

**DEPISA**  
and  
**Professional Learning**  
in the  
**21<sup>st</sup> Century**



**Edited**  
**by**  
**Kevin Laws, Lesley Harbon & Christabel Wescombe**

**Developing Educational Professionals in Southeast Asia**

**DEPISA**  
**Monograph no. 6**

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*Cover: DEPISA annual meeting, Vietnam, 2019. Photo courtesy Yvonne Frietche Panjaitan*

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## Introduction

For the past 10 years DEPISA (Developing Educational Professionals in Southeast Asia) has contributed to the professional learning of members who are involved in teaching students in schools and universities in Vietnam, Thailand, Indonesia, Malaysia, South Korea, the Philippines and China.

DEPISA had its origins in a workshop of 18 participants, held in Sydney in 2011. During the initial workshops it became obvious that some of the participants did not understand the importance of continuing to conduct research into their professional practice and participating actively, in other academic activities.

The main purpose of DEPISA is to contribute to the professional learning of members in the following ways:

To encourage members:

- To undertake research into their personal professional practices
- To make regular presentations at conferences and workshops
- To develop strategies that contribute to the effectiveness of oral presentations
- To turn effective oral presentations into written articles suitable for publication in DEPISA Monographs or other journals

The 14 articles contained in DEPISA Monograph 6 have been through a rigorous process of review and revision. To establish eligibility for publication each author was required to present their paper at either the 2018 or 2019 annual DEPISA meeting. Before an oral presentation was approved a written abstract had to be submitted. Once the conference presentation was made, participants were invited to submit a written paper for consideration for publication. Strict guidelines for formatting an article were provided. If a paper met the requirements it underwent an initial editing and the changes were sent back to the author(s) for their approval. Once approval was received from the author(s) a further editing process was undertaken which resulted in the paper as it appears in this Monograph. The idea behind these rigorous processes was to assist presenters and authors to see how their initial drafts could be refined until they were acceptable for publication. This process was seen as contributing to members' professional learning.

With the publication of Monograph 6 in 2020 a total of ninety-seven articles by DEPISA members have been published dating back to 2011. Over time the quality of the members' research and writing has shown great improvement and the range of research methodologies used in studies has continued to develop from basic pre-test post-test quantitative studies to the use of more sophisticated qualitative and mixed methods approaches.

All of the articles contained in DEPISA Monograph 6 have been written and edited during the COVID-19 pandemic which has impacted on all members personally. Members' universities and nations have suffered both economically and socially. In spite of these issues the quality of every paper is of a very high standard. The variety of topics covered illustrates the great range of the authors' interests as well as their concern for important educational, social, and environmental issues confronting the world.

Over a number of years *Prapassara Thanosawan & Kevin Laws* have researched issues related to global citizenship. In their present article they investigate what can be learned from Thai students in relation to global citizenship and 21<sup>st</sup> century skills.

*Jang-Ho Son*, from South Korea has a great interest in environmental education. In his article he shares how he and colleagues from Taiwan and Japan developed a green energy module for use in elementary schools. The module provides useful suggestions for teachers to use in their classes in a very practical way.

An issue which concerns all parents and senior secondary school students is career choice. In their article *Ngoc Lan Thi Dang & Thanh Lan Thi Tran* show how Vietnamese parents influence their children's career choice and the implications of this influence.

Critical thinking skills have been identified as essential 21<sup>st</sup> century skills for all students. *Nurul Aryanti & Aria Septi Anggaira*, from Indonesia, show how problem-based learning can assist in the development of these skills.

An important issue for employees of university graduates is not only the discipline specific knowledge and skills developed by graduates but also their 'soft skills'. *Quyên Phương Vo & Dao Phong Lam* provide interesting insights into how Vietnamese English language graduates and employees perceive the necessary development of soft skills.

The development of learner autonomy is essential if students are to be able to continue to learn throughout their life. *Nguyen Trong Nguyen & Phan Viet Thang*, from Vietnam, report on their investigation into how their students perceived their personal levels of learner autonomy. They have developed a model to increase learner autonomy.

The nurse educators from Nakhon Pathom Rajabhat University, Thailand, continue to show how they adapt their research and their courses to meet the needs of their local community. In a series of articles, a variety of health issues are addressed.

*Wanpen Waelveerakup & Prasinee Suksaphonlarte* address an important issue for all educators of future professionals, how to link the theoretical aspects of the disciplines with essential practices. They used reflective teaching practices to create this link.

Also addressing the issue of linking theory and practice is the article by *Duangporn Pasuwan & Labmie Lynnette L. Dematoque* who report on teaching and learning strategies they developed to assist their students to assess the health and care of pregnant women.

Physical exercise is essential for everyone regardless of their age. *Malinee Jumnian* tells how she developed a model which gave the elderly in a local community the confidence to manage their own exercise activities.

*Huong Trinh & Nam Nguyen* used the Gradual Release of Responsibility model with Vietnamese primary school students to develop their confidence and their reading competency. In this article they report on their findings.

Also working with Vietnamese primary school students *Huỳnh Cẩm Thảo Trang & Huỳnh Cẩm Diễm Trang* have investigated methods of improving listening skills in English classes.

An important aspect of learning English is the development of wide-ranging vocabulary. Many Vietnamese students have difficulties remembering words in foreign languages. *Huỳnh Thi My Duyen* reports on her investigation into how the vocabulary retention of Vietnamese students can be improved through mind mapping.

Many countries are advocating for school students to learn computer programming. In the study by *Ahmad Jihadi bin Abu Samah & Siti Fatimah binti Anuar*, from Malaysia, the importance of providing teachers with adequate professional preparation if they are to teach programming effectively is illustrated.

The monograph concludes with a study by *Kannagi Subramaniam* on how expert role models can positively influence the professional development of novice teachers in Malaysia.

Dr Kevin Laws  
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# 21st-century Skills and Global Citizenship Perspectives: What can we learn from Thai students?

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## Abstract

The related processes of globalisation and internationalisation are two major foci of the Thai Government as it strives to reform higher education. Amongst many of the characteristics pertaining to globalisation is the concept of global citizenship. Many studies have advocated the need to develop global citizenship in university graduates.

In a legal sense, citizenship bestows on an individual a sense of belonging to a political community. Global citizenship is a contentious concept because citizenship conveys membership of a nation-state. However, in spite of this there is a positive public perception of global citizenship education.

This study investigates the basic perceptions of global citizenship held by undergraduate students at Srinakharinwirot University, Thailand in 2018. Participants in the study were 289 students from a range of faculties.

Results show students scored highly in all global citizenship modules thus demonstrating a high level of understanding of the concept.

## Introduction

Global citizenship may be viewed as a conflicted term since the concept of citizenship is usually associated with a nation-state or membership of a nation-state. In the legal sense, citizenship bestows an individual with a sense of belonging to a political community. Individuals can exercise their citizenship within the spatial domain of a nation-state (Mansouri, Johns, & Marotta, 2017). However, this research study investigates the concept of global citizenship for three reasons.

Firstly, although 'global citizenship' can be a contentious term, it entails responsibility towards humanity and other living things at a global level.

Secondly, the forthcoming generation needs to learn about rights in a global perspective as espoused through universal human rights, the Sustainable Development Goals 2030, and the Paris Agreement in 2015 (Bachelet, 2018).

Thirdly, global citizenship supports and addresses environmental issues and other important global problems, for students at all levels and for all human beings.

Many of the problems occurring at the current time have, or will have, devastating effects on all living beings. Environmental degradation and disaster risks are beyond the control and management of the Asia-Pacific countries. For example, rising global temperature have resulted in erratic climate patterns. In many low-lying parts of countries of Southeast Asia, the threat of catastrophic flooding and submergence under seawater within the lifetime of many current occupants is of concern. Climate change, environmental degradation, and other natural and social disasters are occurring with increased intensity, frequency, and complexity. Vulnerable and marginalised communities are among those affected most gravely (Chaitrong, 2019, August 22). Not only are disasters intensifying and occurring frequent but their occurrences are also harder to predict.

## ***The global economy and the need for 21st-century skills***

We live in a world that is changing faster than ever. Present educational systems, largely based upon an outdated 19<sup>th</sup> century industrial model, need to change and prepare students to engage with the changing modern economy and to cope with change and disruption (Mansilla, Jackson & Asia Society, 2011). Current students, who will be the decision-makers in the mid- and late-21<sup>st</sup> century need to develop creative and systems thinking, life and professional skills, the ability to learn, and adaptability to change (Mansilla, Jackson & Asia Society, 2011).

Global citizenship is inextricably linked with 21<sup>st</sup> century skills. Students will increasingly engage with a wider population, not only domestically but worldwide. Additionally, students must be able to function in an increasingly complex and globalised world. Skills needed in the 21<sup>st</sup> century by graduates to enable them to contribute to economic, social, and environmental issues are associated with a knowledge-based economy (Ananiadou & Claro, 2009).

Necessary 21<sup>st</sup> century skills have been given different names such as 'deeper learning', 'college and career readiness', 'student-centered learning', 'next-generation learning', 'new basic skills', and 'higher-order thinking' (National Research Council, 2012). There are three broad sets of skills that the Committee of the NRC proposes: cognitive, intrapersonal, and interpersonal. The cognitive domain involves reasoning and memory; the intrapersonal domain involves the capacity to manage one's behaviour and emotions to achieve one's goals (including learning goals); and the interpersonal domain involves expressing ideas and interpreting and responding to messages from others (National Research Council, 2012).

### **Review of the literature**

#### ***Multi-level citizenships***

Many scholars (e.g. Abowitz & Harnish, 2006; Byers, 2005; Held, 1995; Schattle, 2008, 2009), influenced by the globalisation and transnational movement, have invited us to rethink the citizenship discourse.

Citizenship can have many layers. An individual can hold several 'citizenships' and belong to local, national and global levels simultaneously. These identities are not mutually exclusive. This view has been challenged. An extreme interpretation of the political implications of global citizenship infers a centralised global government that undermines national patriotism (Schattle, 2008). Byers (2005) clarified 'if such a thing as global citizenship exists, it clearly doesn't amount to the rights of national citizenship, transposed to the planetary level' (n.p). Held (1995) articulated the term, global citizenship, as involving multiple layers of memberships, e.g. national, regional, and global networks that individuals freely participate in. Viewed in a hybrid sense 'Glocalization' is coined to represent the inseparable relationship between global and local processes. Robertson (1992) stated that glocalisation is 'two sides to the same coin rather than being diametrically opposed' (as cited in Smith, 2007).

Traditionally, citizenship has been defined as a 'set of practices (juridical, political, economic, and cultural) which define a person as a competent member of society, and which as a consequence shape the flow of resources to persons and social groups' (Turner, 1993, p. 2).

#### ***Global citizenship***

In the new millennium, global forces have enabled the transnational exchange of goods, knowledge, ideas, human resources, capital, and technology. Citizenship in the view of many is bound within a national political community, while globalisation enables citizens to impact and be impacted upon in the international arena. The concept of global citizenship has been reconceptualised as a way of thinking and living in multiple cross-cutting communities. These include cities, regions, states, nations, and international collectives, as well as network-based communities such as neighbourhoods, service organisations, and professional associations (Schattle, 2008, p. 3). It has been argued that globalisation has brought about the condition of hybrid identities and multiple loyalties (Appiah, 2006, Merryfield, 2001, as cited in Davies & Pike, 2009, p. 61).

The term global citizenship is frequently used to encompass these multiple-level citizenships as nations and regions become increasingly interdependent. In many parts of the world universities and other educational institutions have emphasised the attribute of 'global citizenship' and promote it in their statements of intended graduate outcomes. In attaining the attribute, graduates are expected to develop awareness of concerns and issues that transcend the local and national levels, and to understand their rights and responsibilities in their active participation in regional and global arenas.

As Bosio (2019) has stated, global citizenship encompasses global responsibility towards humanity as a whole:

*Global citizenship is a figurative idea that can coexist with national citizenship, a state of mind, a feeling of belonging, an attitude, a set of dispositions and practices that carry an important responsibility: to do good for the entire human community.*

Thus, global citizens see themselves as not only responsible for other humans but for living things on earth.

Cogan (1997) writes that global citizenship encompasses eight characteristics:

- The ability to look at and approach problems as a member of a global society.
- The ability to work with others in a cooperative way and take responsibility for one's roles and duties.
- The ability to understand, accept and tolerate cultural differences.
- The capacity to think in a critical and systematic way.
- The willingness to resolve conflict in a nonviolent manner.
- The willingness to change one's style and consumption habits to protect the environment.
- The ability to be sensitive toward and to defend human rights.
- The willingness and ability to participate in politics at local, national, and international levels.

(As cited in Stromquist, 2006, p. 16).

The Office of Education Council (2018) conducts research on global citizenship and addresses in the basic education plan a response to the Sustainable Development Goal 4.7 (Education for Sustainable Development and Global Citizenship) (UNESCO, 2019). Given the contested nature of the concept of global citizenship it is to be expected that there are many and varied definitions and approaches.

For global citizenship education, two main approaches can be identified. The global competencies approach, which entails skills students need to survive, contribute, and compete successfully; and the global consciousness approach, which invokes the feeling and sentiment of global orientation, empathy, and cultural sensitivity (Dill, 2013 as cited in Yemini & Goren, 2017).

Global citizenship is viewed differently among governments as reflected in global citizenship education. Definitions of global citizenship are sometimes fuzzy and open to an interpretation. Curriculum developers in many countries develop the curriculum according to their personal worldview and that of their governments. Global citizenship education can be vastly different from one country to another. Arguably, in Thailand, global citizenship education might not be prioritised in higher learning because it does not yield many tangible economic outcomes.

Carter (2001, as cited in Stromquist, 2009, p. 12) argues that "a consistent set of moral principles cannot be applied in the context of international politics". The subtle meaning of this message is that national

priority comes first, and it comes before global betterment. This does not inclusively involve an economic gain.

In a review of different approaches to global citizenship Stromquist (2006) categorised the writings of numerous authors into four categories: World culture; New-era realism; Corporate citizenship; and Planetary vessel. These categories have been summarized according to seven features.

**Table 1: Alternative categories in the conceptualization of global citizenship (Stromquist, 2006, p. 9).**

Features	World culture	New-era realism	Corporate citizenship	Planetary vessel
Proponents of the concept.	Multiple social actors and institutions.	Dominant nation-states.	Major TNCs.	Coalitions of NGOs.
Fundamental perspective.	Sociological.	Political.	Economic.	Political.
Key objectives of its proponents.	No political objective; cultural and democratic norms expand naturally.	Creation of a political order led by US.	Gain legitimacy for corporate actors.	Recognition and solution of global problems.
Driving force.	Diffusion of ideas.	To mask self-interest as essential.	To mask self-interest as democratic.	To solve perceived global problems.
Values emphasised.	Human rights.	Order and control.	Acceptance.	Global solidarity.
Envisaged governance.	Assumes a stateless global order.	Avoids global governance; US hegemony.	Avoids global governance; US hegemony.	New global governance mechanisms essential.
Beneficiaries of global citizenship	Entire world society.	US and to some extent its European allies.	US and to some extent other industrialised countries.	People, especially the poor throughout the world.

### ***Role of universities in furthering citizenship***

Universities have an important role in national development in major areas, i.e. economy, society, politics, culture, and environment (Brown & Jones, 2007; ONEC, 2001). In addition, universities produce graduates to serve the country.

The Thai Eighth National Economic and Social Development Plan (1997-2001) stated that higher education should encourage 'global and regional perspectives in university teaching and research through various cooperative and exchange programmes with foreign institutions' (as cited in Nakornthap & Srisa-an, 1997, 163). An additional initiative of the 8th NESDP was to develop a regional database to facilitate regional cooperation with other ASEAN countries (Nakornthap & Srisa-an, 163, as cited in Knight and de Wit, 1997). This marks the dawn of global-mindedness in education. However, a study by Filbeck (2002) found that even after Thailand had gone through the stages of modernisation, the local culture still determined and shaped the development of higher education. Since that time many reforms have occurred in Thai universities.

