various teaching techniques.

Trends in educational management in the future

1. It is a more open system and promotes lifelong education. Develop according to one's potential to meet the needs and adaptation of the individual to be aware of the changes and developments of the global social context. Lifelong education is imperative for individuals, especially in the changing context of the 21st- century world. world economy and society. This is in line with research by Benjawan Thanormchayathawat (2016) which

indicates that in addition to 21st- century learning skills, it is possible to develop students to live and stand in the future with happiness both in life and at the working place. They can adapt themselves to the necessary changes in this century of how to survive.

2. Emphasis on individualized education by allowing students to choose to study or study according to their abilities by own interests taking into account the principles of individual differences. Self-study is a joint application of techniques and teaching materials following the differences between individuals, consistent with Dusanee Dammee (2022), which emphasizes on organizing a variety of activities. The development of educational quality has been standardized. and a study by Napalai Thongpun (2013) pointed out that “the learning process is more important than knowledge” and that “instructors are not the contributors of knowledge, but the designers of the learning process at the same time as the learners” because the text knowledge is too vast to be given to learners.

3. Emphasis on educational technology, it is to promote self-learning. Able to apply new technologies to help create a body of information knowledge or solve problems to work better properly. Able to manage data, documents, and information systems, collecting them in a systematic way. This is consistent with the research of Dusanee Dammee (2022) which focuses on building a learning society, and give everyone access to educational opportunities with the use of technology, and encouraging all sectors to participate in education management.

Conclusion

Teaching and learning in the future is an important strategy for creating teaching and learning management for learners with excellent quality in the new century. It should combine teaching and attentive learning, innovation, and flexibility in the course. Learning is personalized and should be connected to the learner's life plan, and promotes a network to connect educational institutions with administrators. Helping and supporting activities that integrate across sciences, emphasis on promoting self-learning and adopting new technologies. And, to have a connection network among various institutions. In doing so, the Board of directors must pay more attention and give support in all cases from one subject to another. Specifically, in personalized learning together with the knowledge of using new technology.

References

- Benjawan, T., Pongsri. V., Wuttichai, Niemted., & Nathavit, P. (2016). 21st - Century Skills: A Challenge for Student Development. *The Southern College Network Journal of Nursing and Public Health*. Vol.3No.2 June – August 2016.
- Dusanee, D. (2022) *Long life education : development of a learning society Thailand*.
file:///C:/Users/COM002/Downloads/siricharttj,+%7B\$userGroup%7D,+2557_2_12_30.pdf

Naparlai, T. (2013) 21st - Century Skills: Rethinking How Students Learn *Kasetsart*

Journal (Soc.Sci) 34 : 590- 595 (2013).

Sakkarin, C. (2019) Lifelong education *Al-Nur Journal of Graduate School of Fatoni*

University Vol. 14 No. 26 (2019).

Thanawat, W., Watanyou, W., & Jaruwat, R. (2020). Educational Technology with New Normal

in Education *Journal of Humanities and Social Sciences Nakhon Phanom University Vol.10*

No.3 September - December 2020.

PREDICTORS OF ACADEMIC PERFORMANCE IN MUSIC, ARTS, PHYSICAL EDUCATION, AND HEALTH

Bryan L. Cancio

F. Bangoy National High School

bryan_cancio@yahoo.com

Abstract

The study aimed to determine the predictors of Music, Arts, Physical Education, and Health performance of the Grade 10 students. The study employed a descriptive-predictive design which was directed on describing and predicting the factors on MAPEH performance of students. There were 120 Grade 10 students of F. Bangoy National High School acted as respondents of the study. They were randomly selected as part of the heterogeneous sections in Grade 10. The researcher made use of Mean and Standard Deviation, Multiple Linear Regression and Multiple Linear Regression Model Building as tools in the analysis of data. The results revealed that instruction, learning environment and administration were the only predictors among the five variables the significantly influenced MAPEH performance of Grade 10 students. Hence, the model must be used to predict the outcomes of the students' performance in MAPEH.

Introduction

In School Year 2015-16, MAPEH subject has been acknowledged for its importance in the educational curriculum. Various effects and benefits have been enjoyed by the students even after finishing schooling. MAPEH has a great importance in everyday life. Music and arts provide an outlet for expressing one's thought and emotions through various musical activities and artistic expressions. Physical Education allows an individual to give value to the importance of having a body active and moving. In addition, Health helps to teach one how to stay well and the things that should and what should not be done to our bodies. Practically, the subject is a tool in achieving the holistic development of the students.

This study was anchored on the Theory of Process of Education by Bruner (1999) and Performance-Based Learning by Miller et al., (1996) which implies that in learning Music, Arts, Physical Education and Health will have to go the process of learning same with the other subjects and it is more understood when students able to perform and produce outputs which are relevant to the competencies.

In other countries, Music, Arts, Physical Education, and Health subjects are taught independently from one another. Students are given adequate and appropriate learning experiences in each subject that would allow them to grasp necessary information. In this setting, teachers are providing authentic assessment that would surely result to concrete and unforgettable learning.

In the Philippines, music, arts, physical education, and health are considered as one. With the emergence of the K - 12 Curriculum which seeks to develop 21st century learners, the MAPEH subject has given equal grounds with the other subjects. Both the music and the arts curricula focus on the learner as recipient of the knowledge, skills, and values necessary for artistic expression and cultural literacy. The design of the curricula is student centered, based on spiral progression of processes, concepts and skills and grounded in performance-based learning. Thus, the learner is empowered, through active involvement and participation, to effectively correlate music and art to the development of his/her own cultural identity and the expansion of his/her vision of the world. Fitness and movement education content is the core of the K to 12 PE Curriculum. It includes value, knowledge, skills and experiences in physical activity participation in order to achieve and maintain health-related fitness (HRF), as well as optimize health. Move to learn is the context of physical activity as the means for learning, while Learn to move embodies the learning of skills, and techniques and the acquisition of understanding that are requisites to participation in a variety of physical activities that include exercise, games, sports, dance and recreation. On the other hand, Health Education emphasizes the development of positive health attitudes and relevant skills in order to achieve a good quality of living. In order to facilitate the development of health literacy competencies, the teacher is highly encouraged to use developmentally-appropriate learner-centered teaching approaches (MAPEH Curriculum Guide, 2013).

In the local context, as a MAPEH teacher, it is challenging for the author to achieve these standards that are expected to happen in the teaching-learning process. Given the actual situation, teachers found the subject difficult to facilitate assuming that there are many factors to be considered in facilitating the learning to the students.

Meanwhile, the learning environment as one of the factors affecting academic performance plays a significant role (Usman & Madudili, 2019). Also, it is a special social space where education, training and personality development of children who are a community's future assets are founded and run by proper training methods, appropriate physical space and favorable psychological environment (Raccoon Gang, 2018). In addition, Mushtaq and Khan (2012) found that communication, learning facilities and proper guidance are the factors that affect the student performance. Also, Mohidin (2009) revealed that only lecturer characteristics variables and teaching centered approach have positive relationship with effective teaching. The results signal that lecturer characteristics play an important role in enhancing students performance. Further, Long, Ibrahim, and Kowang (2014) also investigated on lecturer competencies such as knowledge on subject, clarity of presentation, interaction with students, teaching creativity, clarifying learning outcome, class activity and lecture notes and all items are significantly relating to student achievement.

Ultimately, the study aimed to predict the factors affecting the MAPEH performance. Specifically, it sought answer to the following questions: 1. What is the level of MAPEH performance in terms of (a) instruction; (b) curriculum; (c) facilities and equipment; (d) learning environment; and (e) administration? 2. What is the level of performance of the Grade 10 students in MAPEH? 3. Which among the predictors significantly influence the

MAPEH Performance of grade 10 students of F. Bangoy National High School? 4. What is the prediction model that can explain the MAPEH performance of F. Bangoy National High School? The null hypothesis was tested at .05 level of significance stated that none of the predictors significantly influenced the MAPEH performance.

The operational terms used in the study were the following:

Instruction refers to transfer of learning of the teacher to the students.

Curriculum refers to the set of standards provided by the Department of Education.

Facilities and Equipment refers to the teaching aids used in the instruction of the MAPEH subject in the learning process.

Learning Environment refers to the surrounding particularly the classroom setting where the learning takes place.

Administration refers to the top management of the school.

Academic Performance refers to the grade of the Grade 10 students taken during the first quarter of school year 2015 – 2016.

Method

The study employed descriptive–predictive design which aimed of describing and predicting the factors on MAPEH performance of students. There were 120 Grade 10 students of F. Bangoy National High School acted as the respondents of the study. The school is located at Km. 9, Sasa, Davao City. The researcher randomly selected heterogeneous sections as its respondents. The researcher used Mean and Standard Deviation, Multiple Linear Regression Analysis and Multiple Linear Regression Model Building as tools in the analysis of data. Mean and standard deviation was used to describe the level of predictors namely; instruction, curriculum, facilities and equipment, learning environment, and administration; and the level of performance in MAPEH of grade 10 students. Multiple Linear Regression analysis was utilized to predict the outcomes on the following; instruction, curriculum, facilities and equipment, learning environment, and administration. In addition, the MLR model building was used to develop model in predicting MAPEH performance of grade 10 students. Moreover, the academic performance was measured using the scale standards set by DepEd Order 8, s. 2015 where the following numerical and qualitative descriptions were used such as 90 and above as outstanding, 85 to 89 as very satisfactory, 80 to 84 as satisfactory, 75 to 79 as fairly satisfactory, and 74 and below labeled as did not meet expectations.

Results and Discussion

This section highlights the presentation, analysis and interpretation of data collated.

Table 1. Level of Predictors of Academic Performance in MAPEH

Variables	N	SD	Mean	Descriptive Interpretation
Administration	120	.691	3.24	Good
Curriculum	120	.803	3.31	Very Good
Facilities and Equipment	120	.821	2.96	Good
Instruction	120	.783	3.11	Good
Learning Environment	120	.811	3.01	Good

Table 1 shows the level of predictors of Academic Performance in MAPEH. It discloses the mean scores of the five variables. Administration gained the mean score of (M= 3.24; SD= .691) which is rated good; curriculum garnered (M= 3.31; SD= .803) which is rated very good; facilities and equipment obtained mean score (M= 2.96; SD= .821) rated good interpretation; instruction registered (M= 3.11; SD= .783) rated Good; and learning environment tallied mean score of (M= 3.01; SD= .811) which is rated Good.

Table 2. Academic Performance of the Grade 10 Students

Variable	N	SD	Mean	Descriptive Interpretation
Academic Performance	120	4.813	83.37	Satisfactory

Table 2 reveals the Academic Performance of the Grade 10 students. It depicts a mean score (M= 83.37; SD= 4.813) which is interpreted as satisfactory.

Table 3. Test of Influence of the Predictors to the Performance in MAPEH of Grade 10 Students of F. Bangoy National High School

Factors	Academic Performance		
	Unstandardized Beta	p- value	Decision on H ₀
Constant	72.390	.000	
Instruction	2.027	.000	Reject
Curriculum	.392	.309	Failed to Reject
Facilities and Equipment	1.918	.133	Failed to Reject
Learning Environment	.332	.001	Reject
Administration	.251	.004	Reject
R ²	.893		
F-value	62.13		
p-value	.001		
Interpretation	Significant		

Table 3 shows the test of influence of the predictors to the MAPEH performance Grade 10 students of F. Bangoy National High School. It displays an F - value of 62.13 with a p-value of .001 which is significant indicating a model fit. Meanwhile, it registers an R² value of .893 which implies that 89.3 percent of MAPEH performance of Grade 10 students which have been explained by the predictors holding other percentages not accounted to the 5 predictors.

Among the predictors, only three variables influenced MAPEH performance of Grade 10 students: Instruction, Learning Environment and Administration. The p - values are lesser than .05, which means significant, hence, the null hypothesis is rejected.

The result is supported by a study in an Educational Digest for ERIC Tomlinson as stated by Bullard (2010) that instruction has a significant relationship to performance not only in MAPEH. It notes the obvious that all students learn in a variety of ways and have different interests; some students excel in some areas but not in others as long as instruction is given to them. She even suggested the differentiated instruction. Furthermore, good teaching includes offering students a range of learning tasks developed by the teacher. Hence, it is clear that instruction can greatly influence the performance of the students.

In addition, another study supports that learning environment is also a factor to the performance of the students. According Goh and Khine (2015), learning environment plays a major role in improving teaching and learning in primary, secondary and higher education. Learning environment doesn't only limit to the surroundings and physical arrangement. It also includes the atmosphere where teaching-learning process takes place and this is strengthen through the implementation of Child Friendly Program nowadays.

Another study supports that the School Administration can significantly affect the performance of the students. As stated by the Alberta Teachers' Association (2004), while the school has been and continues to be subject to competing demands, its primary purpose is to provide educational benefits to students. This rationale forms the basis for administrative activity, for the organization of the structures, roles and processes required to realize the potential of every child within the various educational settings of Alberta's public education system.

Prediction Model

$$Y = \alpha + \beta\chi_1 + \beta\chi_2 + .. + \beta\chi_n + \epsilon$$

$$\text{Academic Performance} = 72.39 + 2.027 (\text{Instruction}) + .332 (\text{Learning Environment}) + .251 (\text{Administration})$$

$$\text{Academic Performance} = 72.39 + 2.027 (3) + .332 (3) + .251 (3) \qquad \text{Academic}$$

$$\begin{aligned} \text{Performance} &= 72.39 + 6.08 + .996 + .753 \\ &= 80.22 \end{aligned}$$

where:

Y = Academic Performance

α = constant

β = coefficient

χ = independent variables

ε = random error term

Generic Interpretation:

$\beta_1 = 2.027$: For every 1 point increase in the instruction, there is an increase in the MAPEH grade of 2.027 points holding other factors constant.

$\beta_2 = .332$: For every increase in the learning environment, there is an increase in the MAPEH grade of .332 points holding other factors constant.

$\beta_3 = .251$: For every increase in the administration, there is an increase in the MAPEH grade of .251 points holding other factors constant.

Therefore, if the instruction is high, the learning environment is high and the administration is high; it is expected that a grade 10 student will gain 80.21 grade in MAPEH.

Conclusion

1. Administration, facilities and equipment, instruction, and learning environments were rated as good while the curriculum was rated very good.
2. The academic performance of the Grade 10 students was rated satisfactory.
3. Administration, instruction, and learning environment significantly influence the academic performance of the Grade 10 students in MAPEH.
4. The model in predicting grade 10 MAPEH performance was:

Academic Performance = $72.39 + 2.027$ (Instruction) + $.332$ (Learning Environment) + $.251$ (Administration)

Recommendation

1. Teachers must improve more their instruction in teaching MAPEH by giving detailed information telling how something should be done, operated, or assembled.
2. The school must provide a positive learning environment for the students by paying improving the educational atmosphere of the school.
3. Administration must focus on the welfare of the students by consistently monitoring the academic performance.
4. The model must be used to predict the outcomes of the students' performance in MAPEH.

References

- Alberta Teachers' Association (2004). *Administration of schools*. https://education.alberta.ca/media/6412582/literature_synopsis_differentiated_instruction_2004.pdf
- Alberta Teachers' Association (n. d.). *Administration of schools*. Retrieved from 11010 142 Street NW, Edmonton, Alberta T5N 2R1 106, 3016 5 Avenue NE, Calgary, Alberta T2A 6K4
- Boyd, S. (n. d.) *What is curriculum and instruction?* <https://www.bced.gov.bc.ca/irp/welcome.php>
- Bruner, J. (1999). *Process of education*. https://www.google.com.ph/?gfe_rd=cr&ei=tSjyVcGDAYnI8AeXw7OwDA&gws_rd=ssl#q=the+process+of+education+by+jerome+bruner+pdf+on
- Bullard, J. (2010). *Why is the environment important for children's learning?* <http://www.education.com/reference/article/environment-important-children-learning/> on August 17, 2105
- Firestone, M. (n. d.). *What is a learning environment in classrooms?* <http://study.com/academy/lesson/learning-environment-in-the-classroom-definition-impact-importance.html> on August 17, 2015.
- Goh, S., & Khine, M. (n. d.). *Studies in educational learning environments: An international perspective*. <http://www.worldscientific.com/worldscibooks/10.1142/5014>
- Hibbard, M. et al, (1996). *Performance-based learning and assessment*. A Teacher's Guide. <http://eric.ed.gov/?id=ED401291>
- K-12 MAPEH Curriculum Guide (2013). <http://www.deped.gov.ph/sites/default/files/Art%20Curriculum%20Guide%20Grades%201-10%20December%202013.pdf>.
- Lackney, J. A. (n. d.). *Maintenance and modernization of schools' facility construction educational*. <http://education.stateuniversity.com/pages/2394/School-facilities.html>
- Long, C. S., Ibrahim, Z., & Kowang, T. O. (2014). An analysis on the relationship between lecturers competencies and students satisfaction. *International Education Studies*, 7(1), 37-46.
- Mkandawire, S. B. (n. d.). *Why school facilities and equipment are Important for effective implementation of a curriculum*. <https://sitwe.wordpress.com/2017/10/29/Mkandawire-sitwe-benson-2008-why-school-facilities-and-equipments-are-important-for-effective-implementation-of-a-curriculum>
- Mkandawire, B. (2010). *How nature and nurture determine cognitive development and language acquisition*. Article written at the University of Zambia in Lusaka.