Thai higher education institutions and Thanosawan (2012) found that universities in Thailand were moving towards more inclusive education, with students becoming more active in their own learning and skill development. Critical thinking skills are essential attributes to be developed in degree programs. There has been an increase in the number of courses offered by universities to meet the

emerging needs of society. Recently, the Thai government proposed global citizenship as a desirable attribute for Thai citizens in the higher education reform program.

### **Aim of this research**

In this research project the authors adopted a survey approach to investigate the perception of global citizenship by undergraduates at Srinakharinwirot University.

### **Methodology**

Four main elements were identified to form the structure of the survey instrument: Investigate the world; Recognise perspectives; Communicate ideas; and Take action. These were adapted from the Global Competence Model of the Asia Foundation (Mansilla, Jackson & Asia Society, 2011). It is considered that the combined four elements are what students require to be globally competent.

The features of each of the four elements are outlined in Table 2, below.

**Table 2: Elements of global education/citizenship (Adapted from Mansilla & Jackson, 2011, p. 11).**

Elements of global education/citizenship	Meaning
Investigate the world.	Students investigate the world beyond their immediate environment, framing significant problems and conducting well-crafted and age-appropriate research.
Recognise perspectives.	Students recognise perspectives, others' and their own, articulating and explaining such perspectives thoughtfully and respectfully.
Communicate ideas.	Students communicate ideas effectively with diverse audiences, bridging geographic, linguistic, ideological, and cultural barriers.
Take action.	Students take action to improve conditions, viewing themselves as players in the world and participating reflectively.

### **Questionnaire**

The questionnaire consists of two parts. The first part is demographic data, and the second, items on the students' perceptions of global citizenship.

The 25 Likert-type items in the questionnaire are distributed in the following way:

- 7 items for Investigate the world.
- 7 items for Recognise perspectives.
- 4 items for Communicate ideas.
- 7 items for Take action.

Students selected their level of agreement with the statements to indicate their perception of global citizenship. (See Appendix).

### **The participants**

Two hundred and eighty-nine first and second year undergraduate students from various faculties at Srinakharinwirot University participated in the study. They came from different regions of Thailand and had different religious affiliations.

## Data collection

Phases of data collection.

**Table 3: Data collection**

Phases	Procedures
1.	The questionnaire was developed using Mansilla, Jackson and Asia Society's global competency (2011) model.
2.	The questionnaire was revised by an expert. Comments were collected and the questionnaires were revised.
3.	The questionnaires were translated into Thai and rechecked by a Thai expert for accuracy.
4.	The researchers circulated the questionnaires to 289 students at Srinakharinwirot University.
5.	The results were collected and analysed using descriptive statistics.

## Results

The results of the survey are displayed in two parts.

- Demographic data of the participants.
- Scale rating of participants' perceptions of global citizenship in four areas.

### **Demographic data of the participants: gender; age; region; and religious affiliation**

Gender	Number (n)	%
Female (1)	202	69.90
Male (2)	87	30.10
<b>Total</b>	<b>289</b>	<b>100.00</b>

Age (in years)	Number (n)	%
Less than 20 (1)	224	77.50
20 – 30 (2)	65	22.50
<b>Total</b>	<b>289</b>	<b>100.0</b>

Region of Thailand	Number (n)	%
1 North	11	3.80
2 Northeast	33	11.40
3 Central	213	73.70
4 South	32	11.10
<b>Total</b>	<b>289</b>	<b>100.0</b>

Religious affiliation	Number (n)	%
Buddhism	268	92.80
Christianity	5	1.70
Muslim	10	3.50
Other	1	0.30
Undefined	5	1.70
<b>Total</b>	<b>289</b>	<b>100.00</b>

The majority of students are female (approximately 70%), and the majority of students are under 20 years of age. 213 students are from the central region of Thailand. Northeastern and Southern student numbers are relatively similar (33 Northeasterners and 32 Southerners). Buddhism remains the highest proportion compared to other religions (92.80%) followed by Muslim (3.50), Christianity (1.70) and undefined religion (1.70%). Other religions are the smallest group (0.30).

**Scale rating of global citizenship shows the perceptions of undergraduate students in four different global citizenship areas.**

Area	Rating	SD	Level
Investigate the world	3.70	.47	High
Recognise perspectives	4.07	.52	High
Communicate ideas	3.61	.60	High
Take action	3.69	.56	High
<b>Total</b>	<b>3.79</b>	<b>.42</b>	<b>High</b>

Analysis of the perception of global citizenship in undergraduate students at Srinakharinwirot University in each academic year shows *Communicate ideas* is the lowest rated area while *Recognise perspectives* gains the highest rating. *Investigate the world* and *Take action* are relatively close in rating scores. The difference between the highest and lowest modules was not significant.

It is estimated that Thai students, when they enter tertiary education have not been encouraged to voice their opinions, and this may influence their responses to communicative skills items.

## Discussion

The survey shows contrasting trends. Students accept different cultures, political standings, and backgrounds however they are not enthusiastic to inform people about their thoughts and ideas. Thai culture values seniority and harmony. Students are frowned upon if they do not follow unspoken rules or traditions of seniors, the environment, at school, or at home.

In the results of this study, the score does not indicate that Thai students do not have adequate communication skills, but rather reflects that they are not given sufficient opportunities to communicate their messages. Conformity is highly important in Thai classroom learning. The results highlight authoritarianism in Thai education where students are perceived as receptive agents, not proactive ones.

Communication skills are extensively emphasised at Srinakharinwirot University as a desirable graduate attribute (Srinakharinwirot University, 2015). Students, especially those in social sciences and humanities are expected to develop these skills throughout their studies. It seems that the relatively low score in *Communicate ideas* might relate to the fact that students were ingrained with the thought that they should not question the adults/authorities or create conflicts in the learning group.

The highest-rated area was *Recognise perspectives*, where students reported having positive attitudes towards others from different backgrounds. Thai society, although seemingly uniform, is a pluralistic society consisting of regional, language, and religious differences. Historically, many people from diverse ethnicities cohabit peacefully in Thai society. Thai people are aware that a proportion of the population has a foreign origin. The diversity of sexual orientation can also be a factor. LGBT groups are openly supported by international advocacy groups and local communities. The same goes with locality where around 32,000 people in 2017 moved from the provinces in which they were born to other provinces (Thailand. National Statistics Office). Lastly, income and socio-economic levels vary. Students see these various variables as influencing global citizenship, as they acknowledge the many differences in society.

*Take actions* and *Investigate the world* can be aligned with active participation in events and in knowledge of global issues: students display awareness of the need for active participation in the community and the need for knowledge and an understanding of global issues. Students are aware of their potential personal contribution to society.

### Limitations and recommendations

This research was a preliminary phase of the global citizenship survey of Thai undergraduate students undertaken in 2018. The sample size is relatively small, and the results cannot be generalised to the whole spectrum of Thai undergraduates throughout the country. This research suggests that it would be useful for data to be collected from other universities in Bangkok, and in regional areas. A larger sample size would provide more accurate and clearer results.

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## Appendix

### Questionnaire items

No.	Items		SD	Meaning
<b>Investigate the world</b>				
1.	I see myself as a global citizen.	4.06	.73	High
2.	I am well informed about current issues that have an impact upon international relationships.	3.51	.78	High
3.	I am interested in learning about the many cultures that exist in the world.	3.96	.74	High
4.	I stay informed of current issues that have an impact on international relations.	3.36	.76	Medium
5.	I have a great awareness of the state of the world.	4.06	.73	High
6.	I have been fortunate to have had international experiences.	3.62	.84	High
7.	I stay informed about current international issues.	3.39	.81	Medium
<b>Recognise perspectives</b>				
8.	I believe to learn more about cultural differences helps me be a better global citizen.	4.14	.72	High
9.	I believe that I must be open to cultural differences if I want to be a global citizen.	4.29	.74	High
10.	It is possible to be a good national citizen at the same time as being a good global citizen.	4.06	.72	High
11.	I think the moral values I have learned help me act as a good global citizen.	4.00	.77	High
12.	I respect the human rights and responsibilities of all people.	4.28	.73	High
13.	I can see advantages in understanding about cultural differences.	4.04	.75	High
14.	I think wealthy countries have the responsibility to assist poor countries.	3.72	.94	High
<b>Communicate ideas</b>				
15.	I can communicate effectively with people from different cultures.	3.36	.87	Medium
16.	I have the right to express my views on a variety of issues freely.	3.68	.81	High
17.	I use social media to express my concerns on various global issues.	3.48	.87	Medium
18.	I think digital literacy is essential for me to develop as a global citizen.	3.95	.82	High

<b>Take action</b>				
19.	I enjoy working with people who have different cultural values from mine.	3.58	.82	High
20.	I empathize with people from other parts of the world.	3.64	.79	High
21.	It is important for me to be a good citizen of my home country before I can become a good global citizen.	4.07	.76	High
22.	I am an active member of my community.	3.51	.85	High
23.	Global environmental challenges made me change my own behaviour.	3.75	.78	High
24.	It is my responsibility to be actively involved in global issues.	3.58	.88	High
25	I think global citizenship involves active participation in important issues.	3.76	.90	High
	<b>Total</b>	<b>3.79</b>	<b>.42</b>	<b>High</b>

## The Development of a Green Energy Education Module

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### Abstract

Human civilisation has made our lives more convenient and enriched by utilising different sources of energy. However, indiscriminate use of energy has generated problems and now reached a point of threatening our lives. The severity of the energy problem is recognised by many who are raising their voices to solve energy problems throughout the world. Education for solving energy problems is being acknowledged world-wide. Energy-related education will play a crucial role in shaping the pace of energy efficiency improvement and technology innovation.

Despite advocating the need for balanced energy consumption content in elementary school curriculums, the composition of content for understanding energy concepts seems insufficient.

In this study, a green energy education module was developed to provide basic information to develop elementary students' knowledge and attitudes to energy, and specifically to green energy.

### Introduction

In terms of environmental problems, the production of energy from fossil fuel sources causes resource depletion and is no longer a problem specific to any one region or country, as has become evident through many different events. Accordingly, climate change and environmental problems due to global energy usage are being actively dealt with. Efforts are being made to develop technology which uses environmentally friendly energy resources and to expand the supply of such resources (Son et al., 2019).

While humankind has undergone several industrial revolutions along with structural changes to the economy and industry, there have also been constant changes in the energy sector in terms of main power sources. At the 2016 World Economic Forum the '4th industrial revolution' was dealt with in detail and included extensive discussions with industry. In 2017 at the Davos Forum, advancement of the 4th industrial revolution and the method of supplying energy were discussed. For this reason, to participate fully in the 4th industrial revolution, it is thought necessary to first secure an abundant energy source (Jang, 2017).

Public awareness must be raised, and the best method for communicating accurate knowledge is through 'education' (Faiers & Neame, 2005; Son, 2015; Choi et al., 2019). Green Energy education recognises the benefits of integrating knowledge about the necessity of eco-friendly energy, and knowledge about a sustainable global environment (Son et al, 2019). At school, it is very important that teachers who teach children have increased competence and accurate knowledge (Son, 2015). It is important because if teachers have correct knowledge about Green Energy, and a deep understanding of its value, they will transform students' understanding. Teachers will be able to encourage active participation advocating alternative sources of power production rather than using fossil fuels (Faiers & Neame, 2005).

### Aim

A Green Energy education module for elementary schools was developed and applied with the purpose of transforming an understanding about future-oriented energy in both teachers and students.

### Review of the literature

#### ***Environmental education in the elementary school***

##### *Importance of environmental education*

In elementary school environmental education especially, an understanding of a proper mix and composition of current and future environmental problems is very important. Elementary school environmental education should be based on the idea that there is a communion between all living things and that all living things must live together (Son, 2017).

The role of environmental education is to ensure that we: correctly fulfill our role as human beings; appropriately deal with the rapidly changing modern industrial society; properly understand the global environmental problems being faced; and enforce preservation and improvement of the environment (Kim, 2013). In order for this role to be carried out, in addition to general consideration for the environment, it is necessary to have an understanding of the interaction between various environments, such as the: natural environment; artificial environment; industrial environment; social environment; political environment; economic environment; cultural environment; and environment at the aesthetic level, etc. This means that environmental education leads from the past to the present and into the future. Environmental education is also connected to sustainable development education (Pokpong & Son, 2019).

#### *Goals of environmental education*

As stated by The Tbilisi Declaration, "A basic aim of environmental education is to succeed in making individuals and communities understand the complex nature of the natural and the built environments resulting from the interaction of their biological, physical, social, economic, and cultural aspects" and at the same time have the ability for "anticipating and solving environmental problems, and in the management of the quality of the environment". The declaration's proposal included five specific aims of awareness, knowledge, attitude, skills, and participation (Eneji et al., 2017).

In elementary school environmental education, children must be helped to understand the relationship which exists between human society and the biological and physical environment. Such an understanding includes knowledge about features, distribution, and mutual relationships of natural resources, and utilisation of knowledge. Therefore, in teaching environmental management, efforts to enhance the quality of the environment for the improvement of human welfare must be emphasised.

It can be seen through people's organisational activities and social agreements that biological and physical environments interact. Various ways of shaping the future environment by political, legal, administrative, technical, and educational means can be acquired through research (Han, 1993).

#### ***Energy education in the elementary school***

##### *Energy and Energy Education*

As human civilisation advances energy has become indispensable to us. Energy brought material wealth to humankind. Humanity has steadily become dependent on energy. Under such circumstances, the emerging task is that we must solve several resource and environment related problems associated with the use of energy. Following the 1992 UN conference on the environment in Rio de Janeiro, with global environmental problems at the core of the new international order, discussion is covering such matters as greenhouse gas emissions, regulations, restricted use of fossil energy, energy/carbon tax introduction, upgrading of energy efficiency technology, among others (Kim, 1996).

In keeping pace with international circumstances, there is an active demand for energy education in elementary schools. Park (2009) argues the importance of energy saving education in elementary schools and that this is the time for the formation of lifestyle choices. The habits of an energy saving lifestyle formed in elementary school can become a driving force put into practice upon becoming an adult. Energy saving education learned at school is carried throughout life, and into an energy saving home.

##### *Energy Education content*

Energy saving education includes all content from energy education and environmental education. Lately the rapid increase of energy use, and air and water pollution are getting worse. We need to know

which energy saving methods contribute to environmental protection. Based on this basic directive the areas in Table 1 should be focused on (Kim, 2007).

When teachers at school are planning environmental education and energy education, teaching a lot of content to students in the allotted time is difficult. Depending on the school environment and the students' level the content should be adjusted appropriately. When a teacher at school creates lesson plans for energy related education the educational content which should be included are shown in Table 1.

**Table 1. Analysis framework for Energy Education content**

<b>Division</b>	<b>Energy education content</b>
Energy concepts	Forms of energy
	Definition of energy
	Energy conversion and conservation
Energy problems	Need for energy sources
	Distribution of energy sources
	Environmental issues of energy use
	Supply and demand of energy sources
Solving energy problems	Development of green energy
	Methods to save energy

*The principles of curriculum composition*

First, the integration of goals and contents is essential. Energy education is not just a transfer of knowledge about energy sources but rather it is about emphasising the goals which simultaneously lead to students as individuals having knowledge about energy problems. Social, economic, political, and environmental problems and solutions together with changing attitudes, developing habits and skills, and participating in problem solving and decision making, are important.

Second, the principle of continuity means that all citizens are energy consumers and at the same time involved as individuals who ought to be socially responsible. When considering the seriousness of energy it should be taken into consideration that the future of humanity depends on efficiency in energy usage through energy education.

Third, principles in daily living are important as we see in the history of energy usage. In teaching and learning energy is handled as a phenomenon with research for solutions is needed. When accessing related materials reflecting energy problems of daily living (in the home, school, community, country, world), internalisation of perception and value judgement should be promoted.

**Green Energy Education in the elementary school**

*Concept of Green Energy*

Fossil fuels led to the industrial revolution and made a big contribution to mankind's economic development. However fossil fuel use, by causing an increase in greenhouse gas emissions, has resulted in environmental problems such as global warming. Global warming is not just one country's problem but requires many countries working together through international cooperation to solve it. Greenhouse gases can be drastically reduced. Interest is growing in 'Green Energy' which is eco-friendly energy capable of continuously producing energy sources (Son et al., 2019).

### *Green energy type*

Through analysis of elementary school curriculum and textbook content, Son et al (2019) classified and summarised nine types of Green Energy at the elementary school students' level of understanding, Table 2.

**Table 2 – Nine types of Green energy content in the elementary schools students level of understanding**

<b>Division / Domain</b>	<b>Type</b>
Green Energy	Solar energy
	Bio
	Wind force
	Hydro power
	Electrical energy
	Ocean
	Waste
	Geothermal
	Hydrogen

### **Methodology**

This study set up class goals for green energy education, designed development models, and developed educational modules that can be applied during elementary school curriculum.

Extensive literature searches were conducted. In Korea searches were conducted through the Academic Research Information Service (<http://www.riss.kr/index.do>), and in the case of papers from outside Korea searches were carried out on the Google Academic Search Site (<http://scholar.google.co.kr>).

Green energy is an energy source which, unlike energy produced by fossil fuels, does not emit pollutants such as carbon dioxide. Green energy is eco-friendly energy which may even reduce pollutants. Among the types of new and renewable energy, there are eight common sources of renewable energy (solar energy, solar heat, bio energy, wind energy, hydropower, geothermal energy, ocean energy, waste energy) and three areas of new energy (fuel cell, coal liquefaction, hydrogen energy) (Son et al., 2019).

When developing modules for education about green energy we gave consideration to the students' educational levels. In addition, each educational module was given a title which was intended to arouse the interest of the students. Finally, each green energy education module contained features based on the contents of elementary school textbooks.

### **Results**

#### ***Brief description of the green energy element***

A brief description of the green energy types is given in the Table 3. The table was based on the findings of Son et al (2019).

**Table 3. Green Energy concepts**

<b>Type</b>	<b>Brief description of concept</b>
Solar energy	Solar power generation is through technology that converts solar energy directly into electrical energy.
Bio-energy	Bio-energy is a collective term for the energy obtained from all biological organisms (biomass) as fuel. As a representative of direct combustion, it can be fermented into such products as methane and alcohol.
Wind energy	Wind power generation is the conversion of the kinetic energy of wind into electrical energy, and as a system of generating electricity, mankind has utilised it since long ago having converted wind into mechanical energy.
Hydropower	Hydroelectric power (waterpower) generation uses the energy flow of water in rivers and lakes (tidal forces, differences in the water level) and converts it to mechanical energy. This is a generation method to transform electric energy, power generation, and provide facility capacity for the free fall and flow.
Electrical energy	A fuel cell is a cell that converts chemical energy generated by the oxidation of fuel into direct electrical energy.
Ocean energy	Ocean energy is mainly being used through such means as wave activated power generation, tidal power generation, tidal stream power generation, and ocean thermal energy conversion.
Waste energy	Waste energy is energy which is obtained from waste materials from human daily life or industrial activities.
Geothermal Energy	Geothermal energy in its natural state is assessed as a clean energy source of the future. Approximately 47% of solar energy flows through to the earth's surface. It can be said that it emerged from the principle that energy was stored by the earth's surface in the soil, surface water, underground water, lava, etc.
Hydrogen energy	Hydrogen energy is considered one of the ultimately clean energy sources of the future. Even though hydrogen is the most abundant element in the universe, on the Earth there is almost no hydrogen existing in its own pure state. It mostly exists in compounds and therefore must be extracted from other materials.

**Subject of each green energy education module**

The title of each education module for green energy based on interest, immersion, curiosity, and creativity is given in Table 4.

**Table 4**

<b>Type</b>	<b>Title of module</b>
Solar energy	Light and Heat, All into Energy!
Bio-energy	Flowers can move cars?
Wind energy	Clean energy made by wind!
Hydropower	Flowing water that makes mysterious energy
Electrical energy	The ultimate future energy for the dream of a clean world!
Ocean energy	Great power from the blue sea!



Waste energy	Waste has its place for something to!
Geothermal energy	What if the heat from the earth can reach our lives?
Hydrogen energy	Hydrogen, gas but not light in its presence!

### **Characteristics of green energy education modules**

#### *Solar energy*

Before experiencing the school curriculum, students have been exposed to opportunities to experience and develop interest in solar energy through informal education of living experiences. Students are more engaged in activities that involve experiments that apply to their new understanding than activities that produce knowledge based on scientific understanding.

Therefore, the programme is focused on delivering solar energy lessons based on content that students encounter and apply in their daily lives. Students may be familiar with the topic but have not yet had the opportunity to study in depth the principles, advantages, disadvantages, and ways it can be used in their living. Thus, the programme allows learning to occur through sharing of ideas based on various learning materials.

#### *Bio-energy*

If students were asked, 'What will happen to our lives after oil runs out?' the majority of students would answer that we will no longer be able to enjoy life the way we do now. This would be because only oil and coal have been considered as fuels for living. If the students are introduced to the concept of bioenergy, a renewable energy that opens a pathway to a life after oil, they will be surprised at how much of the unnoticed things around us have the potential to replace oil and coal. Students will be introduced to the production process of different bioenergy types and learn about advantages and disadvantages, and various types of bioenergy used to replace oil and coal. This programme focuses on teaching through a range of video clips the idea that various types of plants and waste materials found around us can be converted to bioenergy.

Compared to other renewable energy sources, it is relatively more difficult to show the production process of bioenergy through direct experiment. Therefore, the programme provides the students with a variety of engaging activities to help them understand this potentially difficult concept more easily through repeated exposure.

#### *Wind energy*

When students were young, they either had the direct experience of making a pinwheel or indirect experience through books of making a windmill. Hence students already have experience with wind energy and have an interest in wind as a source of energy. As a base for students' scientific understanding, direct experience and experiments which apply learning content are preferable to activities which just focus on learning facts.

Accordingly, focus was put on having a wind energy class that is based on content which is practical, and that students will be exposed to in daily life. Even though it is a topic that has been directly or indirectly encountered, deep thought has not been given regarding such things as the principle, the advantages and disadvantages, and usage in daily life. Therefore, by freely sharing ideas based on diverse materials, overall learning about wind energy was made possible.

#### *Hydropower*

The approach was taken to have students consider what images come to mind when they hear water and become aware of the fact that we get energy from water. Students were led to realise that the principle of hydropower generation (hydro-electric power generation) is the same principle we saw used for ordinary waterfalls and waterwheels.

Next, students watched a video which showed how materials that were salvaged could make a hydropower generator. Following that, time was given to freely discuss the advantages and disadvantages of hydropower generation (hydro-electric power generation). Focus was placed on students' understanding of science and activities associated with making a hydro-electric generator with one's own hands. As a direct experience and experiment in which learning content could be applied this showed a high degree of interest over those activities of just learning facts. Finally, by making a book out of the results the students had time to internalise what they had learned.

### *Electrical energy*

People nowadays show concern about clean air and fine dust concentrations. Students are first shown a video clip about the severity of air pollution to arouse their interest in electrical energy (fuel cell) as an alternative source of clean energy to solve problems. To help the students to distinguish fuel cell energy from the electrical energy they already know about, the principles for fuel cell energy generation is introduced. The advantages and the disadvantages of fuel cell energy are also discussed so that the students become aware of needs in its further development.

### *Ocean energy*

Because the sea is easily accessible around us and can be seen and felt with our own eyes and hands, it is a familiar topic to be approached by students. For this reason, they will learn about the principle of generating marine energy through direct experiments.

Students first learn about generation of the different types of energy (tidal power, marine current power, wave power etc.), within marine energy. In Korea, tidal power is the most recognised type of marine energy, and the Sihwa Lake tidal power station in Korea is the largest power plant of its kind in the world. Students will apply this principle of tidal power generation to design and construct a miniature tidal power station themselves. The essential materials needed for the construction are prepared by the teacher, so that the students have more time to think about applying the principle. The students instead prepare decorative materials themselves to develop their artistic ability.

### *Waste energy*

For students, waste is thought of as materials that can no longer be used. They may think that it can sometimes be recycled into paper or plastic etc., but they are not familiar with the fact that waste can be turned into energy for use in industry. This programme therefore focuses on teaching the idea that waste can be turned into energy.

Compared to other new and renewable energy, waste energy is relatively difficult to show in a direct experiment, or through creation of a three-dimensional model, so two-dimensional materials are utilised for learning.

### *Geothermal energy*

Upper grade students may have heard of renewable energy before, but geothermal energy is an unfamiliar concept to most of them, compared to wind, solar and hydropower. The students learn about the principles of geothermal energy and brainstorm ways of using this form of energy. They then become geothermal scientists and create a geothermal village. Students can develop and internalise their understandings at a deeper level by producing a detailed outcome. Therefore, an activity that allows expression of their ideas in a detailed form using various materials is included.

### *Hydrogen energy*

Hydrogen is a type of gas that is invisible to our eyes and cannot be caught in our hands. It might seem an abstract concept to students and they may have difficulty understanding it. It would therefore be best to provide a specific object as an example, and that object is a hydrogen car. Experiments that directly produce hydrogen energy could also be included, but the experiment of hydrogen production by electrolysis has been omitted due to safety issues for elementary school students. In place of the experiment, an activity about designing their own hydrogen city that uses hydrogen as the main energy

has been included to develop their creative thinking skills. They will be more than capable of creatively designing eco-friendly hydrogen cities by referring to the advantages of hydrogen energy and the examples of its applied technology.

### **Discussion**

In the 21st century we ready have access to reports that human life will degenerate due to the environment degradation and the continued use of fossil fuels in energy generation (Choi & Park, 2002). As such, interest in green energy is increasing due to energy depletion and serious environmental pollution. Research in Europe indicates the general public is positively aware of the use of green energy, and that the green energy supply system is very helpful in protecting the global environment. However, contrary to this perception of the need for green energy, there is a negative perception about establishing green energy facilities for our homes (Krohn & Damborg, 1999).

The public has accurate knowledge on the establishment of green energy power generation facilities, and understands the basic concept, but green energy education is required to transform positive attitudes and perceptions about green energy into actions (Faiers & Neame, 2005). Green energy education will help people understand the need for green energy and the need to integrate knowledge to secure future sustainable global environments. Green energy education will also positively support an increase in capacity and change of perception for possible development (Son, 2015).

This research is a solution to the energy problem that threatens the survival of humanity. It is significant that for the first time the new concept of green energy and the development of a green energy education module for elementary school students, is presented. Green energy education should be systematically implemented during elementary school years, when environmentally friendly attitudes are formed. Green energy education can change the way people think about the environment and energy to solve the current environment and energy problems.

### **Conclusion**

Based on the results of this study the directions for educational content related to energy and green energy are as follows:

- First, in the elementary school curriculum, energy-related content should be introduced across the curriculum, and not be focused on specific subjects nor number of education hours.
- Second, for balanced learning related to green energy education, it is necessary to distribute the contents of green energy instruction evenly across various grades, rather than focusing on specific grades.
- Third, the content of green energy needs to be given greater emphasis in textbooks. Energy and environmental issues are becoming more important socially. This emerging trend ought to be reflected in an increase in the content of green energy in textbooks.

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# **Parental Influence on Secondary School Students' Career Choice: A Case Study from Dong Nai Province, Vietnam**

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## **Abstract**

The career choice of adolescents has been an increasing concern of numerous educational professionals, organisations, and agencies as well as parents in Vietnam over the past few years.

This study investigates how parents influence their children's career choice and decision to select a post-high-school field of study.

Data were collected through semi-structured in-depth interviews with five parents whose children aged between 15 and 18 were attending lower and upper secondary schools, vocational and technical schools, and continuing education centres in Dong Nai Province of Vietnam.

Findings show that parents have clear-cut criteria for career planning and orientation for their children. Criteria include: (1) choosing careers that can ensure job opportunities in the future even when uncertain situations occur; (2) using social networks to help find jobs; (3) observing family and community career models; (4) considering the socio-economic status of the family and the local job market; and (5) consideration of a child's gender and expected role in society.

Further studies should be conducted in Vietnam to strengthen the arguments of the current study. The practice of career counselling at schools makes parents consider ways to help children make the right occupational decisions.

## **Introduction**

The career choice of lower and upper secondary school students has been a great concern of all educational leaders, parents, teachers, state and local authorities, industries, and businesses, in Vietnam over the past decade. Research shows that because of misleading academic and career choices, a large number of college and university students drop out of their degree programmes after one or two years (Nguyen, 2011). Further, various university graduates are unemployed and go back to technical or vocational schools to be trained to work as skilled workers (Huynh, 2011). According to statistics from the Vietnamese Ministry of Education and Training (MOET), in early 2016 there were 225,000 Bachelor's and Masters' degree holders unemployed. This is inevitably a substantial waste of human resources when students, families, and society spend a large amount of time, money, energy, and resources on three or four-year training in colleges or universities, respectively. This practice indicates that schools, families, and related associations in society have not provided students with sufficient career counselling prior to their choice of a study programme at the postsecondary level (Nguyen, 2011; Pham, 2016; Phung 2014).

Nevertheless, the good news is that in recent years schools, families, and social associations have shown great concern over students' career choice and training. After the students complete lower and upper secondary schooling there is more action in giving students occupational guidance. (Ha & Nguyen, 2012; Nguyen, 2011; Nguyen, 2017; Nguyen & Dao, 2015; Nguyen, Dao, & Nguyen, 2015; Pham, 2019). A good example of this concern is that students in Grade 8 in lower secondary schools

and Grade 10 in upper secondary schools are placed in vocational training courses and receive vocational counselling.

To help high school graduates choose the right academic and occupational tracks, it is significant to identify key factors influencing their career choices and decisions. In Vietnamese culture, parents play an important role in their children's career choice and professional decision making. Parents have often given full financial support for schooling and college education. Moreover, living in a country with a tradition of high expectations for education and an overemphasis on higher education degrees, children in Vietnam are frequently under their parents' pressure to study in a higher education institution and attain a college or university degree (Dang, 2016; Huynh, 2011).

### **Aim of this study**

This study sought to investigate parental influences on junior and senior high school students' career choice and the decision to select a field of study after secondary schooling. The research results contribute to minimising the time and costs that families and society invest in adolescents' education, training, and human resource development.

### **Review of the literature**

A number of research studies from around the world recognise the influence of parents on career choices and decisions of their children. Yet, some researchers come up with conflicting results on parental impact on children's career choices. For example, Su, Chang, Wu, and Liao (2016) revealed that Taiwanese students made career decisions with less influence from parents than their own personal factors. Other researchers asserted that parents were one of the most significant influencing factors and played an important role in Vietnamese, Chinese, Nigerian, and Mauritian students' career decisions (Huynh, 2011; Kaneez & Medha, 2018; Olaosebikan & Olusakin, 2014; Wong & Liu, 2010).

The cultural and social contexts of the family strongly influence the way adolescents explore and choose careers (Ferry, 2006; Palo & Drobot, 2010). There was a positive correlation between parents' educational level and the way in which they get involved in their children's career decisions (Cistulli & Snyder, 2018; Ha & Nguyen, 2012; Khuat, 1992; Le, 2000; Su et al., 2016). This means the higher the education attainment of parents, the more influence they exert on their children's career choice.