- Mohidin, R. A., Jaidi, J., & Lim, T. S. (2009). Effective teaching methods and lecturer characteristics: a study on accounting students at Universiti Malaysia Sabah (UMS). *European Journal of Social Sciences*, 8(1), 21–29.
- Mushtaq, I., & Khan, S. N. (2012). Factors affecting students' academic performance. *Global Journal of Management and Business Research*, 12(9), 17-22.
- Raccoon Gang (2018). *What makes good learning environment*. <https://raccoongang.com/blog/what-makes-good-learning-environment/06/04/2018>
- Usman, Y. D., & Madudili, C. G. (2019). *Evaluation of the effect of learning environment on student's academic performance in Nigeria*. <https://files.eric.ed.gov/fulltext/ED602386.pdf>

Challenges in Quality of Education in Higher Education Institutions (HEIs) of Pakistan

Zohaib Hassan Sain

Superior University, Pakistan

**zohaib3746@gmail.com*

+923029802125

Abstract

The purpose of this study is based on exploratory research to identify “Challenges in Quality of Education in HEIs of Pakistan”. Exploratory research approach is used to achieve the objectives of the study in less time and inexpensive means. From the last few years, Pakistan is facing a lot of challenges in education sector such as curriculum, less training institutions, corruption in education, teacher’s behavior, less research work. Emerging issues in education sector are less training institutions and trend towards research work which is essential to follow for the growth and strength of any economy. The purpose of our research is to identify the major challenges in educational sector in Pakistan which the educational sector is suffering from last few years. The researcher used triangulation in order to carry the reliability and validity of the data for results. So, to conduct this triangulation the researcher used questionnaire for the students, questionnaire for the teachers and interviews of the management. . In this regard primary data was collected from the focused group of students using a sample of 100 questionnaires for each university were filled by the students of the selected five universities. This attempt of conducting the research will play an important role in the development of Pakistan. In this research Curriculum, Corruption in education, less training institutions, Teacher’s behavior and less research work are independent variables and Quality of Education is dependent variable. In future, we will research on the solution of these problems. To increase the literacy rate, the Govt. of Pakistan has announced that the education is compulsory for sixteen years old for every citizen.

Keywords: Curriculum, Corruption, Teacher’s Behavior, Research Work.

Background & Introduction

What does quality mean in the context of education? Many definitions of quality in education exist, testifying to the complexity and multifaceted nature of the concept. Considerable consensus exists around the basic dimensions of quality education today, however. Quality education includes:

- ✓ Learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communities
- ✓ Environments that are healthy, safe, protective and gender-sensitive, and provide adequate resources and facilities.

It is well said that education is the road to national development. "Education is a vital process of the development of any society. It is considered one of the main pillars of a society" (Adams, 1988). Education creates awareness among the people about life and challenges in the world. Quality of Education is a description of how well the learning opportunities made available to students help them to achieve their awards. It is about making sure that appropriate and effective teaching, assessment and learning opportunities are made available to students.

The challenges in quality of education in HEIs of Pakistan can be found back to the very beginning of the country when the newly independent state came into an already defined system of education. This whole system was very weak, poorly managed and classified. The system could not be improved according to the social category of the people. Due to this, Pakistan is still scuffling with the lowest literacy rate in the world even after 73 years of its existence since 1947 to 2020. This study aims to analyze the various challenges in quality of education in Higher Education Institutions of Pakistan.

In Pakistan the education system is categorized into five levels. These are:

- Primary Level
- Middle Level
- Secondary Level
- Intermediate Level
- University Level

After focusing on levels of education system, if we talk about schools, colleges and universities, they are also categorized into three types. These are:

- Government Schools
- Private Schools
- Madaras

Quality of Education in HEIs of Pakistan is really having a bad configuration at the moment. There is no doubt in accepting the fact that education stands the backbone for the development of nations. This research is aimed at identifying the factors affecting quality of education in HEIs of Pakistan. Several researches has been conducted related to this sector. Role of TQM in educational sectors is the basic research problem. According to current surveys, we can say that 60% of the population is literate but the reality is very different. In Pakistan, the quality

of education has a declining trend. Previous researches provided only short term solutions of the problems. Previous researches provided only problems rather than solutions and only information related to public sector HEIs.

Currently the economic situation in Pakistan is under severe stress and education sector has received the highest impact. The Constitution of Islamic Republic of Pakistan has led to the fact in the following words:

“The state of Pakistan shall remove illiteracy and provide free and compulsory secondary education with minimum possible period”.

This research focuses on complete overview of challenges in quality of education in HEIs of Pakistan. This research also provides information about long term solutions of the problems. In this research most important challenges are discussed along with their recommendations. This research will be helpful to students, researchers, managers, policy makers, trainers, target population and general public.

Literature Review

Nowadays positive conditions and a rapid world, the education sector including the public sector is tremendously affected by management practices of the business world and no doubt, Total Quality Management is an example that has really entered the public sector. It is a combined management philosophy that is needed to be implemented at all the institutional levels (Oakland, 2003) i.e. it will not be successful if executed in odds and ends.

Total Quality Management is obviously compatible with higher education, for the reason that it is a direct procedure that is focused at expanding productivity, reducing costs and enhancing quality (James and James, 1998). Numerous Higher Education Institutions in America have accepted the approach of Total Quality Management but still there are some circumstances where the academic quality has not upgraded much. There is an improvement in infrastructure, administrative processes have enhanced rapidly and there is also an increase in student and staff satisfaction but more clearly that education or academic quality needs betterment (James and James, 1998).

Preceding research indicated the break-up between individual or institutional reasons behind educational development (Amundsen and Wilson 2012; Trowler and Bamber 2005). Single reasons examine the major cause of teaching training courses to be committed for faculty members in a procedure of individual impression on education in order to give changes in individual educators' concept of teaching and learning, connecting this to teaching practices. Higher education development is considered afterwards as anything personal and optional. On the other hand, institutional grounds are interconnected to quality management and strategic planning (D'Andrea and Gosling 2005; Havnes and Stensaker 2006). The major focal point is not on the educator but on changing the whole institution. Development leads are frequently controlled and happen regarding an institutional

plan (Amundsen and Wilson 2012). Effect on institutional change and improved educational quality is clearly promoted if the courses are made mandatory (Havnes and Stensaker 2006; Trowler and Bamber 2005).

In keeping to both points of views, the primary expectation is that the HETT courses will definitely have an effect on a single educator who will put up to change the institution and elevate the quality. The plan of automated change is nevertheless, sturdy in the institutional point of view and condemned by intellectuals who claim that the link is not automatic between development of teaching and the institutional change but it needs more examination (Gibbs and Coffey 2004; Trowler and Bamber 2005).

As reported by N.A. Jafarey,

"Pakistan's low level of scientific research is due to a culture that discourages independent and critical thinking".

No doubt that the university education in Pakistan, especially the government and the teachers' pay slight attention to research work. As a result, students remain oblivious about the methods of research. The outcome is that a student does not have a clear concept of critical analysis. The second reason is there are not enough resources for conducting research. It is true that research work is very essential especially at undergraduate level. Although researchers play an important role in getting a job in the market.

Statement of the problem

This research is aimed at identifying the factors affecting quality of education in Higher Education Institutions (HEIs) of Pakistan.

Research Questions

Q1. What are the challenges in quality of education in higher education institutions of Pakistan?

Q2. What solutions can be proposed in order to improve the quality of education in higher education institutions of Pakistan?

Research Objectives

Main Objective:

- To identify the Challenges in Quality of Education in HEIs of Pakistan.

Sub Objective:

- To identify the relationship between Curriculum and Quality of Education.
- To identify the relationship between Less Training Institutions and Quality of Education.
- To identify the relationship between Corruption in Education and Quality of Education.
- To identify the relationship between Teacher's Behavior and Quality of Education.
- To identify the relationship between Less Research Work and Quality of Education.

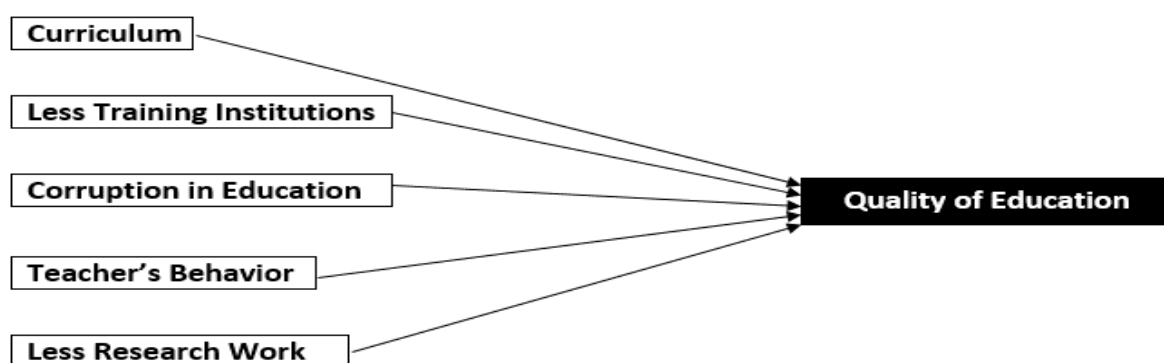
Significance of the study

The results of the study will be great benefit to the following:

- This study will provide information regarding Challenges in Quality of Education in HEIs of Pakistan with additional information and knowledge to help them in their further research.
- For the researchers, the study will help them uncover critical areas in the educational process that many researchers were not able to explore in their previous study.
- The data gathered will be helpful for managers making decisions and strategy formation.
- The study will help policy makers to develop policy guidelines that will be helpful for new policies, staff training, removing gaps in existing policies and information.

As per the topic, this will be an opportunity for government to pay more attention on the quality of education in Higher Education Institutions of Pakistan.

Theoretical Framework



Methodology

Research Strategy

An exploratory approach has been adopted for this research. The reason for using this approach is to identify the challenges in quality of education in HEIs of Pakistan.

Sample

A sample of five universities was selected on the basis of commonality i.e. all institutions were from the public sector and chartered by the same Provincial Government. Similar environment, dependency on same

superior ministry, locality and nature justifies selection of this sample. A total of 100 questionnaires for each university were filled by the students of the focused five universities.

Research Instrument

The researcher used triangulation in order to carry the reliability and validity of the data for results. So, to conduct this triangulation the researcher used questionnaire for the students, questionnaire for the teachers and interviews of the management.

Data Analyses & Results

The data of questionnaire was collected using the google forms. This tool aid to reflect the authentic results from the audience.

Interviews from the random departments of management were taken place in order to validate the data further. Next, these unguided interviews of the management were conducted to know the insight of the scenario. The management came up with the problems they were facing like lack of resource's that could enhance student's research skills and how this have effected their behaviour.

Ethical Consideration

Data provided by the respondents were to be kept confidential. Further, a permission form was signed from the participant before they got engaged in research in order to protect the participants' rights.

The permission will include the following:

- The right of participant voluntarily and right to withdraw any time.
- Comprehensive information will be provided by the respondent in order to make them clear about the nature of data usage.
- Signature of both researcher and respondent to fulfill the formalities of the institute.

Future Direction

Hence, the purpose of this research is to identify the challenges in quality of education in HEIs of Pakistan which educational sector is suffering from since last few years so, in future we will research on solutions to these challenges in order to increase the quality of education, the government of Pakistan announced that education is compulsory for 16 years old for each and every citizen. It will play an important role in the development of Pakistan.

Conclusion

This paper concludes that education develops people in all domains of life such as social, moral, spiritual, political and economic. With effective educational systems, many countries are playing a leadership role in the comity of nations. The quality of education system in Pakistan has not been able to play its role effectively in nation building. This factor has contributed towards development of frustration among the Pakistani society. Finally, this study concludes that there is an urgent need to reform the system of quality of education in Pakistan and for this purpose the study presents the following recommendations.

Recommendation

Following are the recommendations for quality of education in Higher Education Institutions of Pakistan.

Following are the recommendations for quality of education in HEIs of Pakistan.

- Curriculum should be evaluated on annual basis. In this regard a vast survey could be conducted to seek options of teachers, parents and community regarding their expectations and observations. In this light the expert recommendations of the education researchers, the curriculum goals should be redefined.
- In the view of importance of education, the government should take solid steps towards implementation instead of projecting policies like forming an evaluation team that could take control of the quality of education. In this regard, government should establish more training institutions for better and continuous feature of quality of education in Pakistan.
- Following are the recommendations for quality of education in HEIs of Pakistan.
- Curriculum should be evaluated on annual basis. In this regard a vast survey could be conducted to seek options of teachers, parents and community regarding their expectations and observations. In this light the expert recommendations of the education researchers, the curriculum goals should be redefined.
- In the view of importance of education, the government should take solid steps towards implementation instead of projecting policies like forming an evaluation team that could take control of the quality of education. In this regard, government should establish more training institutions for better and continuous feature of quality of education in Pakistan.

References

- Amundsen, C., & Wilson, M. (2012). Are we asking the right questions? A conceptual review of the educational development literature in higher education. *Review of Educational Research*, 82(1), 90–126.
- D'Andrea, V., & Gosling, D. (2005). *Improving teaching and learning in higher education: a whole institution approach: a whole institution approach*. New York City: McGraw-Hill Education.
- Fayyaz, H., Rauf, Z., Umm-e-Kalsoom, & Samin, T. (2014). Major Issues of Education Sector in Pakistan, 3(4), 374-375. DOI: 10.6007/IJARPED/v3-i4/1366.
- Gibbs, G. and Coffey, M. (2004). The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active Learning in Higher Education*, 5, 1, 87-100.
- Havnes, A., & Stensaker, B. (2006). Educational development centres: from educational to organisational development? *Quality Assurance in Education*, 14(1), 7–20.
- James, V. and James, L. (1998) Higher Education and Total Quality Management. *Total Quality Management & Business Excellence*, 9, 659-668. <https://doi.org/10.1080/0954412988136>
- Oakland, J. S., & Beardmore, D. (n.d.). *Best Practice Customer Service*. *Total Quality Management*, 6(2), 135-148.
- Trowler, P., & Bamber, R. (2005). Compulsory higher education teacher training: joined-up policies, institutional architectures and enhancement cultures. *International Journal for Academic Development*, 10(2), 79–93.

Future Skills for Airline Business Learners

*Wassana Chakkaew*¹ *Sirikorn Rochasak*² *Rattana Klinjuy*³ *Vasant Nilamai*⁴ *Sarat Ritronsak*⁵
*Subsiri Seniwong Na Ayudhaya*⁶

¹⁻⁶ *Suan University Thailand*

* wassanachak@gmail.com

ABSTRACT

The purpose of this research is to study the future skills of Airline Business learners. This study used the EDFR (Ethnographic Delphi Futures Research) methodology and included expert interviews with 15 people. The collected data were analyzed by using content analysis, interviews, and a focus group, comprising 5 experts to develop learners in the Airline Business program to have the future skills and be ready to work in the modern world. The research results indicated that the teaching and learning process should be started by creating a learning culture in the organization. Instructors should instill open-mindedness to learn new things into the learners and they should be able to analyze Needs Analysis and enhance learners' knowledge and understanding through skill-enhancing training. Moreover, the learners should bring new technologies and use them for doing work more efficiently. This sort of teaching and learning process can make the organization ready for future changes. It is also an active engagement of students in opportunities to learn through doing, which can help to empower new essential life skills, including Empathy, Design Thinking, Human-Centric, Cognitive Flexibility, Digital and Data, Collaboration, and Productivity Tools.

Keywords: Future skills. Airline Business Learners,

Introduction

The current world workforce situation is adapting to the changing trends of technology in new ways. The workforce needed in the future world needs to be "Highly skilled workers" that can support work with new technologies. As a result, the employment situation has changed. Many businesses need people with new skills and knowledge to work with. However, it still faces difficulties in finding skilled workers that match its needs. which such problems are partly because workers are unable to fully take advantage of opportunities arising from technological disruption due to a lack of learning as well as a lack of new skills. However, the skills needed and in demand in the labor market may change according to the demand of the business or various changing factors.

Therefore, the skills we have been developing today may not be unwanted one day. Workers will inevitably have to develop themselves continuously. Promoting "Lifelong Learning" may be another option to help develop and upgrade skills effectively and lead the business to survive during change. The rapid changes in the world situation affect the social economy, lifestyle, and changes in educational management. The stakeholders involved in education management must have lifelong learning so that learners can adapt themselves to new situations for well-being and can sustainably survive. Therefore, it is necessary to develop learning skills and life skills (Thissana Khamanee, 2012) by learning additional new skills in order to live in society safely (Martine, 2020). Moreover, instructors must be a facilitator in teaching and learning and should promote future skills for learners in the age of information technology that is moving fast and constantly changing so that learners will be knowledgeable in theory and practice. Also, learners should be able to apply knowledge to situations that benefit themselves, society, and even the nation, including continually learning content under the dynamic changing global situation (Key, 2010). Learning and teaching management in the 21st century and the future world should enable learners to learn continuously, learners should be developed as a set of ideas and have lifelong learning. It is necessary to change the way of learning and change teaching management methods in which the teacher must be the one who prepares for teaching and learning so that the learners can learn on their own through actual practice and create new knowledge creatively. Besides, learners should have a wide variety of knowledge and apply those in their life, encouraging learners to become skilled and lifelong learners. Lifelong learning becomes another option to help both workers and businesses maintain their capabilities in the modern world. Lifelong learning is also the foundation of a strong society, business, and economy. Lifelong learners will be able to apply knowledge to work creatively with awareness working expertise and have the skills to learn and adapt quickly.

Learning management is therefore essential to be developed in this changing world. The learner development process is one of the priorities in educational institutions because it is an important element that reflects the quality and efficiency of educational management in the institution. The process of learner development with the integration of subject matter and the cross-scientific integration, as well as developing and promoting learning in all dimensions that is in line with the era of rapid change must be developed to be dynamic and suit the changes of the world. The development process must be suitable for the changing conditions of the area, the situation with the emphasis on the development and upgrading of education to be interdisciplinary. The process should focus on life skills and professional skills which require both science and art to live happily and have good social skills, emotional control, and contribution to society and community along with leadership together with lifelong learning.

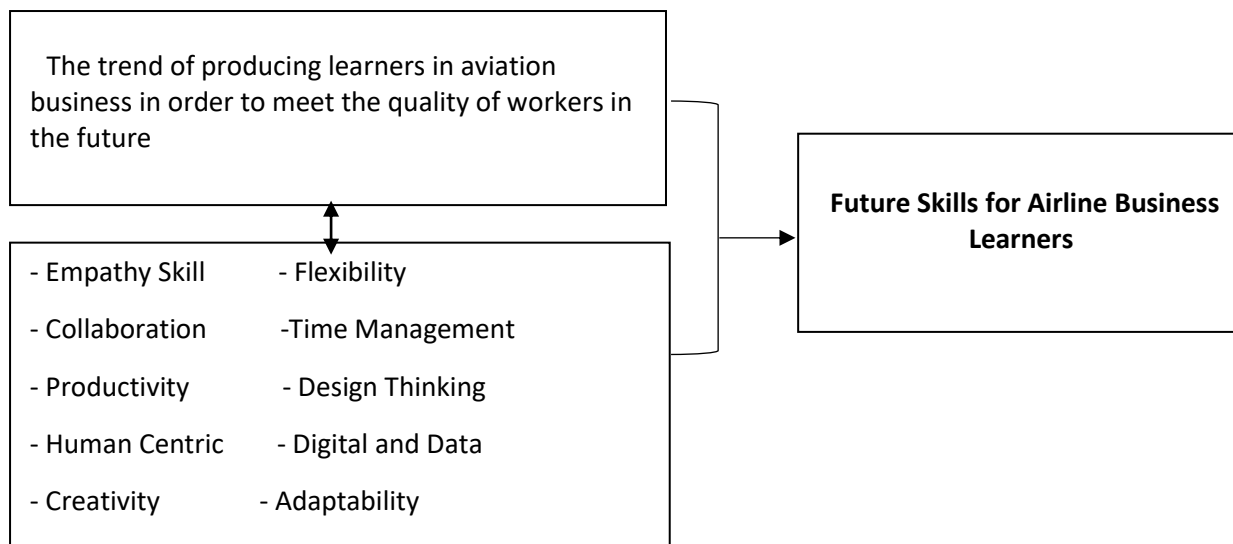
Therefore, the management of teaching and learning in the field of the aviation business, the faculty of Tourism and Hospitality School, Suan Dusit University Lampang Education Center, teaching and learning management needs to be developed so that learners can adapt themselves to the changes and be ready for the

challenges in this changing world by focusing on the development of the quality of learners and emphasizing on the development process for learners. In doing so, instructors should focus on the process of integrating teaching and learning management according to the real conditions of Thailand and the world situation to suit changing conditions for developing and enhancing the quality of education. This process can enhance learning skills in the 21st century and develop learners physically, mentally, emotionally, intellectually, and socially in both academic knowledge and professional expertise that is internationally recognized and able to live happily.

Research Objectives

To study teaching and learning management and promote future skills for aviation business learners

Conceptual Framework



Methodology

1. Research method

The purpose of this research was to study the future picture of teaching and learning management development to enhance future skills for aviation business learners by using EDFR research techniques. The research process and research methodology were as follows:

Step 1 Preparation of the research project The researchers prepared the project by analyzing the concept of theories and literature related to important skills in the future from documents, textbooks, data, statistics, research results, academic articles both domestically and internationally, including other related literary journals and various websites and then used to formulate a research conceptual framework.

Step 2 EFDR Research Technique Round 1 (Expert Interview) 1. Preparation of experts, groups of experts used in future research by this EFDR research technique, there were 3 groups, namely 5 policy-level educational administrators, 5 university faculty members and academics, 5 entrepreneurs, a total of 15 people.

2. Procedure for interviewing experts

2.1 The researcher used the relevant variables to prepare an unstructured interview form. (Unstructured Interview)

2.2 Bring an unstructured interview form to collect data from 21 experts by making an appointment in advance.

2.3 Use the collected data to analyze and synthesize (Content synthesis) to write the issues or trends as a rating scale questionnaire.

Step 3: The second round of EDFR Research technique was to collect data from the questionnaire developed from the first round of interviews with experts and collected data from the same experts. Then, analyzed the data obtained with basic statistics to classify data and find consensus

Step 4: EDFR Research Technique Round 3 The researchers collected data from questionnaires in this round, the experts received statistical feedback as a group based on the median and interquartile ranges. (Interquartile Range) of the group and their original answer to consider confirming or changing their own answers.

Step 5: Analyze and present the future image of the researcher The researchers analyzed the data and presented the prospective picture of future skills development for aviation business learners.

Step 6 Report the research results The researchers collected the results from the data analysis and summarized the findings from the research. Then, The researchers discussed the results and suggestions and drafted a complete research report.

Samplings/Participants

The sample groups used in data collection were 3 groups, namely, 5 policy-level education administrators, 5 university faculty members and academics, 5 entrepreneurs, , a total of 15 people.

Research Tools/Instruments

Using content analysis by interview, the researcher made an appointment and had interviews and submit questionnaires with 15 experts in person. The questionnaire for cross-impact analysis was based on the opinions of a sample of 5 stakeholders.

Data Analysis

The researchers used the interview form to summarize the issues by using content analysis about important future skills of aviation business learners, including various suggestions, and then presented descriptive results.

Results

Skills for the future of aviation business learners in order to live in the world of the 21st century from the in-depth interviews with the target audience, the results of the study can be summarized as follows:

1. Future Living Skills

In a world-changing and evolving rapidly, there is the integration of global economic and regional economics with investment, food security, political stability, and governance. To develop learners to be ready and keep up with the changes of the world, there are guidelines for developing learners as follows.

1.1 Fundamentals of being a good global citizen and having a sense of the world, instructors must build an understanding of good global citizenship and how to live together appropriately in different social contexts. There is a mutual understanding between human beings with differences in race, religion, cultural tradition, and language by contributing to society through means of creating and applying knowledge to social practices of citizenship both at the regional and international levels.

1.2 Fundamentals of economy, society, entrepreneurship, and finance, instructors must create learning for learners to understand the role of living by applying economic principles appropriately such as learning about economic, social, investment, modern entrepreneurship with increasing productivity and applying creative ideas to develop into modern ideas and build your own business

1.3 Fundamentals of the environment, this creates a process for participating in the conservation, rehabilitation, and protection of the environment and having an understanding of the changing environment as well as studying the environmental impacts in the present and future to prepare the solutions. Moreover, learners should build a society by emphasizing participation from all sectors in the conservation and development of natural resources and the environment.

1.4 Health knowledge is important for learners to be aware of as it is something close to them that is essential and very important to themselves and their families. The process can focus on strengthening health and sanitation to suit the individual. There are methods for prevention, treatment, correction, and health promotion. Learners should take care of the health of themselves and their families and have social responsibility as well as understand the key issues in enhancing health both nationally and internationally.

2. Learning and Innovation Skills

Basic skills that human beings in the 21st century must learn because the world will change faster and more and more complex. People who are weak in cognitive skills and innovation might be the ones who can't keep up with the world and they might be in trouble in the future. This skill requires critical thinking in solving problems and being able to communicate and cooperate to work well. One of the key secrets to cultivating learning and innovation skills is questioning practice by giving learners the opportunity to practice asking questions and help each other to find a way to experiment or research to find answers to what they ask each other. Learners should know how to learn and build changes for the better innovation consisting of sub-skills:

1. Critical thinking and problem-solving skills which are expert thinking using a systematic and integrated approach, learners should be able to solve problems in a variety of techniques and methods according to changing conditions appropriately.

2. Creative and innovative skills that generate new ideas and develop new ways to improve work by using cognitive skills, learners can create new ideas to solve problems better or differently. The indicators include:

2.1 Ability to think critically, creative thinking to develop new things.

2.2 Ability to think critically and think systematically.

2.3 Thinking skills any decision without the need to agree with the information presented.

2.4 Possess thinking skills that can logically countercomment and find reason (s) in order to seek more suitable answers.

2.5 Able to create new ideas/new innovation to present as a new alternative. that helps to work better.

By creating something new and creating value for ideas and intelligence. Careful in analytical thinking and creative work development and can work well together with others; can turn a crisis into an opportunity; understand how to innovate and correct misinformation and improve work efficiency and effectiveness, which contribute to the ability to understand other people's thoughts (Empathy),, have the ability to understand others' thoughts, emotions, or feelings without being self-centered which can be applied to a variety of situations especially in business, specifically understanding customers' needs/wants which is consistent with the first stage of the Design Thinking process, such attributes enable people to recognize the real problem and be able to pinpoint the correct one with step-by-step solution to the problem. In addition, with thorough and all-round analysis of the solutions from various angles, from many perspectives, thus enable the problem to be solved effectively. Complementing with Design Thinking Process, creativity is promoted in new ways...shape or form. Further benefits of Design Thinking, besides generating/empowering tangible creativity, the concept also promotes skills in understanding of people, teamwork, and value-added mindset. As a result, supporting/promoting the growth of the organization through development of innovations.

Creative thinking and business thinking that focus on people and customers: To create innovative systems with processes and mindset is to understand the needs and problems of customers and target groups...(Human-Centered) with understanding, access and listening with the heart (Ask – Observe - Immerse –Listen) and then brainstorming. Work as a team to find solutions, and learning and doing product prototypes to create value and innovation. To support skills for comprehension and accessibility/outreach to customers, the key target group was consistent with (Sasima Suksawang, 2022), which concluded that learners need to be observed, such as their thoughts, expressions, speeches, and actions both spoken and unspoken; asking and deep listening are required because when asking open-ended questions to users or customers, this allows them to express their opinions freely and comfortably. As well, listening deeply and attentively will enable us to understand the mind and unspoken needs. To sum up, the process organized enable to give a clearer perspective on behaviors, activities, insight and motivations of customers' need.

3. Life and Career Skills

Life and work skills. It is a new skill that is essential for living a sustainable and happy life. This consists of:

1. Flexibility and adaptability .
2. Initiative and self-direction...able to live in the right way.
3. Social skills and cross-cultural learning: Future work will not be only domestically, ASEAN region and globally. Therefore, learners need to practice social skills and learning and working across foreign cultures.
4. Productivity and accountability is to use information technology to increase the productivity of the organization, including taking full responsibility for what has been done/carried out.
5. Leadership and Responsibility: This is the Must practice leadership skill and take responsibility and ownership for their assigned duties, social responsibility and possess the skills of Cognitive Flexibility, which is important to the adjustment/adapatbility of the organization today. This skill promotes flexibility and able to adapt to rapidly changing situations; Systematic Thinking is a skill that develops the ability to understand problems, situations or contexts by looking at the big picture as a continuous, interconnected systematic structure and its linkages in helping to obtain logic and enable ones to make the rational decision.

Critical Thinking: This is the skills that enhances the thinking process through the use of judgment with emphasis on reasoning in the analysis of key issues. Gathering various information to support strengths and weaknesses, including considering all options that may influence the conclusion to be used for decision making and make proper evaluation.

4. Digital and Data Utilization Skills

IT/social media technologies can help making the work more efficient, such as using social networks to help build a customer relationship management system to maintain customer base and build customer loyalty. And most importantly, to obtain information on customer needs to further develop the products and services for the

organization. Nowadays, the data that organizations receive from online transactions is rapidly increasing, and bringing those data to analyze the relationship will increase the competitiveness of the organization, create competitive advantage, and potentially creating more business opportunities. To compete and succeed in today's environment, learners must be able to access information effectively, and able to benefit from knowledge and understanding of media production according to the set objectives; have basic knowledge of information and communication technology and able to use digital technology to communicate, access to information in building a network.

Another core skill can be referred to Data & Analytics skill. This skill focuses on the value of data. understanding of information cycle of data in different angles and bring the data to analyze and then find solutions to meet the needs of customers.

Collaboration and Productivity Tools: This is the ability to work together whether it be cooperation and humans and/or humans and technology. By working together, it can help solve complex/time consuming problems. Besides, collaboration is an important contributor to the formation of multiple perspectives, help open up to multiple options/alternatives, which in a way can help solve problems more quickly. Henceforth, creating a culture of learning and instilling in learners open to change are required in order to develop students and ready them for the new world of working. That said, students need to be open-minded to learn new things, reskill and upskill to increase/improve their skills and complement the said skills with new technologies.

Guidelines for developing students to be knowledgeable and skilled in the future

It is recommended that instructors integrate extracurricular activities and add real-life skills to the curriculum which contains future learning and life skills. To support, Benjawan Thanomchayatawat and his team (2016) stated that:

1. The curriculum should put emphasis on graduates' characteristics that can be self-reliant.
2. Set a clear policy for student development in order to enhance skills in developing graduates that focus on learning outcomes and develop a student development plan in accordance with the course context, and equip students with foundational knowledge and focus on speaking, listening, reading, writing, numeracy, and computer skills

Discussion

Key skills for future aviation business students include:

1. Future life skills

Developing students to be ready to keep up with the changes of the world. Key guidance are:

1.1 Fundamentals of being a good global citizen and have a sense of the world in a way that deep understanding between human beings with differences in race, religion, cultural tradition and language are understood and recognized; contributing to society through means of creating and applying knowledge to social practices...both at the regional and international levels. This is in line with the study David W. Johnson & Roger T. Johnson that points to collaborative learning and conflict resolution, which includes interpersonal relationships that influence the development of personal identity, thus increases the ability to benefit learners.

1.2 Fundamentals of economy, society, entrepreneurship and finance: It is necessary that teachers create learning for learners to understand the role of living by applying economic principles appropriately. This is consistent with the Bellanca & Brandt (2010) study that indicated that education requires a paradigm shift: adjustment of the teaching and learning process, emphasizing the application to suit the changes.

1.3 Fundamentals of the environment: which is creating a process for participating in the conservation, rehabilitation and protection of the environment; have an understanding of the changing environment. This is consistent with the study of Benjawan Thanomchayatawat (2016), which indicates that if learners are able to adapt to learning, adapt to the new environment, then they will gain the ability to learn and adapt in the new era of learning.