Moreover, the higher the income of a family, the clearer the career plan becomes for their children (Ha & Nguyen, 2012; La, 2009; Su et al., 2016), especially the plan for jobs requiring higher skills and higher education. Palo and Drobot (2010) identified different types of support for a career choice that parents give their children. Also, parental support and career counselling fosters children to pursue their vocational aspirations and reduces the child's stress in making career decisions (Dietrich & Salmela-Aro, 2013). Therefore, the majority of students from higher-income families often choose to follow their parents' occupational plan and advice (La, 2009). Along the same lines, Khuat (1992) identified the differences in career criteria for children from agricultural and non-agricultural families. Cistulli and Snyder (2018) demonstrated that parents' attitudes toward an occupation and its professional organisation (e.g. the military) affects communication with children about career choice. Father's occupation has more influence on the choice of a university field of study for daughters than sons (Leppel, Williams, & Waldauer, 2001).

Other studies examined the influence of parenting style on the career path of students. These studies indicated that there was a significant relationship between a parents' firm and authoritarian style, level of education, and their children's career path (Zahedani, Rezaee, Yazdani, Bagheri, & Nabeiei, 2016). Furthermore, other studies delved more deeply into parental influence by investigating how parents' career-related involvement (support and lack of engagement) affect adolescents' career goals, after high school graduation and the post high school transition period (Dietrich & Salmela-Aro, 2013). These

authors found that children's goal-related stress three years before their high school graduation was related to parental involvement and warmth. These parental attributes also motivated career goals.

In Vietnam, there have been a number of earlier studies on parental impacts on children's choice of career and occupation. Nonetheless, empirical research on the process and ways of parental influence is still neglected.

### **Methodology**

Data were collected from secondary school students 15 to 18 years old, parents, teachers, and school managers. In this sub-project, semi-structured in-depth interviews (Creswell & Creswell, 2018; Robson & McCartan, 2016) were conducted with five parents, three males, and two females. Students were in secondary schools (Grades 9, 10, 11, and 12), vocational schools, and continuing education centres. All parents were blue-collar workers, working in their home province. All the interviews took place in their private homes in Dong Nai Province for their convenience.

The digital file of each interview was then transcribed verbatim into the Vietnamese language through Google Voice Typing, and structural coding (Saldana, 2013) was applied for data analysis. Pseudonyms were given to the five parents, their children, and schools when the research results were reported. To clarify the way parents influenced children's career choices researchers focused on analysing the parent's views, expectations, involvement, and decision making.

### **Research results**

This study's results contribute to an understanding of parental influences on adolescents' career choice in Vietnamese society. Most parents began to be interested in and gave guidance to their children when the child became aware of choosing a career for themselves. In the family, career decisions were negotiated among all family members. This section focuses on the criteria which the parents used for considering and guiding their children's career choice.

#### ***Careers that can ensure job opportunities***

Job opportunities can be understood in two ways: (1) extensive need for a certain job by the job market, and (2) availability of various relevant and alternative jobs in case high school graduates cannot find a suitable job in their field of study or specialisation.

Mr. Nguyen Van Thach, who was father of a daughter in her last year of the TEFL Bachelor's degree programme at university felt very safe about his daughter's job opportunities. If she could not find a teaching position, she could still find many other jobs related to English language usage such as working as a translator and interpreter. Also, he thought that she could find jobs very easily in Vietnam. In this regard, Mr. Thach assumed that being trained for one career and then working in a different area was acceptable because the career training required a degree, which employers always request in addition to the employee's practical skills.

All the parents accepted the inevitable differences in the incomes of different jobs. However, parents took into consideration their children's capacity and personal interest in higher paid jobs, and their comfort and convenience while doing the job. In addition, the majority of parents wanted their children to be trained in careers which allowed them to do clerical work later in life. Offices were a relaxing, cool, and clean working environment, in which workers could work eight hours per day. Also, office work was flexible allowing time to take care of the family. This situation was the opposite to the often hot and dirty working environments of blue-collar workers. Many of these workers have to work in shifts and they are usually busy and narrow-minded people.

The parents also preferred their children to work for the government rather than private companies or organisations since the work and pension would be more stable. The mother of a daughter in Grade 9

at a secondary school compared the benefits of working in the public sector with those of working in the private sector as follows:

*Working in the public sector (agencies/companies) is more secure. ... Working in a state sector, if anything negative and unexpected happens, my child still has a future, which is the pension or something like that. I only wish that for her.*

(Mrs. Dang Thi Long, mother of Student Pham Duyen My, Grade 9, Secondary School).

### **Social networks to help find jobs**

Another criterion that parents took into account when selecting a career for children was evidence of social networks which could lead to job opportunities. Before defining children's careers, parents classified their own connections by professional criteria; particularly, acquaintances working in offices of government or private companies, or close friends with certain promises of job opportunities, were prioritised.

Mrs. Bui Thi Van's career plan for her daughter was based on her husband's company, her colleagues' job promises, and her sister's company where she worked and where her sister was the manager. People whom the parents knew became counsellors. The counsellors provided guidance on how to define and invest in children's careers so that the child would be qualified to work in associated companies or organisations. If there was a bribe to ensure a job opportunity, these people would let the parents know, especially the amount and the receiver.

For some parents, having a social network was the most important criterion they could have for securing employment for their children. It surpassed the criteria of job opportunity, income, and personal interest of their children. The parents believed that in today's society if they did not have good connections, they could not help their children find a job, especially with an increasing unemployment rate. Therefore, among the careers that children chose, parents often prioritized the ones which had a good network and could help their children find jobs more quickly and conveniently. With such an approach to seeking jobs, families without connections or wide relationships got confused by unfamiliar occupations their children selected.

Following is the case of Mr. Pham Van Do, father of Pham Duyen My (9<sup>th</sup> grade Secondary School) who wanted to be a tour guide.

*I do not know much about this career [tour guide] ... I am only a farmer, so I do not travel far. My son had a dream to be a tour guide. Because he studied there and saw his teachers and upper-class students doing this job, and he had such a dream ... I do not know for sure what to do, but he likes that career. I do not know. I sometimes asked people around; with my son's learning capacity and preference, can he find a suitable job? And they gave me indefinite answers... that depended on his capacity; nothing is sure.*

(Mr. Pham Van Do, father of Pham Duyen My, Grade 9, Secondary School A).

### **Family and community career models**

Regarding social relationships, parents often considered them as a means to find jobs for their children. A social relationship often provided a model to draw lessons from, to encourage, or to act as a warning to children. Careers of people in the family and the community could be observed as models also. For example parents considered: the job type and associated type of training; ways to apply for jobs; types of salary; family members' occupations and their related living standards; their children's future life and social status; their children's job sustainability; and professional development opportunities associated with personality and family background. Parents even chose careers from the job market based on what they could observe as successful businesses.



*You see, in general, a good doctor makes a lot of money. For example, in Long Thanh [Long Thanh District, Dong Nai Province], there is Doctor Hong. Her salary is very high. Let me calculate. Every afternoon at 5 pm when she comes home, she examines and treats more than a hundred patients until 9 pm. Each patient is charged 40,000 VND for examination, not including the medicine cost. In education, teachers must have good teaching skills.*

*Do you see many teachers become tutors (run extra unofficial classes outside of the school to make more money)? There is one tutor earning over 100,000,000 VND a month. Don't you believe it? Now there are many female teachers charging each student 600,000 - 700,000 VND a month. But how many sessions a month? Only two. And only seven students per class, but each day she teaches so many classes like that. Right? Teaching is also a well-paid career.*

(Mr. Nguyen Thanh Canh, Father of Nguyen Do Phuong, Grade 9, Secondary School E).

Besides being used as references, family and community career models were also utilised in the parents' everyday talk as examples of what they wanted from their children. By referring to family and community career models, parents wanted to evaluate whether to accept the careers their children chose. Occupational images of family and community members are an important and vivid source of information. Children are assisted to know which careers are currently available in society, what benefits the careers could bring to the trainees and their families, and what resources should be invested to achieve the best results from a selected career.

*As a worker, the monthly salary is about 4 million to 5 million VND, work overtime until 7 am the next morning before going home. Workers scramble for products. My God! That every month they earn only a few million VND; such a misery. And people (managers/team leaders) scold us; it is so miserable. Her father (Duyen's Dad) also told her so, 'you just focus on going to school and learning well to get a good job in the future. You will be less miserable than I used to be.' Up to now, he has been working for 8 hours per day and only earns a few hundred thousand (VND), but it is sweat labor. So what my husband and I want is to give our children the best support for their education. If they are not successful in their learning, we are helpless.*

(Mrs. Dang Thi Long, Mother of Pham Duyen My, Grade 9, Secondary School A).

In this respect the images of work, income, and the life of specific individuals represented a career or a whole work field. From the individuals observed, the parents classified careers in order to counsel their children and to help them make occupational plans. Regarding the job application process, it was expected that children would follow established procedures adhered to in the past.

### **Socio-economic status of families and local area**

The rapid development of industrial zones over the past 20 years had certain influences on parents' criteria for their children's careers. Parents tended to ask their children to pursue the fields of study which allowed them to find jobs in their home city. In this respect parents were no longer worried about their children's shortage of employment. Some parents did not want their children to study far away from home but to study and work in the local area and to stay near home. In families where children dropped out of school without a definite career plan, their training for a career to be able to find jobs in local companies was the first priority.

*[In Dong Nai] It is still easy to find a job because there are many industrial zones. In the past, it [Dong Nai] was the leading place with the most industrial parks in Vietnam and Asia. ... A ton of people come here, so there is no reason not getting a job.*

(Mr. Nguyen Van Thach, Father of Nguyen Truong, student of Mechanical program, Technical School C).

Some parents thought about manual work for their children as it is closely connected with the local industrial zones. This was an alternative career plan for children if they were not admitted to a university. Manual jobs were underestimated because the required qualifications were not high. Prospective employees only needed to have a high school diploma. Workers wondered about professional and social promotions, they might have to work hard and long hours, and were often badly treated. This was how parents warned their children of a rather dark future and used it as a way to force them to study seriously, otherwise, the dark future would come true, particularly when the child's university entrance exam results were not as high as expected. An interviewed mother and her husband always advised their children:

*“You should just focus on going to school and studying well to get a good job in the future, and you will be less miserable than we used to be.”*

(Mrs. Dang Thi Long, Mother of Pham Duyen My, Grade 9, Secondary School A).

### **Parents' gender role perspective**

Gender was an important criterion that parents took into account when deciding their children's careers. Parents tended to have different thoughts about careers for daughters. While they put few limits on careers that sons chose, provided that the careers met the criteria mentioned above, they required daughters to choose a profession that they could do after maternity leave and that was stable and near home, so they could more easily take care of their children and family. This means that the parents included the criteria of childcare and family care for daughters and thus limited their career choices. Career plans made a clear distinction between the roles of boys and girls. Parents reconstructed the division of labour in the family for the next generation, even before their children got married. Moreover, investment in girl careers was considered more cautiously. From a financial perspective, parents were usually more hesitant if their daughters chose a job that they might quit or might not continue after their maternity leave, because the financial investment was then wasteful. A father argued:

*After finishing the vocational training, does she either go to work or throw away her certificate and rush to get married? Or will all the efforts of my child and the whole family collapse? Then, it will be time to get married and give birth. How does she manage her life? If she were a man, it would be possible. But studying this field (tourism), she cannot sit still but has to go from place to place. The man's case is easier because he can choose to study one discipline but actually work in a different field if the career he wants provides him with a satisfying job.*

(Mr. Pham Van Do, Father of Pham Duyen My, Grade 9, Secondary School A).

An important impact of gender in the career guidance process was that both fathers and mothers were the main actors limiting their daughters' careers. However, between them, the father not the mother was the decision-maker, although the mother often talked to the daughters and listened to their blowing-off-steam stories. In addition, the criteria of family and community career models somewhat enabled the parents to have a more open-minded gender perspective. For example, an interviewed father (father of student Le Hai, Grade 12, Secondary School G) wanted his daughter to have a stable job allowing her to work near home, and accordingly she could take care of her future family more conveniently. On the other hand, a mother (Le Hai's mother), who was a housewife, wanted her children to pursue a career that could help them communicate with people in society. The mother could point to the example of her younger sister who was both a successful manager of a home company and a good family caretaker.

## **Discussion**

Parents in this study have a set of criteria they use to assess the occupations their children choose before they allow them to take professional training. The parents' occupational perceptions inevitably influence the career guidance and vocational decisions they provide for their children. This is consistent

with what Olaosebikan and Olusakin (2014) found in their study on parental influence on adolescents' career choice in Nigeria. Likewise, Saleem, Ahmad, and Irfan (2014) note that parents' professions have a strong and direct impact on students' career choice because the latter develop a deep understanding of the former's work and consider it as their future career. This means that students tend to inherit their parents' choice of occupation (Friesen, 1981).

Moreover, the parents in this study often used their own experiences and available networks to help their children pursue a career. Parents often consider their financial situation before deciding the level of investment in the children's study. This is entirely consistent with earlier studies showing that parents' perceptions of a particular career along with the financial dependence of their children enable parents to have a significant influence on their children's career decisions (Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001; Saleem et al., 2014).

That the parents used their social networks in offering career guidance to their children is quite congruent with the research conducted by Dalton et al. (2002) in Vietnam. They concluded that "family ties remain the centre of social networks for many individuals and respect to parents is universal" (p. 11). Social modernisation expands traditional family-based networks to other social relations such as work and social group networks, which helps explain the way parents guided their children's career choice in our study.

Our findings also show that parental influence on children's career choice is influenced by socio-economic status and available career opportunities in the local area. This can be explained by comments on social class by sociologists who have asserted that people from different social classes have very different relationships with local inhabitants (Moore, 2004; Reay, 2010). Working-class families tend to develop their children's careers in a familiar locality and by familiar ways. The middle-class want their children's careers to be more international and characterised by their investment in their children's education. This investment also enables the children to travel to unfamiliar areas and experience new opportunities. Moreover, sociologists also claim that "the range of occupations that an individual will consider in choosing a career is mainly determined by the status expectations of the social class to which he belongs" (Friesen, 1981, p. 22).

Finally, Vietnamese culture with the pervasive influence of Confucianism on women's role and social status has confined girls' social status and career path (Dang, 2017; Ly, 2015). This is the reason why most parents in this study wanted their girls to choose a job which allowed them to work not far from home, and which gave them time to take care of their family. Similarly, the inherent belief that "a man has more right to a job and that housework for a wife is just as fulfilling as paid employment" (Dalton et al., 2002, p. 11) could be a reasonable explanation for the parents' gender perspective on girls' jobs in the current study.

### **Conclusion and implications for future studies**

Parental influence on secondary school students' career choice is very strong in Vietnam. Parents often make career decisions for their children based on their social networks coupled with their family and community careers. However, the findings in this study show that parents do not usually provide their children with career counselling, especially at the turning points in their life, Grades 9 or 12. Most parents want their children to do clerical jobs or perform white-collar work. Parents expect their children to enter a university, rather than going to a technical or vocational school and working in physically demanding work later in life.

Parents also make a clear distinction when recommending and selecting occupations for sons and daughters. Daughters are expected to do jobs suitable to their gender and feminine characteristics. In this regard the majority of the parents want their daughters to work near home or within their home city, while boys do not have any limitations in their occupational choice. In this study, the fathers decided their daughters' jobs and careers while the mothers listened to their daughters' inner stories.

One of the limitations of this study is its small sample size. Consequently, it is necessary for future studies on this topic to have a larger population selected not from only one city but several cities and provinces across the country. This is because different groups of parents living in different geographical areas could possess different perspectives on and experiences of their children's career choice.

Further, to enhance the internal validity of findings, perspectives of Vietnamese adolescents on parents' influence on career choice and criteria for making career decisions should be thoroughly examined through surveys and interviews. These perspectives will be triangulated with those of parents to double check consistency or inconsistency.

Finally, vocational counselling programmes should be linked to families and especially parents to achieve the most effect. This strategy recognises the interdependence of family, school, and community in shaping occupational preference and choice (Ferry, 2006). This study indicates a need for the improvement of existing vocational education programmes and career counselling within the general education system of Vietnam.

This study shows that Vietnamese parents often lack useful information about careers for their children. Extended families and other social contacts also lack such information. Consequently, it is necessary to provide richer sources of information about the labour market and other factors bearing on career choice.