2. Learning and Innovation Skills

This skill requires critical thinking in solving problems. It also fosters communication and cooperation skills. One of the key secrets to cultivating learning and innovation skills is questioning practice by giving students the opportunity to practice by asking questions. When students ask questions to one another, it encourages them to participate and find a way to find answers to the questions. Moreover, learning skills allows changes to developing innovation, creating new things, turning crisis to opportunity, foster collaboration skill and creating meaningful/tangible values of ideas and intelligence. With good learning and innovative skills, learners understand how to innovate and correct misinformation, resulting work efficiency improvement. The concept also promotes the ability to understand other people's thoughts (Empathy), emotions or feelings without being self-centered or biased. All the said are imperative when doing customer service related businesses, and with deep understanding of customers' need/wants, new products and services can be developed to meet the needs and demand. The said is in line with first stage of the Design Thinking process with relevant to knowing how to think critically and analyze problems that arise in a more thorough, accurate and consistent manners with (Sasima Suksawang, 2522) who concluded that learners need to be observant in order to gain customers' insights, thoughts, their expressions, speeches, and actions as such traits are important in understanding the target audience better. Additionally, asking customers open-ended questions to customers, this would open up/lead to an opportunity for them to express their opinions more freely. As well, listening deeply and attentively will enable us to better understand their minds, which ultimately facilitates market segmentation planning and categorizing.

References

- Benjawan, T., Pongsri ., Wuttichai Niemted & Nathavit P. (2016). 21st Century Skills: A Challenge for Student Development. *The Southern College Network Journal of Nursing and Public Health* 3 .2016 (2)P.208-222.
- Bellanca, J., & Brandt, R. (2010). *21st Century Skills: Rethinking How Students Learn*. Bloomington, IN: Solution Tree Press.
- Kay, K. (2010). *21st Century Skills: Why the Matter, What They are, and How We Get There*. In Bellanca, J. & Brandt, R. (Eds.), *21st Century Skills: Rethinking How Students Learn*. Bloomington, In: Solution Tree Press.
- Martin, J. (2010). *The Meaning of the 21st Century*. Bangkok. L. T. P. *The Partnership for 21st Century Skill*. (2009). Framework for 21st Century Learning. Retrieved? 8, March 2022, from <http://21st Century skill. Org/index.php>.)

Approaches to promoting student employability skills in the 21st century

LuoJiangxia¹, AJaemjan Sriarunrasmee²,

¹Yunnan University of Finance and Economics, China

² Faculty of Education Srinakharinwirote university, Thailand

*2387714979@qq.com (jaemjan@g.swu.ac.th)

ABSTRACT

At present, the whole education department and colleges and universities have put employment into the key work, the teaching work of all teachers are linked with employment. The employment mode of our college is jointly controlled by school leaders, college leaders, instructors, homeroom teachers, professional tutors and full-time teachers. The purpose of this study is to propose how to comprehensively promote and support employability skills. The method uses quantitative methods published in a research journal over a 5-year period from 2017 to 2021 (76 papers). Results show that the teaching platform based on virtual interview workshop mode can support and promote students employment skills improve, about the ascension of employability skills at present there are five main directions, namely employment platform for information construction, employment guidance courses, workshops, virtual interview platform, university-enterprise cooperation pattern design practice, the future research trend is mainly from the perspective of practice, Virtual interview technology is used to design practical teaching. The results of this study can provide accurate and effective guidance for the employment skills improvement of students for the employment staff of colleges and universities, employment guidance teachers, and other educational staff.

Keywords: platform, student, employability skill;

Introduction

At present, China's employment situation is generally good, but it also faces many problems and challenges. As one of the key employment groups in China, the employment of college graduates is not only the focus and difficulty of employment work in China, the focus and hot spot of social attention, but also a hot topic of current academic research. Wang Feng (2018) pointed out that employment is the foundation of people's livelihood. Under the "new normal" of the economy, as the economic growth rate declines, the pressure on employment increases, and stable growth and employment is the main goal of macroeconomic policies. Zhang Xiaoling (2020) In the period of rapid development of the new economy, it is of great significance to strengthen

the research and cultivation of college students' employability and enhance their social competitiveness, which will promote higher quality and fuller employment of college graduates. Chen Siyuan (2021) believes that every college graduate is facing the "most difficult employment season", and "employment" is the foundation of people's livelihood. College students' employment is a hot issue of concern to the government, universities and society. College students belong to the first employment crowd, college students must obtain income through employment, to achieve survival, and seek personal growth and development. Therefore, we must pay high attention to the employment of high-end talents gathered by higher education. Only by giving full play to the talents and talents of these high-end and specialized talents can we better promote the replacement of old drivers of growth with new ones and promote sustained and sound economic development.

Table1 The chart shows the trend of the number of college graduates in China from 2016 to 2022

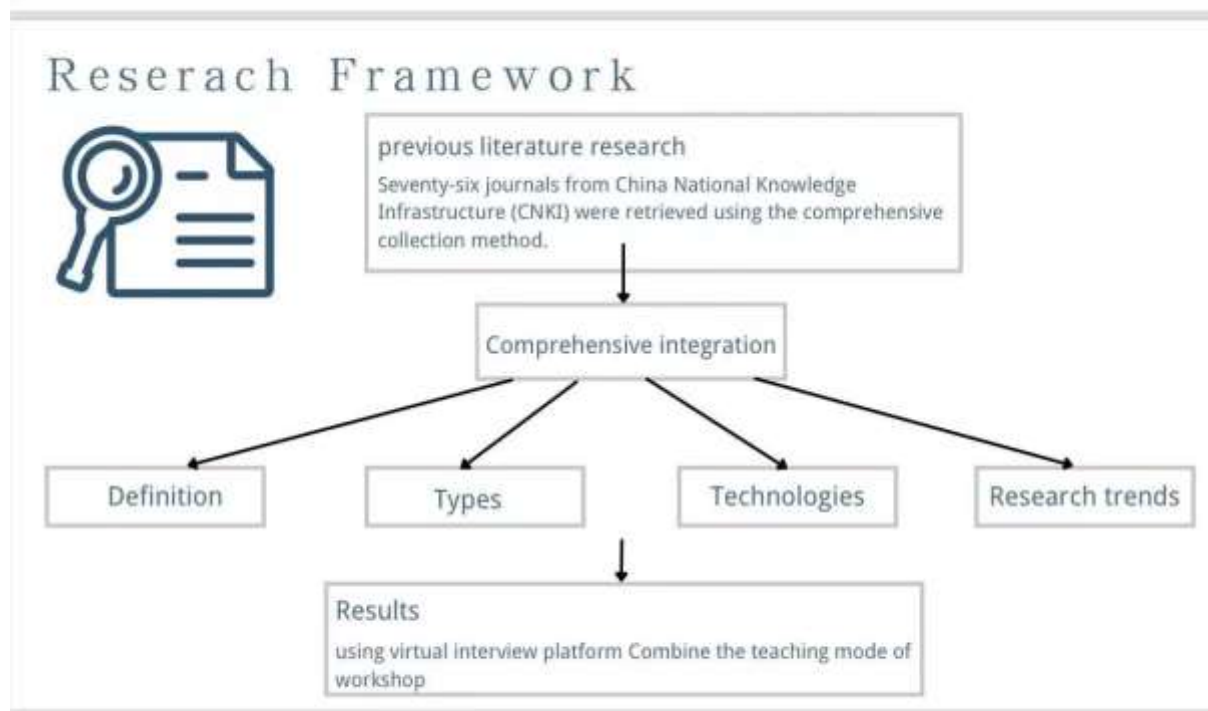


Data source: Ministry of Education, China Business Industry Research Institute

Statistics from the Ministry of Education show that the number of college graduates this year will reach 10.76 million, an increase of 1.67 million from last year and a record high in both size and increment. When graduation season and epidemic overlap, the employment situation is more serious.

In this paper, on the basis of previous literature research, we summarized the definition, types, relevant educational technologies and research trends of employment skills and obtained that the improvement of employment skills could be supported by virtual interview platform. Seventy-five journals from China National Knowledge Infrastructure (CNKI) were retrieved using the comprehensive collection method. These data can provide the majority of educators in colleges and universities, aiming to promote the improvement of students' employment skills, and put forward suggestions on how to promote and support employment skills.

Figure1



literature review

What is employability skill?

The concept of employability was first proposed by Beveridge , a British economist, and became a research hotspot in the field of human resource management in European and American countries in the late 1950s(Sun Bao-ying , 2019). Some research points out that Chinese scholar Zheng Xiaoming believes that college students' employability refers to the ability of college students to realize their employment ideal, meet social needs and realize their own value in social life through knowledge learning and development of comprehensive quality (Zhu Jianjun, 2021).

As more and more scholars pay attention to higher education, the study of college students' employability has gradually become a hot field, and the definition and understanding of its concept are also very different. For example, understands the employability of college students as "the basic abilities, skills, and job-hunting skills that college graduates acquire through knowledge learning and training in school"(Xie Fang ,2017).Some research put forward the ability to continuously create performance (Li Cunling ,2017). The research of tends to focus on employability, which is slightly biased from the perspective of the labor market. In my opinion, the fierce competition for employment in the context of the normalized epidemic situation must be comprehensively analyzed from both workers and the labor market, so as to improve students' employability (Lin Wenjun,2018). The research of that there is a lack of practical innovation mechanisms in the current research on employability (Wang Liguo,2018) .Some research made it clear that employability is a concept in development(Song

Qiming,2018), which I think is correct. However, there is no clear view on the definition of employability in his research, and most of his research is about previous definitions. defined the concept of employability including the following three connotations: First, it emphasizes the process orientation of college students' employability, that is, to obtain and maintain employment is actually sustainable employability; The second is to emphasize the performance orientation of college students' employment ability, that is, to obtain the ideal job suitable for their own qualification level; Thirdly, it emphasizes that employability is the comprehensive embodiment of knowledge, skill, ability, and quality (Wang Feng,2018). I personally agree with this view, and the subsequent research will continue to adopt this definition and further improve on this basis.

The type of employability

In view of the various research conclusions on the components and structure of college students' employability in China, in order to better clarify the core components and structural characteristics of college students' employability, according to recent five years research results, try to preliminarily construct an integrated analysis framework of the structure and constituent elements of college students' employability.

Combined with my school employment situation and students' employment problems in practical work, individuals would agree on college students' employment ability classification , put the college students' employment ability should include the following dimensions: one is to apply for a job to apply for capacity, including career planning, to collect process information, interview skills, and decision-making ability. Second, professional technical ability, including professional technology and practical application ability. The third is interpersonal skills, including communication skills, interpersonal skills, teamwork ability, conflict management ability, and other relational behavior management ability. The fourth is self-development ability, including learning ability, analysis and problem-solving ability, innovation skills, and other self-improvement abilities. The fifth is the ability to regulate emotions, including the cognitive ability of society, self-cognitive ability, and self-management ability, such as self-confidence, achievement motivation, responsibility, perseverance, and so on(Huang Ruifeng&wei jinming , 2019). The abilities of the five dimensions do not exist in isolation, nor simply add up, but interact with each other to form the employability system of college students, and jointly realize the smooth transition of college students from campus to the workplace. Subsequent research will be further improved based on the classification of (Huang Ruifeng &Wei Jinming2019).

The Relevant educational technology

Based on the research on the theme of "employability enhancement" in the past five years, the following five representative educational technologies are mainly adopted by the academic community:

Information construction of employment platform, such as establishing employment information platform and improving employment service system(Wang Ligu, 2018). In the countermeasures part, the author proposes to build an information system for ability training and establish an employment information platform and sharing mechanism(Wang Feng, 2018).

2. **Discusses the strategies of classroom design under the experiential teaching mode.** Taking the course "Job hunting Skills" in colleges and universities as an example, the paper gives the classroom activity design scheme and implementation steps of a simulated interview course and analyzes its teaching effect(Chen Fang, 2019).

3.**The form of workshops**,some article designed by coach technology as the core of the counselor employment consultation workshop, can be in the process of asking questions, listening training counselors' consciousness of coaches, help instructors master to carry out the coach of the employment guidance method, make the counselor can better use the coaching technology to carry out the employment guidance work, So as to improve the competitiveness of students' employment and enhance the effectiveness of employment guidance(Deng Ting& Liu Sihang, 2020).

4. **Research and development design of virtual interview**, for example ,some research points out that simulated interview is an important practical link in the process of employment guidance, which plays a crucial role in the training of college students' language expression ability, the exploration of their own advantages, and the selection of employment routes(Zhang Guannan et al, 2020). Some studies through the virtual simulation experiment simulates real economic society, according to the virtual simulation results to modify student career test results, can be more exact match students to the real social work department and the choice of jobs, guiding students targeted employment, improve the quality of student employment application value (Chen shihan& zhang hao,2020).

5. **Under university-enterprise cooperation mode design practice activities**, such as , some author clearly can jointly take advantage of the Internet, to build a virtual laboratory, with 5g Internet companies can scene real-time rendering, never leave the school can do college students and a line factory realize human-machine interaction, complete enterprise training on campus and at the same time can also save manpower and material resources cost, Everyone doesn't have to be in the field(Zhu Guangjia, 2021).

Research Objectives

1. To purpose how to comprehensively promote and support employability skills.
2. To guide or suggest how to promote and support employability skills.

Methodology

This research was using **qualitative synthesis method** , by using the research papers that publish between the year.2017 and 2021 amount .76. papers. In the scope of the samples in graduate students in China.

Data analysis methods

The paper use analytic induction and content analysis,the step of methodology below:

1. Synthesize documents and existing research documents on employability skill

and the concept of employability..

Categorize the employability concept, framework, and how to implement it in the class.

The criteria to select documents

The research Collect the literature with high credibility: one is to check whether the references are consistent with the cited content; Second, look at the content of the article;

Results

- 1.To purpose how to comprehensively promote and support employability skills.

The study found that we can improve students' employability skills in two ways:

1.1 *using virtual interview platform*

Some studies, such as Pan Dazhi (2017) from the interview website platform development and application, Li Fei, Yang Wenjian (2017) from the role-playing, Qiao Zhiyong, Xu Chunguang, Wang Yaokui, Chen Dongrui, Hu Yuan (2017) from the perspective of the simulated interview to discuss the improvement of college students' employment skills. Some scholars, such as Zhou Guangpeng (2018) and Zhu Yue (2018), began to pay attention to the research of virtual interview platforms and studied the combination of information technology and employment to improve the employability of college students. Zhu Guangjia (2021) establishes a virtual laboratory with the help of 5G Internet based on the school-enterprise cooperation model and the advantages of the Internet. For example, Li Xinhao, Yang Xiaoyang, Zhang Xiaoye (2020), Zhang Guannan, Gao Zhe, Jing Xinmei (2020), Geng Wenxiu (2020), Chen Shihan, And Zhang Hao (2020) use virtual interview technology to study employment skills. It shows that the academic circles agree that virtual reality technology is helpful to students' employability and has research value. The results prove that *using virtual interview platform can improve students' employment skills.*

Figure2 virtual interview platform



1.2 Combine the teaching mode of workshop

Some studies, such as Wang Chunsheng (2018) and Fu Baosen (2018), take career workshops as the carrier to improve the employability of college students; However, the workshops advocated by Lin Yannan (2019), Wang Yifan, Feng Ying (2019), Deng Tan, Liu Sihang (2020) and other scholars to enhance students' employability are still favored by most researchers. Some scholars, such as Pan Tingting, Wang Binsheng, Liu Jiangshengyu, Ma Bizhuo (2021), and Guo Xiaomu (2021), still focus on the research of workshops. Some scholars, such as Lin Jinjin (2021), focus on the construction of instructors' studios to improve students' employability. The results prove that *combining the teaching mode of the workshop can improve students' employment skills*.

Figure3 The teaching mode of workshop



2.To suggest how to promote and support employability skills.

In order to effectively improve students' employment skills, we can combine the virtual interview platform with the teaching mode of the workshop to carry out teaching practice design. such as Liu Xiangling and He Pingrong (2017), began to explore the design of experiential employment guidance courses; Some studies, such as Liu Dan, Chen Fang (2019), Liang Xuling and Mei Yunlang (2019), focus on practical teaching design to

improve students' employment skills. Lu Wen (2020) focuses on experiential curriculum design. A few studies, such as Gu Li (2021), began to respond to the call of the Ministry of Education to combine curriculum ideology and politics with the improvement of employment ability. For example, they explored the teaching reform of employment guidance courses based on "workshop teaching" in curriculum ideology and politics construction.

Figure4 Comprehensive training platform



Figure5 combine the virtual interview platform with the teaching mode of the workshop to carry out teaching practice design.



Discussion

Discussion **One of the purposes of this study** is to study how to promote and support employability skills in an all-around way. The results show that students' employment skills have been improved in the employment guidance practice supported by virtual interview technology. Chen Shihan and Zhang Hao (2020) believe that compared with other traditional interview forms, virtual interview platform can create a learning and practice environment that can simulate the real professional environment and jobs related to the major and help students improve their employment skills. Deng. Liu Sihang (2020) points out that relying on employment workshop teaching to develop students' employment counseling, can make teachers from "adviser" to "help", in the process of communication with students understand students really confused and demand, help the students to find their own vision, vocational values in life, so that the students have a better understanding on their own, Encourage

students to constantly think about how to use their own resources, through which effective actions can find their own satisfactory job. We believe that the workshop teaching model can help improve the effectiveness of student employment counseling.

Discussion **The second purpose of this study** is to make recommendations on how to promote and support employability skills. At present, career development and employment and entrepreneurship planning courses have been paid attention to by the society. Some schools also begin to pay attention to the content of career planning of college students in the classroom, and various competitions, challenges and other activities are increasingly abundant. However, these contents are often limited to the campus, but do not combine the off-campus practice of college students, and do not integrate with employers, resulting in the career development of college students and entrepreneurship and employment planning at the theoretical level. Through job teaching and virtual interview training, students can understand the nature of recruitment and recruitment, enterprise recruitment process, job description, competency model, and grasp the relevant knowledge of interview rules. Teaching can initially diagnose the decision-making situation, clear target positioning and self-positioning, can collect and analyze information, and can initially build competency model, so as to better according to self-marketing; Our study is consistent with the competency theory (Zhu Hailing, 2021). In addition, our results are consistent with previous studies (Zhou Guangpeng, 2018; Chen Fang, 2019; (Wang Yifan & Feng Ying, 2019; Deng Tin & Liu Sihang, 2020); Zhang Guannan & Gao Zhe & Jing Xinmei, 2020). Therefore, it is suggested that relevant educators focus on practical teaching design based on workshop teaching mode, and use virtual interview platform to conduct scenario simulation and case analysis teaching.

Conclusion

The term "Employability" has undergone great changes over the past 100 years since it was coined. It can be seen from the above research that different scholars have different understandings of college students' employability. Based on the viewpoints of different scholars and research institutions, the author believes that The so-called employability refers to the necessary ability combination when completing the task of "employment". The "employment" mentioned here is by no means a specific action. It not only includes the process of job-hunting but also includes a series of development processes such as how to be competent, promotion, and post-transfer after obtaining a position. Therefore, employability includes not only the ability to apply for a job, but also the ability to develop after obtaining a job.

The so-called employment ability refers to the sum of subjective conditions that an individual must have to obtain a job. Specifically, it refers to the employment ability that college students focus on in the process of job-hunting, such as collecting employment information, understanding the job situation, locking the target occupation, self-promotion, acceptance of assessment, signing employment contracts, and so on. Such as

information processing ability, communication and coordination ability, self-expression ability, and opportunity decision-making ability. Career development ability refers to the ability required by college students in the process of accumulating solid professional knowledge, excellent practical skills, better adaptation to society, and rational planning of life, such as learning ability, practical ability, adaptability, and planning ability. Of course, recruitment ability and career development ability are not independent and separated from each other, but two types of ability groups formed by focusing on the different goals of career development in different periods of job seekers, and they complement each other and are indispensable. The follow-up research should pay more attention to the study of college students' employment ability.

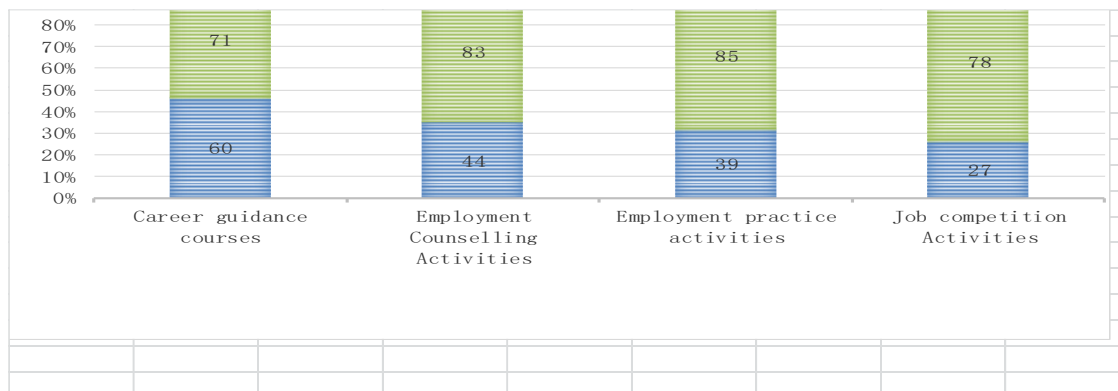
Through the analysis of relevant literature on employment skills in the past five years, we find that the research trend is as follows:

In general, most studies point out the lack of practice in current employment guidance. For example, Yang Zhihui, Fan Xin (2017), Zhang Liling, Chen Haiju, Guo Lixin, Chang Lisheng (2017), and Xie Fang (2017) mainly discuss the improvement of college students' employability from the perspective of supply-side. Research design pays more attention to practice. For example, Lu Wen (2020) pays attention to experiential curriculum design. For example, Li Xinhao, Yang Xiaoyang, Zhang Xiaoye (2020), Zhang Guannan, Gao Zhe, Jing Xinmei (2020), Geng Wenxiu (2020), Chen Shihan, Zhang Hao (2020) use virtual interview technology to study employment skills. More new research perspective, comprehensive, diversified, rulin, jin jin (2021) began to pay attention to construction instructors studio to improve the students' employment ability, GuLi response the Ministry of Education (2021) called for education and employment ability, the combination of the course such as exploration course ideological construction based on the teaching of "workshop" of career guidance curriculum teaching reform practice, For example, Bao Bin (2021) and Hu Shanshan (2021) advocate the study on the path to improve college students' employment ability in the era of all media, in the context of artificial intelligence, and Guo Haizhao (2021) in the context of intelligent education. For example, Zhu Hailing (2021) based on the competency theory perspective, Zhu Guangjia (2021) based on the school-enterprise cooperation model, using the Advantages of the Internet to establish a virtual laboratory with the help of 5G Internet. Liu Hui and Zhang Dongrong (2021) analyzed from the perspective of human resources development, reflecting innovation. Especially some researchers based on predecessors' research model to build their own model is a bright spot, such as Tang Zhenxin (2019) based on the built model research, improve the capacity of university students' employment Chen Lihong (2019) research building model, development platform, with the help of a medium to promote university students' employment ability, and follow-up studies need the further perfect place to study.

Table2. *Employment guidance and education of the College*

The development of employment guidance education helps to cultivate graduates' awareness of employment and create an innovative atmosphere of the university. The employment guidance education that

graduates of the college of 2022 receive is mainly career guidance teaching courses (60%), followed by employment guidance activities (44%), among which 71% and 78% think it is helpful.



The picture shows the proportion of graduates who have received career guidance education provided by the college and think it is effective (multiple choice)

Data source: MyCOS -- Yunnan University of Finance and Economics 2021 graduate training quality evaluation data

According to the chart survey data, students' satisfaction with employment practice is the highest, followed by employment counseling, which proves that employment counseling from the perspective of practice is more conducive to improving students' employment ability.

In terms of the school, has not set up the employment guidance and career development courses, but the introduction, of course, take the way of turning the classroom courses in the entrepreneurial foundation, take the big class teaching, about one hundred people, flip it offline three times, the teaching effect, and the course goal setting, It is difficult to pay attention to the learning needs of each student. After two semesters of teaching, combined with interviews with other teachers of the class experience, the basic consensus is that there is a lack of practical knowledge in the course setting of career guidance, and the guidance effect is not ideal only relying on classroom and MOOC theory learning. Therefore, we suggest that future research on employment skills improvement should focus on practical teaching, rely on virtual interview technology platforms, and use workshop teaching mode to innovate employment guidance-related curriculum design, so as to improve students' employment skills.

References

Exploring the Path to Improve College Students' Employment Ability in the Era of All Media.(Bao Bin,2021).
 Strategies for Improving College Students' Employability.(Chen si yuan,2021).
 Classroom Design Strategy and Implementation under experiential Teaching Mode -- A Case Study of Mock Interview Course on Job Hunting Skills in Colleges and Universities.(Chen fang,2019).

- Research on the Influence of Virtual Simulation Experiment on Students' Career Inclination: A Case Study of Economic Management Majors.(Chen shihan & Zhang Hao,2020)
- Analysis and Countermeasures on Improving Employability of Normal University Students Based on CareerEDGE Model.(Chen Lihong,2019).
- Research on The Design of Counselor Employment Consulting Workshop Based on Coaching Technology.(Deng Ting & Liu Sihang,2020).
- Enhancing Students' Employability through Career Workshop.(Fu.Baosen,2018)
- Research and Implementation of Agent-based Virtual Interview System.(Geng Wenxiu,2020).
- The Application of "Workshop" Education in Medical Students' Employment Guidance.(Guo Xiaomu,2021).
- Analysis on Countermeasures to Improve Students' Employability from the Perspective of Curriculum Ideology and Politics.(Gu Li,2021).
- The Background of Smart Education.(Guo Haizhao,2021).
- Research on the Path to Improve College Students' Employment Ability in the Era of All Media.(Huang Ruifeng & Wei Jinming,2019).
- Research on the Path to Improve College Students' Employment Ability in the Era of All Media.(Hu Shanshan,2021).
- Research on The Structure Model construction and Promotion Strategy of College Students' Employability from the Perspective of Market.(Li Cunling,2017).
- Research on The Improvement of Employability of Local Undergraduate Students.(Lin Wenjun,2018).
- Development and Application of Web Front-end Interview Website Platform.(Liu Dan & Pan Dazhi,2017).
- Research on The Improvement of College Students' Employability Based on Role Playing.(Li Fei & Yang Wenjian,2017).
- On the Role of Simulated Interview in Realistic Job Hunting.(Li Xinhao et al.,2020).
- Practice research on "Internet + Employment" Precise Service Model -- A Case study of "Shengda Feng Teacher Employment Workshop).(Lin yanan,2019).
- Research on the Construction of Counselors' Studio and the Improvement of Students' Employment Ability.(Lin Jinjin,2021).
- Application of Experiential Teaching in College Employment Guidance Course: A Case Study of Simulated Interview Course of "Job-hunting Skills of College Students".(Liu xiangling & He Pingrong,2017).
- Design of Goal-oriented Employability Improvement Scheme for College Students -- A Case Study of Human Resource Management major in Beijing University of Information Science and Technology.(Liang Xuling & Mei Yunlang,2019).

- Innovating the Teaching Mode of Career Planning Courses for College Students Oriented to The Improvement of Employability.(Lu Siwen,2020).
- Research on the Path to Improve the Employment Ability of Library and Information Archives Management Students in the New Era -- Based on THE MODEL of CMES-LIS.(Liu Hui & Zhang Dongrong,2021).
- Teaching Reform of Employment Guidance Course Based on "Workshop Teaching" in the Context of New Liberal Arts: A Case study of "Interview Skills".(Pan Tingting et al.,2021).
- On the Role of Mock Interview in College Students' Job-hunting Process.(Qiao Zhiyong et al.,2017).
- Research on the Improvement of Employment Ability of Contemporary College Students from the Perspective of Supply-side Reform.(Sun Baoying,2019).
- Campus and Workplace: A Study on Undergraduates' Employability.(Song Qiming,2018).
- Research on The Improvement of College Students' Employability Based on Soft Skill Pyramid Model -- A Case Study of Teaching Reform in Local Undergraduate Colleges.(Tang Zhenxin,2019).
- Empirical Study on The Structure Optimization of College Students' Employability Based on Supply-demand Coupling.(Wang Feng.An,2018).
- Research on Employment Problems of College Students in Northeast China.(Wang Liguang,2018).
- Research on Improving College Students' Employability through Career Workshop.(Wang Chunsheng,2018).
- Research on the Application of "Workshop" Mode in Career Guidance Courses.(Wang Yifan & Feng Ying,2019).
- Discussion on the Path to Improve College Students' Employment Ability Based on Supply-side Reform.(Xie Fang,2017).
- Research on The Improvement of College Students' Employment Ability from the Perspective of Supply-side Reform.(Yang Zhihui & Fan Xin,2017).
- Research on the Promotion Mechanism of College Students' Employment Ability under the New Economic Background.(Zhang Xiaoling,2020).
- Strategies for Improving Employability of College Graduates.(Zhu Jianjun,2021).
- Research on The Cultivation of College Students' Interview Ability through Network Simulation Interview Form Innovation.(Zhang Guannan et al.,2020).
- Research on The Improvement of College Students' Employment Ability under school-Enterprise Cooperation Mode.(Zhu Guangjia,2021).
- Application of Situational Simulation Training Based on Virtual Reality in The Cultivation of College Students' Key Qualities.(Zhou Guangpeng,2018).
- A Comparative study on Talent Evaluation Methods of Different Scenarios under Professional Selection.(Zhu Yue,2018).

Research on The Improvement of College Students' Employability from the Perspective of Supply-side Reform.(Zhang Liling et al.,2017).

Research on The Improvement of College Graduates' Employability from the Perspective of Competency Theory -- Based on the Survey of Employers of Nanjing University of Science and Technology graduates.(Zhu hailing,2021).

The Volatility of Faculty Members' Professional Network in Higher Education Institution in Northern Thailand

Pufa Savagpun^{*1} *Arphat Tiawtrakul*^{2*} *Panuphan Laprattanathong*³

*Prakorn Tuisri*⁴ *Den Krongkumpee*⁵ *Nuthawut Chimma*⁶

*Suprakit Wiriyakit*⁷ *Win Soe Aung*⁸

^{1,2*} Faculty of Education, Naresuan University, Phitsanulok Province, 65000

³ Faculty of Business Administration and Liberal Arts, Rajamangala University of Technology Lanna, Chiangmai Province, 50200

⁴ Faculty of Education, Chiangmai University, Chiangmai Province, 50200

⁵ Faculty of Education, Thailand National Sports University, Phetchabun Campus, Phetchabun Province, 67000

⁶ Faculty of Education, Uttaradit Rajabhat University, Uttaradit Province, 53000

⁷ Faculty of Education, Nakhonsawan Rajabhat University, Nakhonsawan Province, 60000

⁸ Northern College, Tak Province, 63000

Abstract

This research aims to study the present and future of faculty members' professional networks in higher education institutions in northern Thailand. The study was conducted by a faculty members' professional network to enhance Thai people's well-being based on the concept of a new normal research project, which was approved by the Human Research Ethics Committee COA No.277/2021. Subject: 100 volunteers in health education, physical education, and sports science faculty members' professional networks. The researcher conducted the data collection by using a questionnaire to capture the present and future of a faculty members' professional network in a higher education institution in northern Thailand. The questionnaire is divided into 4 parts: 1) general information; 2) the present and future of a faculty members' professional network; 3) future of a faculty members' professional network; and 4) recommendations; information providers for teachers in 16 institutions of higher education in the northern region who teach in the fields of health and physical education or sports science.

The research found that:

The researchers analyzed the faculty members' professional networks. The researchers found that the faculty members expressed their opinions on the future of network development approaches at a high level. That is, the objectives should be set for the network to maintain relationships with the various organizations involved in health education, physical education, and sports science. It is also expected that the network will be a hub for exchanging knowledge, opinions, and experiences in health and physical education and sports science, in line

with networking guidelines that should define social development objectives and the specific performance of the group.

Keywords: Faculty members, professional network, higher education, northern Thailand

Background

From the survey in the northern region of Thailand, 17 provinces consist of 9 provinces in the lower northern region, including Nakhon Sawan, Kamphaeng Phet, Phitsanulok, Phichit, Uthai Thani, Uttaradit, Phetchabun, Sukhothai, and Tak. The 8 provinces in the upper northern region, (Thai Health Area, 2019) found that there are more than 12 million people, or about 33 hundred of the total Thai population. The surveys of Area Health 1 to 3 found that people in the northern region faced air pollution problems that are the main problems, such as particulate matter no larger than 10 microns (PM10) particulate matter less than 2.5 microns (PM2.5), ozone gas (O3), volatile organic compounds and fog, smoke, a source of air pollution unique different in each area which the overall northern area.

Most of the air pollution is caused by energy consumption activities in agriculture. Power generation and industry are problems causing lung disease. (National Statistic Office Thailand, 2019) The water source is in constant deterioration. The quality of the river has continued to deteriorate. including the Ping River and the upper Wang River. It is related to the drinking water consumption of people in the northern area which causes problems with kidney disease. Even the outbreak and mutation of COVID-19 by appearing at-risk behaviors that affect health for example underweight, unclean water (under Co2 per LBM.), hygiene, smoke from agricultural incineration (102 McG: m.), and airborne pathogens. (Air4Thai, 2021) From to learn in health education on research "Digital communication and health care behaviors of employees at port authority of Thailand, Khlong Toei district, Bangkok" (Jeento, 2019) research result found that education can support people to be caring themselves on health also.