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# Enhancing Students' Critical Thinking Skills Through Problem-Based Learning

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## Abstract

Many researchers claim that speaking is one of the most difficult skills for students to master. In the subject, Speaking, many students are unable to speak and express what they think because of their lack of critical thinking skills. To address this issue a research project was conducted using a problem-based learning model.

This research was a collaborative classroom action research project aimed at finding out whether the use of problem-based learning could improve students' critical thinking skills in speaking in the subject, Professional Speaking. Thirty-eight students in the 2<sup>nd</sup> semester of IAIN Metro-Lampung participated in this research project. Quantitative data were collected by using speaking tests, observation checklists and field notes. The data were analysed using a percentage formula on pre-test scores and post-test scores. The approach advocated by Miles and Huberman (1994) for data reduction, data display, and data conclusion was used for the qualitative data analysis.

The results of the research showed that problem-based learning improved students' critical thinking skills in Professional Speaking. In the speaking process, the students were not only more motivated, but also more active in doing the tasks both individually and in group discussion. In short, problem-based learning improved students' critical thinking skills in the subject, Profession Speaking.

## Introduction

Good speaking skills are one of the most important aspects of being able to communicate well. For this reason, students are taught the subject of English speaking with the aim that they will have the ability to speak and communicate in English well. However, getting students to speak English is a difficult job for English teachers in Indonesia. It needs a long process of practice and learning. To be able to speak properly requires many aspects to be mastered by students. Having a good vocabulary is one of the requirements to speak well, and students in this era are also required to have the ability to think critically and think creatively.

An important focus of language learning in accordance with learning in the 21st century is critical thinking skills. For success in today's world, students require core academic subject knowledge and understanding in addition to other skills, such as critical thinking and problem solving, creativity and innovation, and communication and collaboration (Thaiposri & Wannapiroon, 2015). Nowadays, the main point of education is not just to teach the basic skills of reading, writing or arithmetic. It is to teach students how to use thinking skills such as: creativity (Rhodes, 1961; Runco, 2014); problem solving (Segal, Chipman & Glaser, 1985); and scientific and technological literacy (Lawless & Brown, 2015; Tortop, 2013) because these are the skills that are required for sustainability and lifelong education.

Critical thinking is in the family of higher order thinking skills, along with creative thinking, problem solving, and decision making (Facione, 1990). Critical and creative thinking are connected to each other, in producing effective thinking and problem solving (Treffinger et al., 2006). For this reason, teaching higher order cognitive abilities such as critical thinking has always been the ultimate goal of education (Spendlove, 2008).

In real learning, helping students to be able to think critically in the learning process, especially for learning speaking is not an easy thing to do. Based on the results of the observations made in the

professional speaking subject, it can be concluded that there are many obstacles both in the learning process and the learning outcomes obtained by students. The learning process of speaking is due to the lack of students' participation in learning activities. Most students are reluctant to speak English aloud. Only a few students are active in the learning process by answering or asking questions about things that they do not know. This happens because of several internal and external factors.

As we know, internal factors are very influential in the success of one's learning. Internal factors that prevent students participating less in the learning process include low learning motivation, lack of self-confidence, and low critical and creative thinking skills. On the other hand, external factors also influence the success of the process and students' learning outcomes. External factors that influence include the teacher's role in the learning process, and the use of various media, techniques, strategies, and learning models.

In the speaking process, ideally students have an active role in the learning process, so that the learning process becomes more meaningful. However, a good communications process between lecturers and students in the learning process is needed. Students are expected to be able to use critical thinking skills in expressing the ideas in their assignments. Besides to think critically during the learning process, students are also expected to be able to use their ability to think critically in solving the problems they face in real life. For this reason, a lecturer's creativity is needed in applying various techniques, media or learning models to encourage students to think critically in the learning process, especially learning professional speaking.

Many learners have not grasped the meaning of thinking as an objective of learning and education, and thus questions, which require thinking, are challenging. In the modern world, to increase students' capacity for problem solving and critical thinking is presented as a goal of education in all fields (Olszewski-Kubilius & Thomson, 2015; Paul & Elder, 2012). Some experts point out that teaching critical thinking is about teaching students to use concepts, principles, and procedures, so that they produce fruitful outcomes and can make critical judgments (Bailin et al., 1999). Additionally, critical thinking has an important implication for transfer of knowledge and application of problem-solving skills to novel situations (Garcia and Pintrich, 1992).

A problem-based learning model is considered an appropriate learning model to use in order to improve students' thinking abilities when they are learning speaking. According to Tiwari et al. (2006), problem-based learning is the best teaching strategy to enhance critical thinking skills and this is supported by empirical studies. Problem Based Learning (PBL) is defined as a pedagogical approach which uses cases and problems as departure points in order to accomplish the intended learning objectives (Tortop and Ozek, 2013). Students' problem solving, self-directed learning, collaborative learning skills and motivation levels are aimed to be developed during the problem-solving process (Hmelo-Silver, 2004).

Problem-based learning is a student-centred approach to learning which enables students to participate in small group work during the learning process in order to foster deeper learning. In the PBL approach, students encounter problem-solving situations in small groups and their critical thinking skills are fostered through their group discussions (Yuan et al., 2008).

Problem-based learning is a motivating, challenging, and enjoyable learning approach (Norman and Schmidt, 2000) that results from the process of working towards understanding or resolving a problem (Barrows and Tamblyn, 1980). Recent research has highlighted the effectiveness of problem-based learning on targeted learning domains, such critical thinking ability (Iwaoka et al., 2010). Problem-based learning is often theorised to promote students' higher order thinking skills, especially reasoning skills (Savery, 2006). Problem-based learning challenges students to solve authentic problems in information rich settings. They can construct their own solutions to ensure the most effective experience in learning.

Ennis et al. (2005), considers critical thinking as a reasonable and reflective thinking that focuses on deciding what to believe or do. Some authors explain that critical thinking is the process of an individual taught to reason in improving the solution (Paul and Elder, 2003). Thus, the analytical process of reasoning must arrive at logical, rational, and reasonable judgments, within a given framework. Specific principles of thinking (Ennis, 1984) as proposed by Facione (2006) include: analysis (identifying and examining ideas and arguments); inference (drawing conclusions); interpretation (clarifying meaning through categorisation and translation); self-regulation (self-assessment and reflection); explanation (justifying results, arguments or procedures); and evaluation (assessing arguments).



Based on the above definition, critical thinking ability is possibly nurtured by problem-based learning through the process of problem solving, particularly within group brainstorming sessions (O'Grady and Alwis, 2002). During these sessions students critically consider one best possible solution for the problem at hand. The process is mediated by a facilitator who is responsible for probing their meta-cognitive thinking, in making any decision (Wee, 2004). It is believed that probing questions may engage students in a systematic cognitive process that promotes the development of the students' reasoning ability. In addition, other processes such as discussion, debating, sharing, and teaching one another, creates a platform for students to experience an environment that is conducive for critical thinking to grow (Wee, 2004). Similarly, students develop their critical thinking especially reasoning skills through the process of interaction, reflection, and feedback in problem solving or in the formative assessment process (Savery and Duffy, 2001).

Problem-based learning is a challenging and enjoyable learning approach that has resulted from the process of working towards understanding or resolving a problem. A problem-based learning model promotes learning through the concept of 'learning by doing', which creates an opportunity for students to learn by experiencing the process of problem-solving. The lecturer in problem-based learning acts as a facilitator and monitors students' progress, stimulates their meta-cognition, sets tone, and plays a major role in setting group norms conducive to learning.

### **Aim**

In this study, problem-based learning was used to improve students' critical thinking skills in the subject, Professional Speaking.

### **Methodology**

This research is categorised as action research which is collaborative in nature. The action research method consisting of the four steps outlined by Kemmis and McTaggart (Burns, 2010) was used in this research: planning; action; observation; and reflection. The participants were thirty-eight students in the 2<sup>nd</sup> semester of IAIN Metro-Lampung. Data were collected by using speaking tests, observation checklists and field notes. The quantitative data obtained through the students' pre-test and post-test scores were then analysed by using a percentage formula. The approach advocated by Miles and Huberman (1994) for data reduction, data display and data conclusion were used for the qualitative data. Two cycles of action research were used.

### **Findings and discussion**

#### ***The improvement of the process of speaking skills***

The learning process of speaking using problem-based learning is expected to improve students' critical thinking skills. Based on the results of observations and field notes that have been made by the lecturer and collaborators in the first and second cycles, it appeared that students' critical thinking skills have increased. The activities used in the problem-based learning model involved: orienting students to the problem; organising students for study; assisting independent and group investigations; developing and presenting artifacts and exhibits; and analysing and evaluating the problem-solving process. Using these activities resulted in students showing an improvement in their speaking in English. Critical thinking skills observed included six levels of thought processes: analysis, inference, interpretation, self-regulation, explanation, and evaluation.

The first stage in implementing a problem-based learning model was orienting students to the problem. The second stage involved organising students for study. There was an improvement from the first cycle to the second cycle of students' responses. In the first cycle students were still confused about how to do the task, but at the second cycle they showed good improvement.

Both cycles showed the students' enthusiasm for doing the task.

The third stage of problem-based learning was to assist independent learning and group discussion. In both cycles students also showed good improvement. They participated in group discussion and made some inferences about the problem that they had to solve.

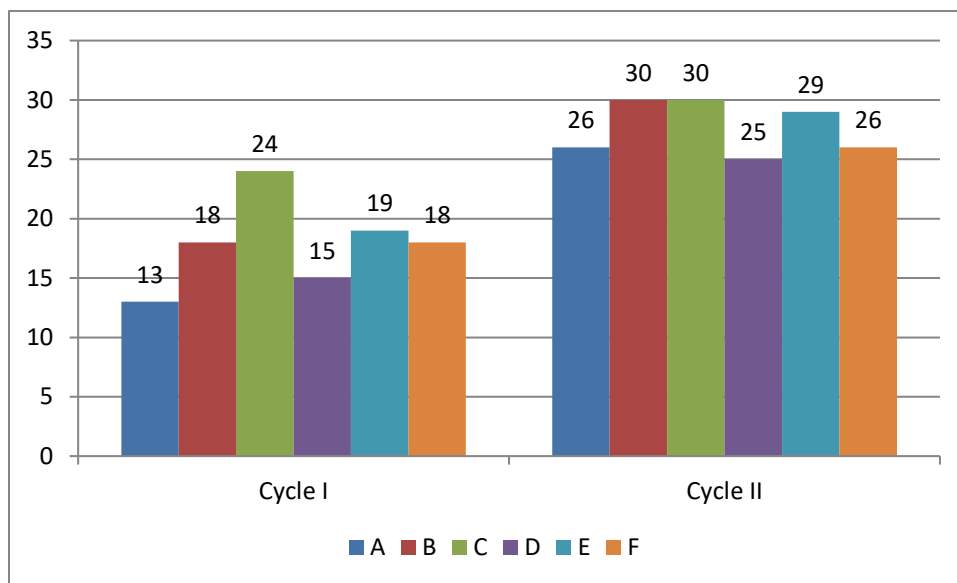
The next stage was to develop and present artifacts and exhibits. In both cycles, the students were motivated to finish their task. They did very well in activities. The improvement in both cycles was good. The final stage was evaluation. The students were confident to show the results of their problem solving in both cycles.

The students' attitudes in the two cycles improved during the speaking process when using the problem-based learning model. The students' motivation to get involved in the process of the speaking lesson increased. They were serious in the process of learning. Most of students looked so enthusiastic doing the task. They were active in their group discussions. They used their critical thinking skills in solving problems. They could analyse the problems succinctly and made better inferences and interpretations of the problems. They could self-regulate, explain the results of their problem solving, evaluate statements and perceptions. They could be problem solvers.

**The improvement of students' critical thinking in speaking**

The students' critical thinking skills improvement on the first and second cycle of the action research can be seen from the result of the implementation of problem-based learning model. If we compared the students' critical thinking skills in the first cycle and the second cycle, there was an improvement in their speaking. All aspects of students' critical thinking in speaking were improved. The five aspect of critical thinking skills were: analysis, inference, interference, self-regulation, explanation, and evaluation.

**Figure I. The improvement of students' critical thinking**



A = Analysis; B= Interference; C=Interpretation; D=Self-Regulation; E = Explanation; F = Evaluation

From the figure above we can conclude that all the aspects of students' critical thinking were improved.

*Analysing* improved from 13 students who got the correct answer at the first cycle to 26 students at the second cycle.

*Interference* improved from 18 students to 30 students who answered correctly.

*Interpretation* improved from 24 students in the first cycle to 30 students at the second cycle.

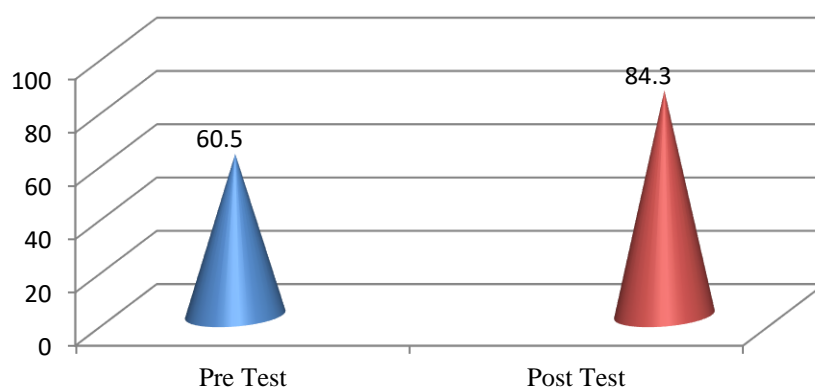
*Self-regulation* showed an improvement in both cycles.

*Explanation* improved from 19 students in the first cycle to 29 students in the second cycle.

*Evaluation*, the students also showed very good improvement.

If we compare the students' pre-test results where they only achieved 60.50 to their post-test results after participating in problem-based learning, they achieved 84.30, we can conclude the students' critical thinking skills in speaking were improving. The improvement of the students' critical thinking skills in speaking can be seen from the following diagram.

**Figure 2: The improvement of the students' speaking skills**



### Conclusion

The use of the problem-based learning model was effective in improving students' critical thinking skills in speaking. The students' classroom interaction in the process of speaking and the students' critical thinking skills were improved through the implementation of a problem-based learning model.

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# **Graduates' and Employers' Perceptions of Soft Skills Development in an English Language Programme**

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## **Abstract**

Complementing hard skills, soft skills development in the 21<sup>st</sup> century has been equally important for professional success for most graduates. For this reason, soft skills such as interpersonal skills, problem identification, solving skills, critical and creative thinking skills, work organisation skills, workplace skills, and leadership skills, are emphasised in many Western countries. These skills help graduates prepare for future employment opportunities, and assist human resource development (HRSDC, 2003; ODPE, 2007).

In Vietnam, the English Language Study Program (ELP) emphasises the development of graduates' soft skills and professional knowledge. However, there have been few studies exploring soft skills development from the perspective of ELP graduates and employers.

This study investigated graduates and employers' perceptions of the development of soft skills obtained from an ELP. Employer job requirements were also taken into consideration.

The study employed a qualitative case study approach involving ninety-eight ELP graduates from a Vietnamese university and twelve employers who recruited ELP candidates. A descriptive survey questionnaire, semi-structured interviews, and document analysis were used for data collection. SPSS descriptive and frequency statistics and content analysis (Cohen, Manion & Morrison, 2013) were chosen for data analysis.

The findings showed both graduate and employer participants perceived the importance of soft skills development for ELP students positively. However, the ELP course objectives insufficiently equipped graduates with the soft skills required in various job areas. Based on the study results, the study team makes suggestions for soft skills development in future ELP courses.

## **Introduction**

The development of soft skills for graduates in the 21<sup>st</sup> century has ranked with professional training in most higher education institutions across the globe. For this reason, soft skills required for graduates, such as interpersonal skills, problem identification and solving skills, critical and creative thinking skills, work organisation skills, workplace skills, and leadership skills, are emphasised in Western countries. These skills assist in the preparation and provision of future employability opportunities and human resource development (Human Resources and Skills Development Canada – HRSDC, 2003; The Office of Disability Employment Policy (ODEP) of the U.S. Department of Labor, 2007).

Soft skills development for graduates, therefore, can be seen as an integral part in university programmes. As Hillage and Pollard (1998) clarify, universities should enhance graduate employability. Employability depends on four factors: basic knowledge; skills and attitudes; application and presentation of knowledge, skills, and attitudes; and the context of the employment. More importantly, employers generally expect universities to enhance graduate employability through knowledge and skills. Knowledge and skills ought to be centralised in teaching and learning (Chan, 2011). This also means that the lack of soft skills has significantly resulted in graduate unemployment along with other

factors such as poor English proficiency and limited work experience (Chan, 2011; Hariati, 2007; Cruetz, 2005).

Additionally, the mismatch between soft skills acquired by graduates and skills expected by employers can be seen as one of the significant reasons for low employability among graduates (Dissanayake, 2015). As a result, higher education is considered to play a main role in providing both professional knowledge and vital skills to help graduates satisfy the demands of the employment market (Pham, 2008). Understanding how graduates and employers think about the development of soft skills obtained from undergraduate programmes is significant. This understanding can provide insights into developing curricula and pedagogical practices to enhance students' soft skills development for greater employability as well as for meeting labor force demands.

### **Aim of this study**

The current study explores the notion of soft skills in the context of an English language programme of study. Together with professional knowledge and attitude, required skills of an English Language Program (ELP) are identified as: communication in French at a basic level; using office software such as Word, Excel, PowerPoint, the Internet; self-study; group-work; critical thinking; independent working; creation; time management; work planning and management; oral presentation/ public speaking; good social relationships; flexibility; and problem solving.

### **Literature review**

#### ***Definitions of soft skills***

Soft skills are mentioned differently in different contexts.

Wikipedia gives a general definition of soft skills:

*Soft skills refer to the cluster of personality traits, social graces, facility with language, personal habits, friendliness, and optimism that mark people to varying degrees. Soft skills complement hard skills, which are the technical requirements of a job.*

A review of the definition of soft skills in some major English speaking countries identified a range of capabilities.

In 2002 the Business Council of Australia (BCA), the Australian Chamber of Commerce and Industry (ACCI), and the Australian National Training Authority (ANTA) published a book aimed at effectively securing jobs and promoting one's personal capacities. Eight skills were identified: communication skills; teamwork skills; problem solving skills; initiative and enterprise skills; planning and organising skills; self-management skills; learning skills; and technology skills.

The 2004-2005 report on Plans and Priorities of Canadian Government and Human Resources and Skills Development Canada (HRSDC) identified six major skills as core employability skills: communication; problem solving; positive attitudes and behaviours; adaptability; working with others; and skills of science, technology and mathematics.

In a report in 2007 by the Office of Disability Employment Policy (ODEP), U.S. Department of Labor, soft skills were seen to refer to the traits, work habits, and attitudes that all workers across all occupations must have in order to obtain, maintain, and progress in employment. Thirteen skills were seen as a key to the success of young workers in the 21<sup>st</sup> century workplace: learning to learn; listening skills; oral communication skills; problem solving skills; creative thinking skills; self-esteem; goal setting/ motivation skills; personal and career development skills; interpersonal skills; teamwork; negotiation skills; organisational effectiveness; and leadership skills.

According to the Partnership for 21<sup>st</sup> Century Skills (2014), soft skills consist of: life and career skills; learning and innovation skills; information, media, and technology skills; critical thinking; problem solving; communication; and collaboration.

### ***Reasons for graduates' soft skills development***

The desirability of soft skills development for graduates in higher education contexts has been indicated for several reasons. Soft skills may help students to accomplish not only academic but also occupational goals after graduating (Kember, Leung, & Ma, 2007). Similarly, the integration of soft skills increases students' chances of employment and presents them with better prospects for future successful careers (Chan, 2011; Cruetz, 2005; Hariati, 2007; Hillage & Pollard, 1998; Tevdovska, 2015). On the other hand, limited soft skills are considered a barrier to having a smooth transition to the workplace in the Vietnamese context (Tran Quang Trung & Swierczek, 2009). Additionally, the mismatch between employers' demands and graduates' lack of skills can lead to graduates unable to find jobs. Employers still report difficulties hiring skilled workers with required knowledge and skills (Tran, 2013). Such a dilemma is likely to bring about challenges not only for graduates but also employers and society, in long term development.

### ***Previous studies related to soft skills development in the study context***

Previous studies related to soft skills development in Vietnamese higher education have revealed several significant aspects.

A survey of 251 department managers by Tran and Swierczek (2009) identified the specific soft skills desired by prospective employers, as well as investigating and identifying skills development in Vietnamese universities. The authors also conducted two other surveys of 717 final-year students and 1,838 students of other years from four universities. The survey data were used to analyse graduates' competencies and skill delivery in their courses. The findings showed that skills development is an obscure area in Vietnamese universities for the following reasons.

First, universities still focus primarily on explicit knowledge and have not yet realised the importance of soft skills development for students.

Second, the curriculum design is still deprived of a market-orientation.

Third, the lack of concern for employer needs has resulted in low-level commitment to skills development in Vietnamese universities.

Furthermore, employers prioritise learning, communication, information processing, problem solving, and interpersonal skills, while lecturers focus on decision-making, learning, and information processing skills, to solve problems.

The same study further emphasised that lecturers' undervaluation of interpersonal skills had created a serious weakness in graduates' competencies in these skills.

Another study by Tran (2013) investigated the perceptions of higher education students, recent graduates, and employers in Vietnam on the issue of skill development in the higher education system. The study employed an exploratory study conducted via focus group interviews with university students, and in-depth interviews with recent graduates and employers. The findings revealed that most students and graduates shared the same concern about soft skills which were important in the labour market, namely: teamwork; communication skills; independent working skills; presentation skills; social understanding; and decision making skills. Additionally, most students and graduates blamed their lack of proper soft skills on their universities although they placed high expectations on their universities to help them or even to equip them with those skills. Furthermore, graduates also indicated that the lack of skill development in the university curriculum and the lack of interest in extracurricular activities were parts of the problem which resulted in poor soft skills, and lack of confidence, at the point of graduation. The study also points out that employers did not have positive comments on students' soft skills.

A report by the Ministry of Labour, Invalids and Social Affairs of Vietnam showed there has been an exponential increase in the number of unemployed university graduates, accounting for one fifth of the country's unemployment (General Statistics Office, 2014). However, another study conducted by the University of Economics of Ho Chi Minh City, showed over 95% of graduates could secure jobs after a year of graduation thanks not only to the knowledge obtained from the core subjects in the curriculum, but also to the soft skills integrated in in-class and extracurricular activities (Nguoi Lao Dong



Newspaper, 2017). Such facts shed new light on the importance of soft skills development not only for Vietnamese university administrators but also lecturers and students, in terms of how to promote graduates' employability.

Overall, the desirability of soft skills development for students in Vietnamese higher education should be emphasised in undergraduate programmes as a potential benefit for graduates in a more and more competitive labour market. Additionally, more studies exploring soft skills development particularly in English language programmes from the perspectives of graduates and employers will contribute to the current literature in the context of Vietnam.

## **Methodology**

### ***Research question and approach***

The current study investigates the perceptions of graduates and employers toward the development of soft skills obtained from ELP and job requirements. Two research questions are addressed:

How have graduates perceived the development of soft skills obtained from the ELP?

How have employers perceived the development of soft skills that ELP candidates obtained from the ELP?

The study employs a qualitative case study approach. Case study methodology was chosen because it allowed the researchers to investigate the issue 'in depth and within its real context' (Yin, 2009, p.18). Thus, a case study suited the purpose of this research which was to investigate the perceptions of graduates and employers toward the development of soft skills in one context of a Vietnamese university.

The researchers selected the English Language Program offered by a well-recognised university in the south of Vietnam for this case study. The university is multidisciplinary and hosts around 50,000 full-time students and is currently recognised as one of the best universities in Vietnam. Most undergraduate programmes in this university are aimed at training students to achieve not only professional knowledge and attitudes but also necessary skills for their future work.

In mid-2017, an email with a link to the descriptive survey questionnaire was sent to ELP alumni who had graduated from the programme within the last four years, inviting them to participate in the study. In total, ninety-eight ELP alumni from the years 2013 to 2016 completed the survey. Two-thirds of respondents were females. Job areas were varied: free lancers (8%); teaching (33%); trade and services (28%); foreign company (4%); hotel reception (20%); temporary work (5%); and unemployment (2%).

The questionnaire included two parts.

The first part focused on soft skills development which included: the listed skills in the ELP curriculum objectives; other vital skills for ELP graduates as discussed in previous studies of Vietnam (Tran & Swierczek, 2009; Tran 2013); and selected skills mentioned by world-wide organisations as discussed earlier.

The second part was based on the expected outcomes of the ELP.

An email was also sent to employers of ELP graduates. The open-ended interview questions were conducted online with the focus on how the employers perceived their current ELP employees' knowledge, skills, and attitudes. Twelve employers voluntarily agreed to answer. These employers were from English language centres (25%), commerce and services companies (25%), joint-stock companies (16%), government offices (17%), and private business companies (17%).

The data were then analysed using SPSS descriptive and frequency statistics, together with content analysis (Cohen, Manion & Morrison, 2013).

## Results and discussion

### ***Graduates' perceptions of soft skills development in the ELP***

The findings from the survey showed different views of graduates on soft skills development in their English language programme. In particular, the skill of communication was most agreed upon by respondents, accounting for 80.6%. Additionally, more than half of graduates agreed they learnt skills of planning, skills of presentation, and critical thinking. Although other skills received fewer agreed responses, the agreed responses to these skills accounted for over a third (ranging from 33% to 44%) of graduates' responses. However, the skill of leadership received only 29.6% of responses (see Table 1).

**Table 1. Graduates' perceptions of soft skills development in the ELP**

<b>Soft skills surveyed</b>	<b>Agreed responses</b>
Skill of information collection	35.7%
Skill of group organisation and management	39.8%
Skill of critical thinking	51%
Skill of planning	55.1%
Skill of understanding work objectives	40.8%
Skill of collaboration in teams	40.8%
Skill of independent working	38.8%
Skill of data analysis and evaluation	43.9%
Skill of communication	80.6%
Skill of report writing	33.7%
Skill of presentation	55.1%
Skill of plan organisation and implementation	35.7%
Skill of leadership	29.6%

### ***Graduates' satisfaction level of soft skills meeting job requirements***

The survey results showed that most graduates felt satisfied with the way in which their level of ELP skills met their current work requirements. The skills which the graduates considered to be those most developed through their study programme included sympathising with others (98%), planning (91.8%), solving problems (91.8%), and group working (89.8%). Of the other seven skills, graduates felt highly satisfied with their abilities in managing time, flexibly adapting to changes in their work, thinking innovatively, and sharing with others. Overall, it is noticeable that the graduate participants considered that the ELP program met the requirements of their current work in terms of skills development (see Table 2).

**Table 2. Graduates' evaluation on the level of ELP meeting requirements of graduates' current work**

Level of meeting requirements of ELP	Not satisfied %	Satisfied %
I am able to manage time.	15.3	84.7
I am able to communicate (negotiate).	24.4	75.6
I am flexible to adapt to changes in the working environment.	16.3	83.7
I am capable of research (to propose innovation, improvement).	31.6	68.4
I am able to plan my work.	8.2	91.8
I am capable of solving problems.	8.2	91.8
I am capable of innovative thinking.	15.3	84.7
I am capable of working in groups.	10.2	89.8
I am capable of negotiation.	20.4	79.6
I am capable of sharing with others.	12.2	87.8
I am capable of sympathizing with others.	2.0	98.0

***Employers' perceptions of soft skills development for ELP candidates***

With respect to the perceptions of employers of the EDP graduates soft skills development, the findings showed that ELP candidates' skills were less highly valued (50%) in comparison with candidates' knowledge and attitude (58.3% and 75% respectively).

**Table 3. Employers' perceptions of soft skills development of ELP's alumni**

	Not good %	Neutral %	Good %
Knowledge	0	41.7	58.3
Skills	16.7	33.3	50.0
Attitudes	8.3	16.7	75.0

One employer stated that:

*Most ELP candidates must be trained with skills of working to get familiar with the working environment of our company.*

However, the employers mentioned that some significant skills of the ELP graduates are language skills, skills of information collection, skills of work understanding, skills of creation and research, and skills of problem solving. One stated:

*These ELP employees are good at the skill of creation. They worked hard and know how to do research. Maybe they were trained how to work professionally.*

Three out of twelve employers revealed their ELP employees were not very good at working in groups nor working independently. Employers also explained some necessary skills for working still needed to be included in training.

### **Conclusions and recommendations**

In general, the findings revealed that both graduate and employer participants perceived positively the importance of soft skills development for ELP students. However, the ELP has insufficiently equipped graduates with soft skills required for various jobs. The findings are in line with previous studies by Tran Quang Trung and Swierczek (2009), and Tran (2013), regarding graduates' communication skills which are more highly developed in the programme than other skills. Also, the perceptions of the employer participants were similar to those reported in a study by Tran (2013). Implications for graduates' lacking necessary skills required by the contemporary workplace were noted.

Based on the results, the following recommendations are made for graduates' soft skills development in future ELPs.

First, current, and future ELP students should actively engage in skill practice and enhancement activities.

Second, students are recommended to proactively engage in co-curricular activities. The students should practise and act out skills obtained from the curriculum in after-class real situations.

Furthermore, it is important that ELP students actively seek information and requirements of industries in which they might like to work, as well as make the best use of internships and externships.

Regarding the lecturers in ELPs, they need to facilitate skill practice and enhancement activities. Also, it is necessary to set up 'real' skill practice and enhancement activities for ELP students. Meanwhile, feedback to ELP students should be provided to enhance skills practised by the students.

With respect to ELP reviewers, there are several things that should be considered: benchmark the ELP against accredited ELPs; design efficient internships and externship courses; and design career orientation activities for ELP students. Furthermore, the reviewers should develop models of on-campus "English in practice", as well as seek more input from external stakeholders.

In relation to external impacts, the university Youth Union survey is highly recommended to assist with organising well-planned co-curricular activities. Further, planning off-campus outbound student activities should be a good opportunity for students to learn real skills required in their future work.

Further studies should be conducted involving a larger cohort of graduates and employers. The different perspectives held by graduates and employers should be used to adjust the current ELP program to better meet the requirements of each group.

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# **Students' Perceptions of Learner Autonomy and a Model to Boost Learner Autonomy**

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## **Abstract**

Vietnamese university freshmen, influenced by a formerly developed passive learning style, are facing obstacles when attending higher education (Tran, 2013). This study aims to examine freshmen's perceptions about their learner autonomy and the extent to which autonomous learning-oriented group work helps facilitate learner autonomy.

Holec (1981, 3) identified five important elements for developing learners' autonomy. These included encouraging students: to determine objectives; to define contents and progressions; to select methods and techniques; to monitor procedures of acquisition; and to evaluate what has been acquired. Palfreyman (2018) claimed that group work can contribute to learner autonomy.

The researchers in this study used a group-learning model with 55 first-year English language teacher students. A 46 item Likert-scale questionnaire, based on Holec's suggested elements, was used to collect data on students' levels of perception before and after the group-work intervention.

Comparison between the pre- and post- questionnaire results indicated that the group-learning model positively influenced learner autonomy especially in determining objectives, defining contents, selecting methods, and evaluating what had been acquired.

From the results, we suggest the teachers' roles of instructor, monitor, facilitator, and feedback provider, be given greater emphasis than the role of teacher as a classroom leader.