Higher education institutions play an important role in promoting the well-being of people in the area higher education institutions in the northern region, 38 out of 155 institutions nationwide or 24.5 %. The geographic region committee divided Thailand into 6 regions. The proportion of higher education institutions in the northern region compared to other regions is high. In the survey in the academic year 2019, (Savagpun, 2021) it was found that 16 higher education institutions offer education graduate and graduate programs in the field of physical education health, and sports science. It consists of both state higher education institutions that are government and non-governmental, private institutions of higher education. There are 223 graduate and graduate teachers who teach in health education, physical education, and sports science, and the cumulative number of physical education students since the 2019 academic year is around 3,800. This current situation has stabilized in recent

years ago which the number of self-improvement members has shown to research results and to be need assessment for further research.

All higher education institutions in the northern region have a mission to spread opportunities and equality in education to the people of the region in 17 provinces by teaching and learning academic services to the needs of society leading to the improvement of the quality of life and well-being of the people as well as better conservation and restoration of natural resources and the environment. Focus on academic development and high professional and become the center of various sources of scholars that are valuable to humans. It also has a strong determination to maintain academic excellence and internationalization to develop human resources with quality and efficiency to support the development of the country and be able to compete at the international level sustainably (WHO, 2020). Aims to promote faculty members to be academic experts, professional expertise in all fields of science, universal in both the technology and language required, as well as have integrity, ethics, and professional ethics. As well as being a visionary, having the mind to develop, creating a “Faculty Members’ Professional Network”, help promote the Thai people’s well-being based on the concept of new normal by giving teachers in the higher education institutions an opportunity to exchange information, including lessons and experiences with other people or organizations outside their institutions.

Reduce redundant work cooperates and works in a mutually beneficial way, developing teachers in health education, physical education, and sports science in higher education institutions to be research professionals, (Montegue, Homo, and Homo, 2020) curriculum development and teaching management, expertise in developing knowledge and skills necessary for the learning of learners in the 21st century. What students can learn throughout life affects Thai people’s well-being based on the concept of new normal and the ability to compete in the ASEAN region and internationally to lead Thailand to Thailand 4.0 effectively. Developing “Faculty Members’ Professional Network” is an important mission to promote the quality of life of the population which is consistent with important goals and achievements in the Ministry of Higher Education, Science, Research, and Innovation plan of 2020-2022, platform 1; manpower development, raise the level of knowledge institutions and science ecosystems in research and innovation. Plan 3; promote research and innovation to create manpower for economic and social development, create graduates, promote lifelong learning, develop skills for the future (Up-skill), increase skills (Re-skill), and create new skills (New-skill).

Therefore, the supporting idea of this research and development is an important supporting factor in enhancing the quality of life of Thai people according to the 20-year national strategy. The developing a network of cooperation among academic personnel with specific expertise in promoting Thai people’s well-being in different contexts in each northern region, which is consistent with the master plan under the national strategy (23); research and innovation development basic knowledge context. (Limpijumnong, 2019)

Formation of networks in health education, physical education, and sports science in higher education institutions of northern Thailand. The faculty members' professional network has a starting point in 3 ways (Francis, 2010):

1) Natural network has occurred by teachers in health education, physical education, and sports science in higher education institutions in the northern region often have activities to exchange learning ideas and academic experiences according to the situation and research trends to seek new alternatives. However, the integration of activities of network members is due to the internal motivation of the northern area network by relying on seniority, junior, and alumni from the same higher education institutions. The area of higher education institutions has been expanded as well as expanding the goals/objectives of the network such as the joint health service of the members. Finally developed to be a network that covers the needs of a wider range of members more strongly and sustainably.

2) Establishment network has been formed according to the policy of the Health Education, Physical Education, and Recreation Association of Thailand and the strategy of the Faculty of Education, Naresuan University which aims to push for becoming a professional center, exchanging learning experiences according to the conceptual framework to create bonds between members, leading to the development of a network in health education, physical education and sports science in higher education institutions in the northern region.

3) Evolution network has been formed by a mixed development process starting from a group of teachers to develop professional roles in health education, physical education, and sports science by supporting each other and learning together. In the beginning, although no specific goals or objectives have been established, there are network operations have come together with the idea, building a commitment from good conscience to be a "professional support" and development network in health education, physical education, and sports science. Later, when encouraged and supported, it can develop into a strong network.

In a conclusion, develop academic excellence by promoting research, development, and application of innovation for teachers in health and physical education and sports science in higher education institutions to create a body of knowledge, which affects competency and health values based on the concept of new normal that is consistent with the "way", lifestyle, and culture of each locality. This research will be strengthening the network and disseminate knowledge and skill to the people for economic and social development among higher education institutions in the northern region. This research was to study the present and future of faculty members' professional networks to improve database information about members' general information, age, academic positions, work experience, and development guidelines. That information will empower professional networks to support physical education, health education, and sports science.

Research Objective

To study the present and future of faculty members' professional network in higher education institutions in northern Thailand

Population and sample size

The study presents faculty members' professional network as part of the development of faculty members' professional network in higher education institutions in northern to enhance Thai people's well-being based on the concept of the new normal research project. Sample inclusion criteria were Doctoral and master's degree in physical and health education and sports science or to be Assistant Professor or Associate Professor or Professor. The sample has teaching experience of at least 10 years in P.E., H.E., or sports science at higher education institutions in northern. This research has been approved by Human Research Ethics Committee COA No.277/2021.

Subject; 100 volunteers in health education, physical education, and sports science faculty members' professional network in higher education institutions in northern by table 1

Table 1 The sample of the higher education institution

No.	Higher Education Institution	Sample
1	Thailand National Sports University, Chiang Mai Campus	7
2	Thailand National Sports University, Phetchabun Campus	7
3	Thailand National Sports University, Lampang Campus	7
4	Thailand National Sports University, Sukhothai Campus	7
5	Chiang Rai Rajabhat University	7
6	Chiang Mai Rajabhat University	7
7	Phetchabun Rajabhat University	7
8	Uttaradit Rajabhat University	7
9	Nakhonsawan Rajabhat University	6
10	Pibulsongkram Rajabhat University	6
11	Kamphaeng Phet Rajabhat University	6
12	Mae Fah Luang University	6
13	Chiang Mai University	6
14	Phayao University	6
15	Naresuan University	6
16	Northern College	2
	Total	100

Protecting confidential information

Research data is stored on a computer and access to data is protected using encryption that only the research team can access. Any specific information that may lead to sampler disclosure will be concealed and will not be made public. Where the research results are published sampler name and address must always be concealed. Only research project ID will be used. Sampler data will be stored for a total period of 2 years at the faculty of education, Naresuan university Tha-Pho Sub-district, Mueang district, Phitsanulok province, and will be destroyed within 1 year after the publication of the research.

The researcher conducted the data collection by using questionnaires about the present and future faculty members' professional networks. The questionnaire is divided into 4 parts: 1) general information, 2) the present and future of faculty members' professional network in higher education institutions in the northern, 3) future of faculty members' professional network in higher education institutions in the northern and 4) recommendations; information providers for teachers in 16 institutions of higher education in the northern region who teach in the field of health education, physical education, or sports science 100 people. The research tools were developed by theory and research study and question items were drafted and tried out by 15 experts for reliability and alpha coefficient. The data were collected by google form questionnaire to 5 servers: Chiang Mai server, Uttaradit server, Phetchabun server, Nakhon Sawan server, and Phitsanulok server. The research used descriptive statistics and percentages. The results of the data analysis are shown in Tables 2-16.

Table 2 the gender of the respondent

General Information	number	percent
Gender		
Male	72	72
Female	28	28
total	100	100

From Table 2 showing the general gender information of the respondents, it was found that 72 males represented 72% and 28 females represented 28% respectively.

Table 3 the age of the respondents

General Information	number	percent
age		
26-30	6	6
31-35	17	17
36-40	28	28
41-45	17	17
46-50	21	21
51-55	11	11
total	100	100

From Table 3 showing general information, the age of the respondents, it was found that 28 people were aged 36-40 years, representing 28 percent, aged 46-50 years, 21 people, representing 21 %, aged 31-35 years, 17 people representing 17 %, aged 41-45 years, 17 people, representing 17 %, aged 51-55 years, 11 people, representing 11%, and aged 26-30 years, 6 people, representing 6%, respectively.

Table 4 the educational qualifications of the respondents

General Information	number	percent
educational qualifications		
Master's degree	61	61
Doctoral Degree	39	39
Total	100	100

From Table 4 showing general information, educational qualifications of the respondents showed that 39 percent of the respondents had the highest qualification at the doctoral degree, representing 39 %, and the master's degree, 61, accounting for 61 %, respectively.

Table 5 the educational institutions that received the highest educational qualifications of the respondents

General Information	number	percent
the educational institutions that received the highest educational qualifications		
University Group	67	67
Rajabhat University Group	14	14
Thailand National Sports University Group	19	19
Total	100	100

From Table 5 showing general information, educational institutions that received the highest educational qualifications of the respondents found that 67 people received the highest educational qualifications from the university group, representing 67%, and the National Sports University group of 19 people accounted for 19 % and a group of 14 Rajabhat universities accounted for 14%, respectively.

Table 6 the academic positions of the respondents

General Information	number	percent
academic positions		
none	72	72
Assistant Professor	22	22
Associate Professor	6	6
Total	100	100

From Table 6 showing general information, the academic positions of the respondents showed that there were no academic titles, 72 people, representing 72%, were 22 assistant professors, accounting for 22 %, were 6 associate professors, accounting for 6%, and no professor.

Table 7 the respondents' work experiences

General Information	number	percent
work experiences (year)		
1-5	26	26
6-10	20	20
11-15	28	28
20-25	11	11
26-30	5	5
31-35	10	10
Total	100	100

From Table 7 showing the general work experience of the respondents, it was found that 28 people had 11-15 years of work experience, representing 28 %, 1-5 years of work experience, and 26 people represented 26% of their work experience. 6-10 years, 20 people, representing 20%, work experience 20-25 years, 11 people, accounting for 11%, 31-35 years of work experience, 10 people, accounting for 10 %, 26-30 years of work experience, the number of 5 people accounted for 5%, respectively.

Table 8 the working status of the respondents

General Information	number	percent
working status		
employment	13	13
University employee	53	53
Government official	34	34
Total	100	100

From Table 8 showing general information about working status of the respondents, it was found that 53 university employees accounted for 53 %, 34 government officials accounted for 34 % and the employment rate of 13 people accounted for 13 % accordingly number.

Table 9 the teaching duty at the respondents' level

General Information	number	percent
Teaching duty		
Bachelor	80	80
Master	4	4
Bachelor-Master	8	8
Bachelor-Master-Doctor	8	8
Total	100	100

From Table 9 showing general information on teaching duties at the level of the respondents, it was found that 80 persons were teaching at the bachelor's degree level, accounting for 80 %, at the master's level, 4 people representing 4% with bachelor's degree. 8 people with master's degrees accounted for 8%, and with bachelor's degrees, master's degrees, and doctoral degrees 8 people accounted for 8%, respectively.

Table 10 the teaching duty in the subject areas of the respondent

General Information	number	percent
teaching duty in the subject areas		
Health education	2	2
Physical education	51	51
Sports science	16	16
Health education - Physical education	5	5
Health education - Sports science	2	2
Physical education - Sports science	18	18
Health education - Physical education - Sports science	6	6
Total	100	100

From table 10 showing general information on teaching duties in the subject area of the respondents, it was found that teaching duty in physical education 51 people, accounting for 51%, teaching duty in physical education and sports science, 18 people, accounting for 18 %, teaching in sports science, 16 people, accounting for 16%. and teaching duty in health education, physical education, and sports science, 6 people accounted for 6%, to teaching duty in the field of health education and physical education of 5 people, representing 5%,

teaching duty in the field of health education and sports science of 2 people, accounting for 2%, and teaching duty in health education, 2 people, accounting for 2%, respectively.

Table 11 the duties of those responsible for the curriculum at the respondents' leve

General Information	number	percent
curriculum at the respondents' level		
Bachelor	93	93
Master	3	3
Master-Doctor	4	4
Total	100	100

Table 11 shows general information on the duties of those responsible for the course at the level of the respondents. It was found that 93 people in charge of the program at the bachelor's level accounted for 93 %, 4 percent of master's degree and doctoral degrees accounted for 4 %, and 3 percent of master's degree students accounted for 3%, respectively.

Table 12 the presence of faculty members' professional networks in higher education institutions in norther

Item	exist	percent
1. You are a member of a club organization or a network association between the institutions of higher education in the northern region.	43	43
2. You have academic cooperation or activities between the higher education institutions in the northern region.	61	61
3. You are received professional news on health education, physical education, and sports science between the higher education institutions in the northern region.	63	63
4. You are agreed that it was necessary to develop a network of teachers in health education, physical education, and sports science in higher education institutions in the northern region.	94	94
5. You are agreed that your institute is ready to serve as a server for teachers in the field of health education, physical education, and sports science in northern region higher education institutions	86	86

From Table 12 showing the presence of faculty members' professional networks in higher education institutions in northern, it was found that the respondents were members of club organizations or network associations among higher education institutions in the northern region. 43 people, representing 43%, have academic cooperation or activities between the higher education institutions in the Northern Region of 61 people, or 61 %. Received the news on professional education in health education, physical education, and sports science between the higher education institutes of the northern region, 63 people, representing 63 %, think that the development of a network of health education teachers in physical education and sports science in the higher education institutions in the northern region is essential. 94 people accounted for 94 % and thought that the institutions of the respondents were ready to host teachers in health education, physical education, and sports science in 86 percent of the higher education institutions in the northern region, or 86 %.

Table 13 overview of the guidelines of faculty members' professional network in higher education institutions in northern

the guidelines of faculty members' professional network in higher education institutions in northern	Mean \bar{x}	S.D.	Level of development
1. objectives of network development	4.26	0.99	high
2. network development model	4.23	0.99	high
3. readiness for network development	3.49	1.04	high
Total	3.99	1.00	high

Table 13 shows an overview of the guidelines of faculty members' professional network in higher education institutions in northern, it was found that the respondents had opinions on the objectives of network development, network development model and the readiness for network development is at a high level (\bar{x} = 3.99, S.D. = 1.00).

Table 14 the guidelines of faculty members' professional network in higher education institutions in northern in terms of network development objectives

the guidelines of faculty members in terms of network development objectives	Mean \bar{x}	S.D.	Level of development
1. require the network to provide information	4.26	0.99	high
2. require the network to be the center of exchange of knowledge, opinions, and experiences	4.28	0.99	high

3. require the network to build relationship between members	4.20	1.00	high
4. require the network to connect people with similar interests	4.26	0.97	high
5. require the network to maintain relationships with the society involved in health education, physical education, and sports science.	4.30	1.00	high

Total	4.26	0.99	high
--------------	-------------	-------------	-------------

From Table 14 showing the guidelines of faculty members' professional network in higher education institutions in northern in terms of network development objectives, it was found that the overall level of development guidelines was at a high level (\bar{x} = 4.26, S.D. = 0.99) and, when considered individually, it was found that the need for the network to maintain relationships with the society involved in health education, physical education and sports science had the highest mean (\bar{x} = 4.30, S.D. = 1.00)

Table 15 the guidelines of faculty members' professional network in higher education institutions in northern in terms of the network development model

the guidelines of faculty members in terms of the network development model	Mean \bar{x}	S.D.	Level of development
1. require the network to develop in academics	4.29	0.98	high
2. require the network to develop in the professional field	4.32	1.00	high
3. require the network to develop in relation to activities	4.17	1.02	high
4. require the network to develop in the field of international relations	4.16	0.97	high
Total	4.23	0.99	high

From Table 15 showing the guidelines of faculty members' professional network in higher education institutions in northern in terms of network development model, it was found that overall, there was a high level of development guidelines (\bar{x} = 4.23, S.D. = 0.99) and when considering each item, it was found that the need for professional development networks had the highest mean (\bar{x} = 4.32, S.D. = 1.00) academic (\bar{x} = 4.29, S.D. = 0.98)

Table 16 the guidelines of faculty members' professional network in higher education institutions in northern in terms of readiness for network development

the guidelines of faculty members in terms of readiness for network development	Mean \bar{x}	S.D.	Level of development
1. have sufficient knowledge in health education, physical education, and sports science for network development	3.78	0.99	high
2. have enough experience for network development	3.68	1.01	high
3. have sufficient expertise in health education, physical education, and sports science to exchange knowledge and opinions	3.76	1.01	high
4. have specialized skills in health education, physical education, and sports science sufficient to exchange knowledge and opinions	3.83	0.94	high
5. have connection to create a network to connect people with similar interests	3.83	1.04	high
6. have enough academic articles to exchange knowledge and opinions	3.26	1.10	moderate
7. have enough research to exchange knowledge and opinions	3.18	1.17	moderate
8. collaborate with nearby institutions or agencies to maintain relationships with the society involved in health education, physical education, and sports science	3.50	1.08	moderate
9. have sufficient funds for network development	2.66	1.21	moderate
รวม	3.49	1.04	high

From Table 16, showing the guidelines of faculty members' professional network in higher education institutions in northern in terms of readiness for network development, it was found that the overall readiness for network development was at the level ($\bar{x} = 3.49$, S.D. = 1.04) and when considered individually, it was found that the network showed readiness with specialized skills in health education, physical education and sports science sufficient to exchange knowledge and opinions maximum ($\bar{x} = 3.83$, S.D. = 0.94) as well as having connections for networking to connect people with similar interests ($\bar{x} = 3.83$, S.D. = 1.04), followed by having sufficient

knowledge in health education, physical education and sports science for network development. Network (\bar{x} = 3.78, S.D. = 0.99)

For part 4, recommendations on the guidelines of faculty members' professional network in higher education institutions in northern found that respondents agreed that a network development plan should be expedited with the common aim of promoting access to research funding for professors. improve the quality of graduates, academic services, and professional enhancement through a monthly exchange of academic information, especially the development of sports and health tools and technologies. Establish annual academic and sports activities for members from sub-centers in provincial groups both online and onsite. The members may be grouped according to the disciplines such as health education, physical education, and sports science. To create a sustainable impact from the network of professional teachers in health education, physical education, and sports science in higher education institutions in the northern region.

Discussion: The future of faculty members' professional network in higher education institutions of northern Thailand

From the research results, it was found that the presence of faculty members' professional network in higher education institutions in northern in general, there are higher education institutions in the northern region that offer physical education curriculum, health education, and sports science, both at the undergraduate and graduate level, 16 out of 38 institutions representing 42.10%. And when considering a group, it was found that 7 Rajabhat Universities group accounted for 43.75% with the highest proportion, followed by 4 National Sports Universities (25.00%) and 4 Universities representing 25% and one college accounted for 6.25%, respectively (Elenee, 2019). The average age of the faculty members' is between 36-40 years old, with 11-15 years of work experience and 15 to 20 years of formal employment opportunities. This is a mid-term period of work that accumulates teaching experience, research and is ready to use the potential that has upheld the ideology to carry on and extend to the new generation of faculty and students in their institutions. However, 61% had the highest educational qualification at the master's level, which was a limitation to the development of graduate programs. Therefore, only 8% of faculty can perform teaching at the bachelor's level. Master's and doctoral degrees 93% are responsible for most of the courses at the bachelor's level, 93 percent. Completion of this master's degree is also a limitation to obtaining research support from external funding sources, which is an ongoing measure of quality assurance success at the faculty and institutional level. It also affects the competence required for research that faculty in higher education institutions use as a tool for self-development for academic positions. Research shows that 72.00 % of faculty members do not have academic positions, 94% of the faculty members agreed that it was necessary to develop a network of teachers in health education, physical education, and sports science in higher education institutions in the northern region and ready to host up to 86%.

The researcher, therefore, found the importance of developing faculty members in health education, physical education, and sports science in higher education institutions in northern Thailand. In the form of networking together to exchange knowledge, experiences, and successes together by the study on the formation of networks in health education, physical education, and sports science in higher education institutions. Later networks arising from evolution were established according to a blended development process, starting with a group of teachers to develop professional roles in health education, physical education, and sports science by supporting each other and learning together to relevant to the theory of network (Nakayama, 2015). The networks build a commitment from good conscience to be a network to help and professional development in health education, physical education, and sports science. We are encouraged to be a strong network in response to the adjustment of the direction of higher education institutions in Thailand in the future.

However, regarding the future of faculty members' professional network in higher education institutions in northern Thailand, the researchers analyzed the overview of the network development guidelines found that the faculty members expressed their opinions on the future of network development approaches at a high level, that is, the objectives should be set for the network to maintain relationships with the society involved in health education, physical education and sports science especially in curriculum development that the same way with (Phaijit, 2018) the needs to enhance the competencies of physical education teacher students have were composed of 4 components: physical education research and learning development, physical education measurement and evaluation, physical education learning management and classroom management, and physical education innovation and technology. It is also expected that the network will be a hub for exchanging knowledge, opinions, and experiences in health education, physical education, and sports science, in line with networking guidelines that should define social development objectives and the specific performance of the group (Karnjanakit, 2019). The networking form of activities that the faculty has the most expectations of is the model of networking for professional and academic development. This is consistent with the current condition that the researcher found that most of the faculty members do not have academic positions. Therefore, the network's contractual activities should be for professional development as it is a requirement of members in the form of training both online and on-site according to the situation of the spread of COVID-19 (Duong et al, 2015). However, based on the readiness of the members to express their intentions for network development guidelines that should encourage the exchange of experiences among members in specialized knowledge and skills in health education, physical education, and sports science. There is still enough research and articles to exchange knowledge and opinions at a moderate level as the development of training curriculum to enhance 21st-century competencies for physical education teachers by applying facilitating learning with instructional scaffolding (Saidi, 2018). In this regard, the network should encourage cooperation with nearby institutions or agencies with correlation activities to build a network to connect members with similar interests consistent with the 5-host establishment model, namely: Chiang

Mai server, Uttaradit server, Phetchabun server, and Nakhon Sawan server with Phitsanulok as the center of the network. The results of faculty members' professional network in higher education institutions in northern have shown academic progress. The proportion of receiving research funding from external sources of higher education institutions, conservation protection, and cultural revival as well as providing academic services with health education, physical education, and sports science. These are effective tools used to promote such missions. The budget support from individual institutional policies will be justified in line with the success resulting from the emergence of network development for further sustainability.

Acknowledgment

This research is funded by Thailand Science Research and Innovation 2021.

Reference

- Air4Thai. (2021). *Thai air pollution; situation and quality*. Pollution control department. Bangkok.
- Duong H. Trung, Xem P. Hoc and Hakgyo, P. Hoc. (2015). *Health Literacy in Taiwan*. Taipei Medical University.
- Elenee, Kendall J. (2019). *The Positive Psychology Movement*. Pennsylvania state, Guilford Press.
- Francis, Casio D. (2010). *The dynamic of network cooperation. Translating movement behavior theory into practice*. Adapted Physical Activity Quarterly, 8, 154-77.
- Jeento, Warittha. (2019). *Digital Communication and Health Care behaviors of Employees at Port Authority of Thailand, Khlong Toei District, Bangkok*. Degree of Master of Public Administration in Public Administration Department of Public Administration, Chulalongkorn University.
- Karnjanakit, Sombat. (2019). *Recreation for all*. Faculty of Sports Science, Chulalongkorn university, Bangkok.
- Limpijumnonng, Sukit. (2019). *The project of international student evaluation: PISA evaluation report 2018*. The Institute for the Promotion of Teaching Science and Technology, Bangkok.
- Montegue, Huizinga A., Homo, Ludent P. and Homo, Hobb P. (2020). *Physical Literacy*. The American College of Pneumatology.
- Nakayama, Mendes P. (2015). *Theory of Networking*. Toronto Press.
- National Statistic Office Thailand. (2019). *Thai People's Health Situation*. Ministry of Health, Bangkok.

- Phaijit, Pongsathorn. (2018). *Development of curriculum for professional teacher training preparation to enhance competencies of physical education teacher students*. the Degree of Doctor of Philosophy in Health and Physical Education, Department of curriculum and instruction, Faculty of Education, Chulalongkorn University.
- Saidi, Asri. (2018). *Development of training curriculum to enhance 21st-century competencies for physical education teachers by applying facilitating learning with instructional scaffolding*. the Degree of Doctor of Philosophy in Health and Physical Education, Department of curriculum and instruction, Faculty of Education, Chulalongkorn University.
- Savagpun, Pufa. (2021). *The Development of Practical Big Data in Health Education, Physical Education and Sports Science in Northern Thailand*. Journal of Education Naresuan University, Volume 25 No.1 January - March 2023.
- Thai Health Area. (2019). *Thai Health Report, Northern Area*. Ministry of Health, Bangkok.
- WHO. (2020). *Comprehensive mental health action plan*. Florida State, United States: Copy Press.

Experiences of students with special educational needs about evaluation

Luka Pongračić^{1*} Andrej Maras² Ana Maria Marina³

^{1,3}Department of Social Sciences and Humanities, University of Slavonski Brod, Croatia

²Primary school Lotrščak, Zagreb, Croatia

* lukapongracic2@gmail.com

ABSTRACT

The process of evaluating student achievement is one of the most demanding areas of educational work, and when it comes to students with special educational needs, this process is even more challenging and demanding. The aim of this qualitative research is to examine the experiences of students with special educational needs during the evaluation process. The study involved 24 students (11 students diagnosed with dyslexia, 6 students diagnosed with dysgraphia and 7 students diagnosed with ADHD). The data collection method was a semi-structured interview. The survey results show that teachers most often formatively evaluate students, type and degree of student difficulties, adjust examination materials and situations in accordance with student difficulties and in their educational work adhere to pedagogical principles in working with students with special educational needs.

Key words: education, evaluation, students with special educational needs

Introduction

Throughout the history of education, different attitudes have emerged, different ideas have been advocated, and different models of educating students with special educational needs have been developed. The position of this group of students in today's education system is determined by the Primary and Secondary Education Act (2020), which divides students with special educational needs into students with disabilities and gifted students. The Republic of Croatia is a signatory to two conventions that affect educational practice - the Convention on the Rights of the Child and the Convention on the Rights of Persons with Disabilities (Kudek-Mirošević, 2007). Access to students of marginalized groups is regulated by numerous other documents. Numerous authors have described the importance of an individual approach to each student, especially in working with students with special educational needs. In order to understand the vulnerability of this group of students in this system, it is necessary to look at the historical development of society in relation to marginalized groups of people in general.

Evaluation of student achievement is considered by teachers to be the most demanding area of their pedagogical work. When it comes to evaluating the achievements of students with special educational needs, this process is even more challenging for teachers and requires full professional credibility. The individual needs of each student based on the specifics of individual difficulties, the structure of the classroom, the extent and intensity of teaching content and time constraints are just some of the factors that make it difficult for teachers to evaluate. According to the Ordinance on Amendments to the Ordinance on Methods, Procedures and Elements of Evaluation of Students in Primary and Secondary Schools (2019), the components of evaluation are: monitoring, verification and assessment. The aim of this research is to determine the most appropriate methods of evaluating the achievements of students with special educational needs, so in the continuation of this paper we will focus on the assessment process.

Assessment of student achievement

Evaluating student achievement resulting in numerical assessment has always been a complex but interesting research phenomenon. Kadum-Bošnjak (2013) emphasizes that docimological determinants changed during the developmental periods of didactic theory. In the past, assessment was seen solely as determining the extent to which a student has adopted the prescribed teaching content. The modern approach to assessment includes determining other parameters and values that appear during the educational process, such as: students' attitude during school tasks, their skills, attitudes, abilities, habits and areas of interest (Sadiković, 2018).

According to Biasiol Babić (2009: 207), student assessment is "a complex process that determines the level of student achievement in mastering knowledge, skills and competencies during its monitoring, testing, evaluation by teachers or other participants in the educational process."

Kadum-Bošnjak and Brajković (2007) point out that assessment should stimulate the student, encourage positive self-image development, respect and respect the overall personality of students and encourage processes of self-evaluation, peer evaluation and prepare students to create their own knowledge constructions.

Specifics of assessment of students with special educational needs

Students with certain difficulties in the development of primary school age often have problems in demonstrating the achieved outcomes after the learning process, which puts them in an unequal position compared to other students of orderly development (Ministry of Science and Education, 2021). When it comes to the specifics of assessment of students who have identified a developmental difficulty, analysis of scientific literature and legal framework, we can conclude that they have the right to adjustments during the evaluation process depending on the type and degree of developmental difficulty. In order for assessment to be as objective as possible and to have a motivational function for the student, it is necessary for the assessor to know the cause

of a particular difficulty, when the difficulty was identified, what are the ultimate goals in achieving educational outcomes after medical treatment. pedagogical work (Abramović-Guberina, 2004). Certain adaptations allow students to demonstrate the acquired knowledge, skills and attitudes during the learning process with which they will be equal with other students in the educational process. Students diagnosed with ADHD have difficulty building relationships with peers and a different quality of life. They need more time to learn and work and are very different from other children (Parraga et al, 2019). On the other hand, students with speech-language difficulties often face increased school failure caused by their difficulties. This is often associated with emotional problems and problems in establishing relationships with other students in the class. In general, they are much more difficult to master the teaching material (Feldman, Teverovsky & Bickel, 2009). The document of the Guidelines for Work with Students with Disabilities (2021: 98) of the Ministry of Science and Education prescribes the adjustment of procedures during the evaluation process, which can be:

- adjustment of the evaluation process
- adjustment of test materials and means
- adjustment of valuation methods.

As teachers often feel insecure and confused when assessing students with different difficulties, the National Center for External Evaluation (2007) has developed a document Guidelines for External Evaluation of Educational Achievements of Students with Special Educational Needs in Primary Schools. The document contains tips on how to adapt test technology and materials to students with disabilities (Table 1).

Table 1. National Center for External Evaluation (2007), Guidelines for External Evaluation of Educational Achievements of Students with Special Educational Needs in Primary Schools

Type of developmental difficulty	Adaptation of test technology	Adjustment of test material
Visual impairment	<ul style="list-style-type: none"> - magnifying glass for visually impaired students - individual lighting for visually impaired students - Braille paper for blind students - electronic notebook for blind students 	<ul style="list-style-type: none"> - relief schemes, maps, sketches for blind students - written material of appropriate font size (up to Jaeger 8) for visually impaired students
Hearing impairment	<ul style="list-style-type: none"> - hearing aid (in one or both ears) - artificial cochlea 	<ul style="list-style-type: none"> - linguistic transformation of the examination material - instructions in writing

Speech and language disorders and specific learning difficulties	<ul style="list-style-type: none"> - enable the student to write on a computer (dysgraphia and illegible handwriting) - adapted writing instrument (thicker ballpoint pen) (dyspraxia) - when stuttering give preference to written exams 	<ul style="list-style-type: none"> - avoid large textual units - avoid texts with long sentences
Motor disorders and chronic diseases	<ul style="list-style-type: none"> - a pleasant atmosphere that will free the student from fear - provide a secluded and illuminated space without stimuli 	<ul style="list-style-type: none"> - font size minimum 12 pt or 14 pt - divide the text into smaller units - custom enlarged paper size
Decreased intellectual ability	<ul style="list-style-type: none"> - a pleasant atmosphere that will free the student from fear - provide a secluded and illuminated space without stimuli 	<ul style="list-style-type: none"> - font size minimum 12 pt or 14 pt - divide the text into smaller units - custom enlarged paper size
Behavioral disorders	<ul style="list-style-type: none"> - secluded space, good lighting without stimuli 	<ul style="list-style-type: none"> - reduce writing - verbal problem solving - linguistic reshaping of exams
Attention Deficit Disorders (ADD / ADHD)	<ul style="list-style-type: none"> - secluded space, good lighting without stimuli 	<ul style="list-style-type: none"> - reduce writing - adjust the print

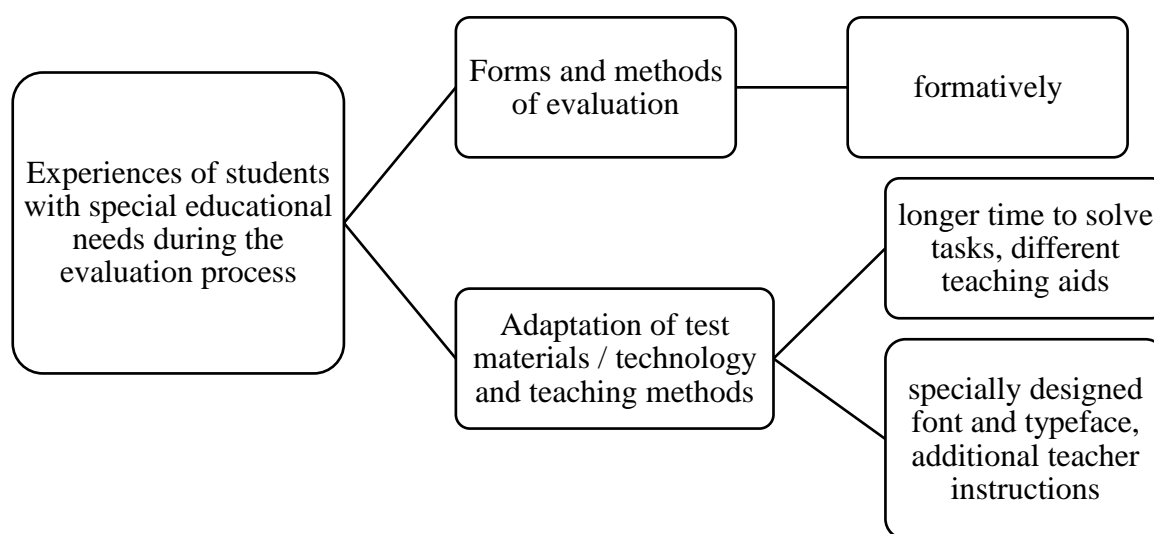
During the assessment process of students with disabilities, diagnostic assessment is of particular importance. Diagnostic assessment allows the identification of a particular difficulty in performing a particular task or activity that results in the creation of appropriate and stimulating support and an environment in which the student feels he or she can succeed. In order for students with disabilities to make progress in achieving educational outcomes, priority is given to exam tasks that the teacher independently designs over standardized texts, which provide equal tasks in number, content and time limit for solving for all students (Ivančić, 2010). Sadiković (2018) points out that the process of evaluating students with special educational needs with an emphasis on students with disabilities is an extremely demanding job. In order for the evaluation process to truly fulfill its purpose, it is necessary to include all the components of the evaluation, various customized measuring instruments and evaluation methods.