## **Introduction**

Learner autonomy has been an interest of many researchers and educationalists. Learner autonomy improves the quality of language learning, promotes democratic societies, prepares individuals for life-long learning, and allows learners to make the best use of learning opportunities in and out of the classroom (Borg & Al-Busaidi, 2012).

In spite of the potential contribution of learner autonomy to life-long learning (Grina, 2007; Cotterall, 1995; and Palfreyman, 2003, cited in Borg and Al-Busaidi, 2012), East Asian students seem to lack the concept and practices of learner autonomy, compared to learners from other cultural backgrounds (Gamble et al., 2012). Vietnamese university freshmen students, influenced by the formerly developed learning style of rote memorisation and passive learning (mainly listening and repeating), are facing similar problems when they commence higher education (Tran, 2013).

## **Aim of this study**

This study was designed to understand more about Vietnamese freshmen's ideas and reactions to greater learner autonomy. Two research questions were posed:

- To what degree do students perceive their learning abilities to be autonomous.
- How effective is a group learning model aimed at training students to gradually take control of learning.

## Review of the literature

### **Conceptualisation of learner autonomy**

According to Holec (1981, 4) learner autonomy is ‘the ability to take charge of one’s own learning’ as well as to take responsibility for making decisions on aspects involved in learning. Holec (1981), cited in Little, 1991.

Borg & Al-Busaidi, (2012) listed the following features of learner autonomy:

- Clarifying the objectives that the learner wants to realise.
- Determining the learning content as well as expected progression.
- Deciding on what methods and techniques will be used.
- Monitoring the learning process.
- Evaluating what has been achieved.

Little (1991, 4) provided a provisional clarification of learner autonomy: autonomy is a capacity which presupposes, but also entails, that the learner will develop a particular kind of psychological relation to the process and content of his learning.

Sinclair (cited in Summer, 2010, 8; Borg & Al-Busaidi, 2012, 5) suggested a multidimensional concept for learner autonomy which incorporated a cultural aspect.

**Table 1. Defining learning autonomy (Sinclair)**

1	Autonomy is a construct of capacity.
2	Autonomy involves a willingness on the part of the learner to take responsibility for their own learning.
3	The capacity and willingness of a learner to take such responsibility is not necessarily innate.
4	Complete autonomy is an idealistic goal.
5	There are degrees of autonomy.
6	The degrees of autonomy are unstable and variable.
7	Autonomy is not simply a matter of placing learners in situations where they have to be independent.
8	Developing autonomy requires conscious awareness of the learning process – i.e. conscious reflection and decision-making.
9	Prompting autonomy is not simply a matter of teaching strategies.
10	Autonomy can take place both inside and outside the classroom.
11	Autonomy has a social as well as an individual dimension.
12	The promotion of autonomy has a political as well as psychological dimension.

Learner autonomy is greatly impacted by cultural factors such as Confucian Heritage Culture (Tran, 2013). Vietnamese students are labelled and defined as “passive, traditional, mechanical, reactive, dependent, reticent, reluctant” (Le & Phan, 2013, 284; Tran, 2013).

Çakici (2015) argued that learner autonomy could be linked with life-long learning because learners will need to develop their own abilities to direct, author, know how to organise a learning plan, track the learning process, and assess the results of learning.

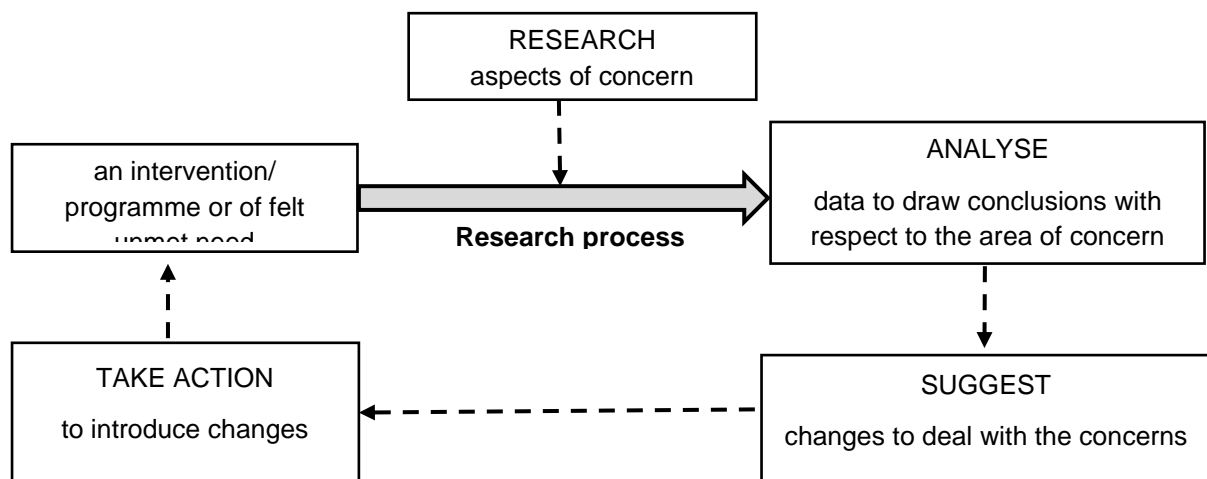
Palfreyman (2018, 59) claimed that group work is important to learner autonomy because it involves agency, freedom, skills and strategies, reflection, decision-making, and motivation.

## Methodology

### Research design

The main aim of this research is to collect data on first-year students’ perceptions of their learning to see the extent to which they thought they performed autonomously. To meet this challenge, the authors employed an action research design as outlined below.

**Diagram 1. Action research design**



**Source: Action research design, Kurma, 2011.**

For this project, students were formed into groups. Each group was required to finish six group learning meetings on different self-selected topics. Students took turns in acting as a group leader whose main role was to lead the group, form a learning plan, and conduct the group learning successfully.

After the fifth meeting when students had almost finished the semester researchers repeated the survey that was used at the beginning of the semester, to see the extent of progress made by students in their learning. The results of the survey were compared with results at the beginning of the semester to evaluate how much the learning model had helped students to boost their self-learning

Fifty-five English Language Teaching freshmen in their second academic semester participated in this study.

### Research instrument

Holec (1981, 3) concluded that autonomous learning was mainly concerned with making decisions, and he devised a group learning questionnaire containing 46 items grouped into five clusters, which we used also.



Cluster 1. *Determining learning objectives*: The students determine what they want to achieve throughout the course.

Cluster 2. *Choosing the content and progress*: Students choose the content for their own group learning which was decided by group discussion and consensus.

Cluster 3. *Choosing learning methods and techniques*: The learners themselves choose how they will conduct their group learning.

Cluster 4. *Monitoring the learning process*: Students were required to video their group learning with the following main purposes: (a) to provide evidence to the teacher that they have conducted group learning according to their commitments; (b) the video will form the basis for student assessment; and (c) the videos will be the track keepers that allow students to reflect on their own learning when necessary.

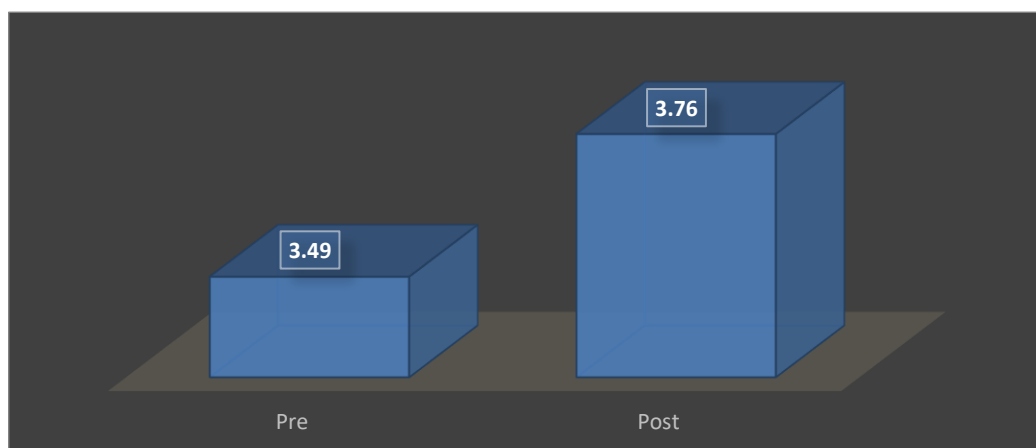
Cluster 5. *Assessing what has been achieved*: Students are required to produce group reflection writings that consist of the following components: (a) what topic was selected; (b) which learning activities were most tempting; and (c) what they have learned.

Data were collected from a pre- and post- questionnaire consisting of the five clusters of items identified by Holec. To answer each question in the survey, the respondents used a five-point Likert scale. The questionnaire was initially written in English; nevertheless, to avoid misunderstanding and an incorrect interpretation from respondents, the questionnaire was translated into Vietnamese.

## Results and discussion

The means and standard deviations of the 46 items in the pre- and post-questionnaire were calculated to identify shifts. From the report for 46 items of the questionnaire, the researchers came up with the following results which show a significant improvement in overall mean scores from 3.49 to 3.76

**Figure 1. Overview of freshmen's perception of their learning**

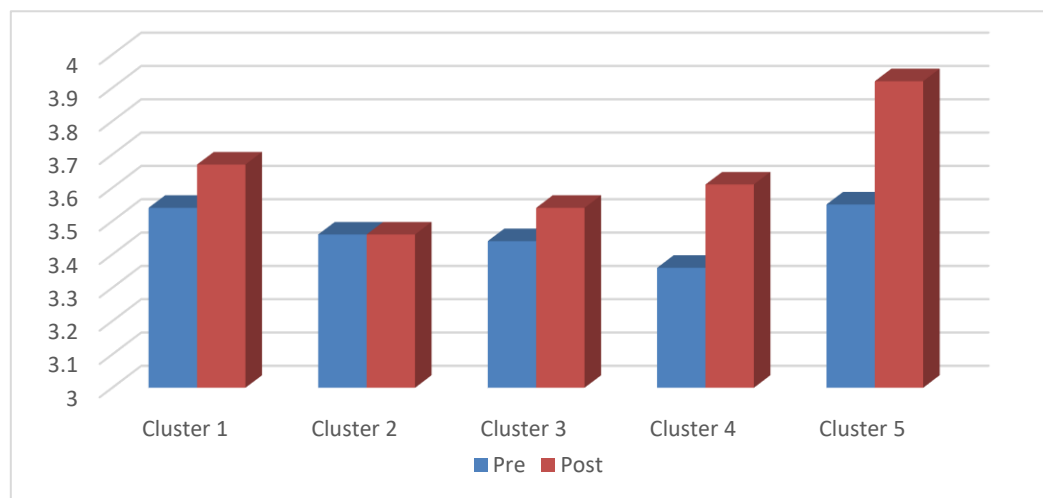


The figure above indicates the pre- and post- test scores of freshmen. The level of perceived learner autonomy as indicated by the mean score before students participated in the study was 3.49. This indicates that participants thought that they had a relatively high level of autonomy before they commenced the intervention.

The post test scores were 3.76, indicating an increase in the students' perceived level of autonomy after the intervention programme.

Except for Cluster 2 the level of perceived autonomy increased in each cluster.

**Figure 2. Changes within individual clusters**



The above figure shows the increases in learner autonomy in the following clusters: (1) determining learning objectives; (3) choosing learning methods and techniques; (4) monitoring the learning process; and (5) evaluating what has been acquired. In Cluster 2 (choosing the content and progress) there was no change in the pre- and post-intervention scores.

**Cluster 1: *Determining learning objectives***

The figure indicates that students have an increased awareness of the importance of determining their own learning goals. Specifying learning objectives is a new concept for freshmen because for each semester they have to list and plan subjects and skills they want to study in that academic semester.

**Cluster 2: *Choosing the content and progress***

The means score of this cluster indicated no changes in the scores.

**Cluster 3: *Choosing the methods and techniques to be used***

The figure shows a small increase in perception about learning and techniques used in learning.

**Cluster 4: *Monitoring the process of acquisition***

An increase from 3.36 to 3.61, shows perception progression from “very beginning” to “more flexible and responsible”.

**Cluster 5: *Evaluating what has been achieved***

A large change in students’ perceptions was found (3.55 to 3.92) as they began to understand that they were able to evaluate that they had achieved.

While there was no change in the scores obtained for Cluster 2, as a result of the treatment Cluster 1 increased from 3.54 to 3.67 (up by 0.13), Cluster 3 increased from 3.44 to 3.54 (up by 0.1), Cluster 4 increased from 3.36 to 3.61 (up 0.25), and Cluster 5 increased from 3.55 to 3.93 (up 3.38).

**Conclusion**

Based on the differences in the pre- and post- treatment scores and the variation in the changes to the scores, this research supported Holec’s (1981) claim that learner autonomy is not stable across each of the five clusters he identified.

We found the freshmen’s perceptions of the group learning model to be positive, and they could be used to facilitate learner autonomy.

To conclude, it can be stated that:

- Learner autonomy is multi-dimensional and variable.
- The teachers' initiative and role may promote learner autonomy.
- Learners cannot become autonomous in learning without proper training and help.
- With educational assignments including an autonomous learning space and a group learning model, self-directed learning will be promoted.
- Learner autonomy is not a matter for individual learners by themselves; rather it should be considered within an interactive and conditioned environment.

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# Using Reflective Teaching to Create Cohesion between the Discipline and Practice of Community Nursing

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## Abstract

During the course Community Nursing, students work closely with a nurse instructor to ensure practices are of a professional standard and safe, and result in the patients' healthy development. However, the younger generation of nursing students have some issues regarding the cohesion between nursing as a discipline and the practice of nursing.

Problem-based learning has been identified as one way to facilitate greater cohesion between the discipline of nursing and the practice of nursing (Williams, 2004). Additionally, reflection is the necessary bridge in the learning process. Reflection takes place when a student is involved in a service-learning experience (Fowler, 2015; Ronnie, 2016). Therefore, to facilitate greater cohesion between nursing as a discipline and the community practice of nursing, students reflective teaching was applied in this study.

Fifteen second-year nursing students enrolled in Community Nursing Practicum I participated in this study. They stayed in a host's house in the selected community and were involved in health-promotion with individuals, older persons, families, and community residents. The programme lasted for four weeks during which time students undertook community health work combined with the reflective teaching process. They were involved in maintaining a critical incident journal, writing reflective essays, undertaking directed readings, and discussions in small groups.

Data were collected through observing students' reflections and practices. A thematic analysis was used to identify themes that arose.

It was found that through reflective teaching students achieved a deeper understanding of the relationship of nursing to patients' needs. Also, students showed a deeper understanding of nursing as a discipline and the cohesion between the theory and practice of nursing.

## Introduction

A professional requirement for nursing students is to have a good relationship between professional practice and the academic discipline of nursing. For the last two decades, professional nursing education has prepared graduates with an understanding of the theoretical foundations of the discipline, technical competence, and the melding of nursing theory and practice (Williams, 2004, Kunaviktikul, 2007, Faculty of Nursing, Nakhon Pathom Rajabhat University, 2016).

The Nursing curriculum of the Nakhon Pathom Rajabhat University, bachelor's degree, was revised and the Community Nursing Practicum course was divided into two separate courses.

In 2018, the first implementation of the Community Nursing Practicum I was delivered to second-year nursing students. The content of the practice component of the course was focused on health-promotion among a group of people in a real community. Settings included schools, workplaces, (such as agriculture fields), homes, or clubs for the elderly. Therefore, the course is challenging as it is the first time the students have the opportunity to apply their nursing knowledge and skills to the real situation of population care. The course committee decided that it was appropriate for the students to stay in a health-promoting hospital dormitory or in a host's house in the selected community. Which option was selected depended on the community in which the nursing students were required to work.

The concept of a community nursing practicum is a safe way of achieving necessary professional standards and will result in the development of better patient health. However, often young nursing students have some problems linking the theory of nursing with the practice of nursing. As a result of the assessment of courses in the nursing practicum in the faculty, it was found that many students cannot demonstrate self-discipline and self-control when assigned nursing practicum tasks (Faculty of Nursing, Nakhon Pathom Rajabhat University, 2016). Therefore, the teaching process was evaluated to determine the relevance between the theory of the discipline of nursing and the practice of nursing in the community.