Methodology

The instrument

The research methodology consists of 24 conducted interviews with primary school students with special needs. Students answered questions about evaluation and shared their experiences and attitudes. The aim of this research is to establish the best methods for evaluating students with special needs. In order to collect as relevant data as possible, a semi-structured interview was used according to the instructions and guidelines given in the work of Jacob and Furgerson (2012) and Ajduković (2014). The authors of this paper personally conducted face-to-face interviews with each participant individually. The conversation between the interviewer and the interviewees was recorded on a voice recorder. Each interview required preparing the interviewer and informing the participants about the researchers and their competencies, the goal and purpose of the research, ensuring their anonymity and the possibility of withdrawing at any time during the research. During the interview, the interviewer noted the non-verbal cues of the interview participants that will be used to enrich the content structure of the interview. Each interview lasted an average of between 10 and 15 minutes. Analyzing the transcribed interviews, the interviewers recorded the codes and thus came to saturation, the moment when new codes cannot be obtained from new data (Glaser and Strauss, 1967). It is important to note that the research participants are minors and all stages of the research were conducted in accordance with the provisions of the Code of Ethics for Research with Children from 2020 and with the consent of parents / guardians. The transcription of the interview was followed by an analysis of the data in accordance with the chosen phenomenological approach and the development of a code tree according to the guidelines of Braun and Clarke (2006). The obtained results are shown in the code tree. After coding, three thematic units were obtained; Summative evaluation, Formative evaluation and Adaptation of test materials / technology and teaching methods are associated with codes (Graph 1). The paper will descriptively approach each topic with quotes from participants.

Graph 1. Code tree with topics



The research objective

In accordance with the aim of the research, the following specific research questions were asked:

- What form of evaluation is most often used by teachers in working with students with special educational needs
- To what extent and in what ways do teachers adapt teaching methods and strategies and examination materials and technology?

Respondents

In this research, the sample is appropriate and consists of a total of 24 participants. 11 students diagnosed with dyslexia (11 boys aged 10 years) have difficulty connecting sounds and letters in words and replace graphically complex letters. 6 students diagnosed with dysgraphia (9-12g) show difficulties in replacing graphically or phonologically similar letters, parts of words or words. 7 students (6 boys aged 9-11g and 1 girl aged 10g) were diagnosed with ADHD. All participants attend school in an urban environment and live with their father and mother and siblings. None of the participants has a teaching assistant. The diagnoses were confirmed by a speech therapist and a developmental psychologist.

Results and discussion

This code includes all the statements of the respondents that speak about the experiences of students during the evaluation process. As the participants in the research are children, the terms summative and formative evaluation were not used during the interview, but it was explained to them that each evaluation does not have to result in a numerical grade. Most of the participants were already familiar with the ways of evaluation.

1. Topic: Forms and ways of evaluation

All research participants, regardless of the type of difficulty, stated that teachers most often evaluate them formatively. Here are some of their statements:

"After each complex task, the teacher writes in my notebook what and how I have to fix it. He always tells me to show it to my parents. I am very happy when the teacher praises me." (I / 9).

"My teacher puts stickers of different colors in my notebook when I write something correctly." (I / 10)

Such statements of the respondents are encouraging and pedagogically and didactically justified. The research of the author Sadiković (2018) tells us that teachers consider formative evaluation to be the most common form of evaluation when it comes to students with special educational needs. Teachers point out that this form of evaluation provides the best insight into student achievement. Ivančić (2010) emphasizes that formative evaluation provides a better insight into the progress of students of typical development, especially in students with special educational needs. According to the Instruction on Monitoring and Assessment of Students with Disabilities in Primary and Secondary Schools (1996: 3) "students with disabilities must be monitored individually and as a team, every day, comprehensively, selectively, analytically and consistently respecting the

consequences of impairment in students. Monitoring is achieved during the work with students in all stages of educational and rehabilitation activities (processing of new material, practice, repetition, testing, assessment), learning, and not the end result - assessment, evaluate the effort and effort that the student invests and other educational values." Furthermore, it is of great importance that teachers are aware of the type and degree of student difficulty and strive for partnerships with parents and systematically report to them on student progress.

2. Topic: Adaptation of test materials / technology and teaching methods

All participants in the research who were diagnosed with dyslexia pointed out that they have difficulties in solving textual and problem tasks in the form of not understanding parts of what they read and that therefore teachers do not "punish" them with a lower grade. In such moments, they said that they were asking the teacher to help them read the assignment. In such situations, all participants pointed out that teachers help them and further motivate and encourage them. Here are some of their statements:

"I often do not understand what is required of me in the task. The teacher gives me more time to read the assignment "(1 / 5).

"I panic when I see long tasks. Then I ask for the teacher's help. "(1 / 2).

These statements of the respondents are in line with the research of Buljubašić-Kuzmanović and Kelić (2012) who point out that students with dyslexia often have difficulty understanding the tasks read. Hudson (2018) points out that students with dyslexia should be given more time to read because their biggest problem is that they cannot read and process the content of what they have read at the same time. Furthermore, he points out that it is necessary to instruct students to repeatedly slow read the instructions of the tasks, the use of colorful backgrounds on the paper on which the tasks are written. What is also important to point out is the size (minimum 14 pt) and font type (preferably the use of bold letters) which greatly facilitates the process of reading and understanding what is read.

Furthermore, all participants with dyslexia stated that it is of considerable help to them when teachers divide the exam into shorter sections. This is one of the statements:

I feel great relief when the teacher divides my exam into shorter paragraphs and paints them in different colors, "(1 / 2). These statements of the participants confirm how important it is to know the pedagogical principles in working with students with special educational needs, but also to be familiar with the guidelines of the relevant ministry. The National Center for External Evaluation (2007: 30) points out that in working with students with dyslexia it is necessary to "avoid large textual units (divide the text into shorter paragraphs, format the text of the newspaper column width, ie use wide margins, increase the space between letters and lines and separate rows with double spacing and simply format the page... „

All but one of the participants in the research with dysgraphia stated that they most often make mistakes in written exams because they do not recognize some letters and leave them out. Such statements of the participants are confirmed by the research Zrilić (2011) which states that the most common mistakes in the written works of

students with dysgraphia: messy and illegible handwriting, reverse order of letters, writing from right to left, omission of letters and syllables, skipping words and inability to keep order.

Four students with dysgraphia pointed out that teachers often warn them about the correct grip of a pencil. This is the statement of one respondent:

"Several times a day while writing, the teacher warns me about the correct grip of the pen during the written test. The teacher's advice helps me." (1 / 4)

Participants' statements show that teachers are aware of strategies that make the writing process easier for students. Reid (2013) cites just holding a pen correctly as an effective strategy that facilitates writing. Furthermore, he states that it is important to teach students proper sitting, always encourage a multisensory approach and show the student how the links between the letters are made and how to accurately shape the letter. The results of the research by Buljubašić-Kuzmanović and Kelić (2012) are also encouraging, telling us that teachers most often adhere to pedagogical principles, determinants and criteria for assessing students with dyslexia and dysgraphia, and strategies and ways of adaptation.

While writing the exam assignments, three students stated that it is very helpful for them when the teacher allows them to write the exam on the computer. These statements are in line with the guidelines of the National Center for External Evaluation (2007) which recommend that students with dysgraphia be allowed to take exams on a computer.

All respondents diagnosed with ADHD stated that writing exam tasks or graphomotor formatting is a big problem for them. These are the statements of some participants:

"I get nervous when I solve the written part of the exam. I notice how messy the letters are and different sizes." (1 / 3).

"Uhh, my every letter in the notebook is a different size." (1 / 5)

These statements are in line with the research Pospíš (2009) which says that students diagnosed with ADHD have less pronounced graphomotor skills, often invent their own letters of unusual appearance and often make grammatical errors, ie show difficulty in mastering capital letters and punctuation.

Three respondents pointed out that it is very helpful for them when the teacher tests their knowledge with the help of audio and video presentations. This is one of the statements:

"It means a lot to me when I can answer the oral part of the exam with the help of a video presentation." (1 / 3).

These statements of the respondents are an indicator of how teachers support inclusiveness, flexibility and are ready to change their established methodological patterns. The Kadum-Bošnjak study (2006) found that students diagnosed with ADHD should give priority to oral tests and use alternatives to tests such as typed reports, audio and video presentations.

Two respondents stated that it is very helpful for them when the teacher gives instructions loud and slow. These statements of the participants are confirmed by Zrilić (2011), who points out that the instructions should be given gradually, one by one, and that the instructions should be divided into several smaller ones, so that the student

can better understand them. Velki (2012) points out that it is extremely important to give students with ADHD small tasks that encourage physical activity in order to reach them and keep their focus.

Conclusion

An appropriate educational program refers to the possibility of student progress in accordance with students abilities while respecting special educational needs. In the regular school system, this program can be realized as a regular program with individualized procedures, a regular program with content adjustment and individualized procedures and a special program with individualized procedures. Such programs also entail customized evaluation. According to the results of the research where the interviews examined the experiences and attitudes of students with disabilities, it is evident that these adjustments exist in practice, but that there are some shortcomings. Most of these adjustments relate to test methods that are customized, but often not individualized enough. Students point out that they received shorter tests, extended time or forms of assessment that suited them better. With regard to teachers, it is clear that there are still significant respect for special needs, but here we should mention the shortcomings such as lack of time and insufficiently individualized evaluation procedures. It can be concluded that an inclusive approach to upbringing and education is a complex and complex area of educational science and practice, in which teachers play a major role and affects the whole society.

All participants with ADHD pointed out that it is difficult for them to sit still in a chair and that their thoughts often wander somewhere else. These participants' statements clearly tell us how important it is for teachers to be permanently educated on recognizing the signs manifested by students diagnosed with ADHD. Teachers who are familiar with the characteristics of students with ADHD will more quickly and easily identify such students and adapt their teaching methods and strategies to such students.

The results of this research in scientific terms can improve docimological activities and the process of evaluation of children with special educational needs. Furthermore, this research can serve as a guideline for educational policies, but also as a content of professional development of teachers on the evaluation of students with special educational needs. As the data were obtained only from one side of the stakeholders of the educational system, students, it is clear that this is also a methodological limitation of this research. In order to obtain as accurate data as possible, in future research, it would be important to examine both parents and teachers and thus better shed light on this sensitive and challenging area of educational work.

References

- Abramović-Guberina, D. (2004). Priručnik za rad s učenicima s posebnim potrebama integriranim u redovnu nastavu u osnovnoj školi. Zagreb: Školska knjiga.
- Ajuković, M. (2014). Kako izvještavati o kvalitativnim istraživanjima? Smjernice za istraživače, mentore i recenzente. Ljetopis socijalnog rada, 21(3), 345-366.

- Biasiol-Babić, R. (2009). Vrednovanje i ocjenjivanje s posebnim osvrtom na učenike s teškoćama u razvoju integrirane u redovni sustav odgoja i obrazovanja. *Metodički obzori*, 4(7-8), 207-219.
- Buljubašić-Kuzmanović, V. & Kelić, M. (2012). Ocjenjivanje djece s teškoćama u čitanju i pisanju: vrednujemo li znanja ili sposobnosti?. *Život i škola: Časopis za teoriju i praksu odgoja i obrazovanja*, 58(28), 45-60.
- Feldman, H. M., Teverovsky, E. & Bickel, J. (2009) Functional characteristics of children diagnosed with childhood apraxia of speech. *Disability and rehabilitation*. 31(2), 94-102.
- Glaser, B. G. & Strauss, A.L. (1967). *The discovery of grounded theory; strategies for qualitative research*. New Jersey: Aldine
- Hudson, D. (2018). *Specifične teškoće u učenju : Što učitelji i nastavnici trebaju znati*, Educa, Zagreb.
- Jacob, S.A. & Furgerson, P. (2012). Writing interview protocols and conducting interviews: tips for students new to the field of qualitative research. *The Qualitative Report*, 42, 17, 1-10.
- Ivančić, Đ., (2010). Diferencirana nastava u inkluzivnoj školi: procjena, poučavanje i vrednovanje uspješnosti učenika s teškoćama. *Alka script*.
- Kadum-Bošnjak, S. (2006). Dijete s ADHD poremećajem i škola. *Metodički obzori: Časopis za odgojno-obrazovnu teoriju i praksu*, 1(2), 113-121.
- Kadum-Bošnjak, S. (2013). *Dokimologija u primarnom obrazovanju*. Pula: Sveučilište Jurja Dobrile u Puli.
- Kadum-Bošnjak, S. & Brajković, D. (2007). Praćenje, provjeravanje i ocjenjivanje učenika u nastavi. *Metodički obzori*, 2(4), 35-51.
- Karić, T., Mihić, V. & Korda, M. (2014), Stavovi profesora razredne nastave o inkluzivnom obrazovanju dece sa smetnjama u razvoju. *Primjenjena Psihologija*, 7(4), 531–548.
- Ministarstvo znanosti i obrazovanja (2021). *Smjernice za rad s učenicima s teškoćama*.
<https://mzo.gov.hr/UserDocImages/dokumenti/Obrazovanje/Smjernice%20za%20rad%20s%20ucenicima%20s%20teskocama.pdf> (14.2.2022).
- Nacionalni centar za vanjsko vrednovanje (2007). *Upute za vanjsko vrednovanje obrazovnih postignuća učenika s posebnim odgojno-obrazovnim potrebama u osnovnim školama*. <http://hud.hr/wp-content/uploads/sites/168/2014/11/upute-vanjsko-vrednovanje-poop-os.pdf> (14.2.2022).
- Naputak o praćenju i ocjenjivanju učenika s teškoćama u razvoju u osnovnoj i srednjoj školi. *Glasnik Ministarstva prosvjete i športa*, 2/1996. <http://hud.hr/wp-content/uploads/sites/168/2014/11/naputak-prac-ocj1.pdf> (21.4.2022.)
- OECD (2007). *Obrazovne politike za učenike u riziku i učenike s teškoćama u razvoju u jugoistočnoj Europi*, Hrvatska. Paris.
- Okvir za poticanje i prilagodbu iskustva učenja te vrednovanja postignuća djece i učenika s teškoćama. (2017).
- Parraga et al. (2019). Attention-deficit/hyperactivity disorder and lifestyle habits in children and adolescents. *Actas Esp Psiquiatr*; 47(4). 158-64.

Pospiš, M. (2009). Novi pogledi na AD/HD: strategija za učenika sa manjkom pažnje i/ili hiperaktivnošću. Varaždinske Toplice: Tonimir.

Pravilnik o izmjenama i dopuni Pravilnika o načinima, postupcima i elementima vrednovanja učenika u osnovnim i srednjim školama (nn.hr) (14.2.2022).

Reid, G. (2013). Disleksija: Potpuni vodič za roditelje i one koji im pomažu. Zagreb. Naklada Slap.

Sadiković, A. (2018). Vrednovanje rada učenika s teškoćama u razvoju. Educa, časopis za obrazovanje, nauku i kulturu, 11(11), 135-139.

Velki, T. (2012). Priručnik za rad s hiperaktivnom djecom u školi. Jastrebarsko: Naklada Slap

Zakon o odgoju i obrazovanju u osnovnoj i srednjoj školi. (2020).

Zrilić, S. (2011). Djeca s posebnim potrebama u vrtiću i nižim razredima osnovne škole: Priručnik za roditelje, odgojitelje i učitelje. University of Zadar

**SWUICE
2022**



**"DESIGN AND
IMPLEMENTATION FOR
THE FUTURE IN EDUCATION"**