### **Review of the literature**

Problem-based learning has been identified as one way to facilitate greater cohesion between the discipline and the practice of nursing (Williams, 2004). An important part of problem-based learning is reflection upon what occurred during the learning process. Reflection can be considered as involving reasoning, thinking, problem-solving, inquiry or reviewing of practices (Laws, 2016). Reflection is seen as the necessary bridge in the learning process that takes place when a student is involved in a service-learning experience (Fowler, 2015; Ronnie, 2016).

Reflecting is a key element because it can provide a range of opinions and interpretations, and this can overcome the issue of drawing false conclusions. Laws (2016) proposed that reflection on action might identify four forms including reflection-before-action, reflection-in-action, reflection-on-action, and reflection-about-reflection.

### **Aim of this study**

This action research study aimed to facilitate greater cohesion between the knowledge and theory underpinning the discipline of nursing and the community practice of nursing students. The practice of reflective teaching achieved the outcome in this study.

### **Methodology**

#### ***Design and subjects***

An action research design was employed during the first semester of the nursing bachelor's degree in 2018. Fifteen second-year nursing students enrolled in Community Nursing Practicum I participated in this study. The students were divided into two groups. Each group stayed in a host's house in the selected community. The nursing instructor and registered nurses stayed outside the community, but they went to the community to implement the teaching programme every day. The programme took place over a four week period during which time the students did practicing in the selected community.

#### ***Reflective teaching process***

The teaching programme was designed according to previous experience and based upon a literature review. The nursing students were required to maintain a critical incident journal, write reflective essays, undertake directed readings, and discuss issues in small groups. As a course requirement, the students were assigned to undertake health-promotion with individuals, older persons, families, and community residents. The areas of practice were in four settings: school health; occupational health; home visiting with chronic disease patients; and clubs for the elderly. Also, special tasks for promoting the health of their host's house parents were often included.

The reflective teaching process consisted of eight tasks: pre- and post- conference meetings; participating in practicing; observing other students' practicing; supervising; coaching; facilitating; small group discussion; and group and individual reflection. These tasks can be grouped into three forms:

Reflection-before-action took place in pre-conference meetings and discussions.

Reflection-in-action was facilitated through participating in the practice of community health, observing other students' practicing, supervising, coaching, and facilitating.

Reflection-on-action occurred in the post-conference meeting, in small group discussions and through students' reflecting individually.

The programme lasted for four weeks during which time students undertook community health work combined with the reflective teaching process. Data were gathered through the students' critical incident journals, their written reflective essays, and their understanding of specified readings. Further data were obtained through the observation of students' reflections and practices. A thematic analysis of all sources of data were used to identify themes that arose.

### **Results and discussion**

As previously stated, the activities used for reflective teaching included a critical incident journal, reflective essays, directed readings, and small group discussions. It was argued that these activities can help the students to learn from reflecting on their experiences. Small group discussions can facilitate students and instructors in constructive criticism and encourage reflection on areas for potential improvement.

In addition, each student had an opportunity to assume the roles of a group leader or group member for a designated period. Through small group discussions and post-conference processes, students reflected on their weaknesses, set clear goals, and developed an execution plan.

One of the students made the following comment in a pre-conference meeting:

*I cannot use a motorcycle for travel to the patient's home which is too far for walking but I have to work on time and following the subject's requirement. I want to skip that house...*

Student no. 5.

To which the Instructor made the comment:

*If you cannot access the patient's home how can you facilitate the health of your assigned case? Do you have some plan to deal with that problem?"*

Instructor's comment in pre-conference.

After group discussions, student no. 5 said:

*I have to work with a village health volunteer, and she can pick me up to do a health assessment and home visiting of assigned house.*

In the post-conference, student no.1 said:

*The process of reflection both during pre-conference and post-conference meetings helped me learn a lot. I appreciated it because it has helped me to think about what I'm doing not so well and what I can adjust to make tasks better for the assigned case. Moreover, reflecting individually made me comfortable to ask some questions that I want to be clarified. I think the reflective teaching techniques that the instructor used were appropriate for me and I so appreciated it.*

Student no. 3 gave support:

*Me too. It keeps me going along with the course requirements because I had assessed myself when writing all my procedures and tasks every evening. This helps me stay focused on what the tasks are like, what I can do better.*

According to the student's critical incident journal, directed reading, and discussion in small groups, the student's control over herself was increased. This resulted in a more professional manner and an increase in ability to manage procedures for improving cases.

*The most impressive home is the home of uncle Bun who is paralysed, and his wife.*

*He cannot do daily life activities because he has been paralysed for a long time. When we did a health assessment, we found his left side suffered from muscle weakness and had little muscle tone. It means that we can rehab and assist uncle Boon to do the rehabilitation. We found that he loves to write before [he was paralysed]. We started to do passive and active physical exercises every day. Two weeks later he can sit and walk with a sidewalk and someone assists. Before we finished the practicum, he wrote his name for our team. We think that our team can encourage uncle Bun to do what he is good at and he can spend the rest of life happily.*

Student no. 1.

*Reflection writing helped me to review day-to-day work, and what did I learn today? Is what I learned according to the course's objectives? When the instructor arranged for us to read to friends, it allowed us to think together for the whole group, not just our job alone. It activated us to review and learn together with friends.*

Student no. 8.

*The writing reflects on the events that occurred each time I visited the assigned house and made me think about what had led to learning something new. Let me give you an example of asking questions to assess family health-promoting behaviours about stress management. The information had been analysed for I know that patients don't understand the issues I ask. I went back to review questions I asked and to determine why he did not understand them? When I think and rethink I had realised that maybe my question was confusing so that the next day I had made new questions and explanations. I think reflection writing made me aware of this issue and improved my skill in the question of stress management?*

Student no. 12.

*I love to listen to friends reading out in the group. I like the way that the instructor asked questions. It helps me to constantly review myself about what we are doing or haven't done each week? Reflection is like a tool for directing the schedule of a group's work.*

Student no. 15.

*I think reflection writing every day, presentation of work plans before implementation, and post-conference meetings helped me, and my group members understand and be clear about the assigned tasks. Sometimes the feedback questions of the instructor made us aware of our professional tasks such as kind caring of the health of the grandma of the house's parents who are aged 83 years old and are living alone during the daytime. We should pay more attention to her, unfortunately, we did not do this in the first week of practicum. The instructor's question about if she is our grandmother how will we take care of her? The question made us figure out whether we should sit and listen to her, or accompany her sometimes if she needed it, but we neglected at the beginning of the internship. The reflection process made us think and aware.*

Student no. 2.

The findings showed that students gained self-awareness and insight into their own management and organisational practices. It was also revealed that reflection teaching helped students to think, rethink, and to solve obstacles when practicing. Also, some suggestions from group members and instructors led the students to find new solutions. The findings were congruent with a study in South Africa that found that students who were given an individual task as a deliberate strategy to reflect on their learning had gained self-awareness and insight into their management and organisational practices (Ronnie, 2016).

*Not only students learned from reflection but also the instructors, including myself. Some students were asked and want to clarify the course's task, procedures during the delivery of reflective questions. This prompted me to think and rethink whether my assignments each day were suitable for second-year students or not. I found that sometimes the assigned cases had a complex problem, which not only promotes health but also financial problems related to health, that might not appropriate for the second*

year students so that I had change assignment and I do collaborate with a registered nurse in that community for help changed case instead of our team.

Instructor no.1.

Reflection helped both students and instructors to look back over what they had done in the community nursing practicum. This was in congruence with John Dewey (cited in **Laws, 2016**) that a learner does not learn from experience ... he/she learns from reflecting on experience. This finding is also congruent with Fowler (2015) who found that collaboration, learning through problem solving, and pedagogical reflection were powerful tools **for changing teachers'** thinking and teaching.

### Conclusion

It was found that through reflective teaching students could achieve a deeper understanding of the relationship of nursing to patients' needs. Also, there was a deeper understanding of nursing as a discipline and the cohesion between the theory and practice of nursing. This study shows the potential for a wider application of reflective teaching in the faculty and in different settings.

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# Teaching and Learning Strategies for Nursing Students in Health Care Assessment of Pregnant Women

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## Abstract

Health care assessment of pregnant women in Thailand is important and requires special training for nurses. Regular prenatal check-ups in an Antenatal Clinic helps the medical practitioner identify potential health problems of an expectant mother. Nursing students working at the Antenatal Clinic have the opportunity to assess and evaluate the different gestation stages and the health condition of pregnant women.

At Nakhon Pathom Rajabhat University, the percentage of nursing students who passed exams at the first attempt was very low. Nursing instructors were required to create and organise an effective learning strategy to assist students gain specified understandings and techniques for the application of skills during a practicum in affiliated hospitals.

A literature review indicated that incorporating simulations in the classroom can be an effective way to improve student knowledge (Walters, Potetz & Fedesco, 2017).

Learning activities that demonstrated the nursing procedures involved in inspection, palpation, and auscultation methods for pregnant women were developed by the nursing instructor. Medical scenarios and simulations involving the assessment of pregnant women were also developed. Nursing students were instructed in pairs and were required to submit a video recording which demonstrated Leopold's Maneuver and abdominal method of assessment of pregnant women. Students were evaluated by their respective instructors based on performance and ability to answer relevant questions.

## Background

In obstetric nursing, antenatal care or prenatal care is a medical service provided to pregnant women to ensure early detection of potential issues and reduce the risk of pregnancy and birth complications. Antenatal care places emphasis for: health promotion; imparting health teachings; risk screening; counselling to mitigate preterm births; low birth weight; neonatal mortality rate; maternal mortality rate; and other obstetric complications. Other health conditions are treated at this time also. Good antenatal care involves assessment and evaluation.

Health assessment or prenatal visits for pregnant women should begin as soon as possible after the woman notices her missed period. The desirable number of clinic visits throughout the pregnancy should be five. During medical appointments pregnant women obtain information for: maternal physiological changes in pregnancy; abdominal assessment or Leopold's manoeuvre to inspect and palpate the abdomen (to determine foetal presentation and position); maternal nutrition; and management of healthy lifestyle changes. This information promotes health for mother and baby.

For a nurse who is a dedicated member of an interdisciplinary care team, an important role is comprehensive health care assessment of a pregnant woman and her baby. Nurses need thorough practice and commitment to identify the potential health problems of an expectant mother. As part of the completion of the nursing curriculum and a vital component of nursing education, nursing students undergo a clinical practicum in various areas and departments of healthcare institutions. This develops

the competencies of students in maternal and child health nursing by utilising nursing processes in various health situations and conditions.

In the Faculty of Nursing, Nakhon Pathom Rajabhat University, second year students were affiliated with Nakhon Pathom Hospital specifically in the Antenatal Care Clinic. Nursing lecturers and clinical instructors were required to create and organise effective learning strategies in antenatal care/prenatal care to assist students gain an understanding and application of skills during practicum in the affiliated hospitals.

Medical scenarios and simulations using the mannequins from the Maternity Abdominal Palpation Training Model and the Multi-functional Four Maneuvers Leopold Model were developed. These models assisted students with the abdominal assessment of pregnant women. The models helped identify position and presentation of the baby, location of foetal heart sound, engagement, lie and attitude of the foetus, fundal height, and correct assessment of the gestational age.

Abdominal assessment of a pregnant woman mainly involves inspection, palpation, and auscultation. Communication skills between a nurse and a pregnant woman are important. Systematic assessment of the woman's medical history, growth charts, and any laboratory reports should also be discussed. Unfortunately, second year students often score below the standardised test scores and perform poorly on demonstration skills and theory, in the topics of health care assessment of a pregnant woman. Students failed to grasp concepts related to assessment and had difficulty visualising the procedures during the abdominal assessment skills practice.

### **Some findings from the literature**

Walters, Potetz & Fedesco (2017) suggested that incorporating simulations in the classroom can be an effective way to improve student knowledge. Clinical education, regardless of the profession or setting, is a process that has been studied by both the supervisor and student to determine best practices (Lauber, Toth, Leary, et al, 2003; Laurent & Weidner, 2000). Clinical teaching is a dynamic process that occurs in a variety of socio-cultural contexts. The quality of student-teacher interaction in the clinical field can either facilitate or hinder the students' integration of theory with practice. It has been postulated that clinical instructors must possess effective clinical teacher characteristics if they want to facilitate students' entry and learning in a multifaceted world of clinical practice (Papp, Markanken, and Von-Bonsdorff, 2003).

A study in Thailand by Jiraporn and Somchai (2018) developed a classroom simulation model for foetal position assessment training skills for students who are studying maternal and midwife nursing. The result of this study benefited nursing students in foetal position assessment training in their practicum in an antenatal care unit and delivery department of a hospital. The model was appropriate for students to practise and to review foetal positions manually. The model also encouraged improvement of foetal position assessment skills.

Pairin, Pranee and Tudsuang (2019) studied the readiness of nursing students for self-directed learning and group work in maternal-newborn nursing and midwifery courses. This descriptive research examined perceptions of nursing students' readiness for self-directed learning and readiness for group work, to learning achievements, in the maternal-newborn nursing and midwifery courses. The study sample included 218 fourth-year nursing students in an educational institution. The instruments used included the Perception in Readiness for Self-Directed Learning Questionnaire, the Readiness to Group Work Questionnaire, and the Evaluation Form of Learning Achievement, in the maternal newborn nursing and midwifery courses.

Through descriptive statistics, and Spearman's rank correlation, the results revealed that the perception of nursing students' readiness for self-directed learning and readiness to do group work were not significantly related to learning achievements in the maternal newborn nursing and midwifery courses. However, there was an appositive and significant relationship between the perception of nursing students in readiness for self-directed learning and readiness for group work. Therefore, it can be argued that teachers should provide encouragement to students to use further self-directed learning and group or team work to learn more.

Chubkhuntod, Thasanoh and Pitsamai (2017) studied the effect of learning using mind mapping on the learning achievement and satisfaction of nursing students in maternal newborn nursing and midwifery. The study findings revealed that after implementation of learning management with mind mapping, 96.92% of the participants passed the examinations at first attempt and the results on the achievement test was higher than 60%. Overall, the participants had a high level of satisfaction. It can be concluded that learning management with mind mapping enabled the students to understand complicated content in nursing and midwifery, and to successfully achieve learning outcomes. Students' satisfaction with learning was also enhanced. Thus, this teaching technique should be utilised to further improve learning management.

Varisa, Poonsab and Waraporn's (2019) developed an e-learning program for maternal child nursing and midwifery for nursing students. Results of this programme can be used as guidelines for the development of electronic media for students who want to review knowledge out of school time. Assessment for satisfaction should be continuously developed to improve the efficiency of media for learning. The results of this programme demonstrate that nursing students who were taught by electronic media gained a high level of satisfaction.

### **Aim of this study**

This study was undertaken to determine classroom management strategies to assist second year nursing students at Nakhon Pathom Rajabhat University during their practicum in affiliated hospitals. The students needed to gain specified understandings and techniques for the application of skills to perform abdominal assessment of pregnant women by inspection, palpation, and auscultation. By being able to perform these procedures nursing students show proficiency in the desired learning outcomes of the health care assessment of pregnant women. A challenging pathway to acquire nursing skills and an understanding of content based on medical scenarios and simulations provided by clinical instructors is acknowledged.

### **Methodology**

This classroom research aimed to develop students' understanding of the abdominal assessment of pregnant women by utilising inspection, palpation, and auscultation techniques.

Second year nursing students in the Faculty of Nursing, Nakhon Pathom Rajabhat University participated in this study. The study was undertaken during the second semester of 2019 for 8 weeks.

The students attended a series of lectures on the concepts and theories of Antenatal Care/ Prenatal Care in their respective classrooms. Clinical instructors created and organised effective learning strategies by using PowerPoint slides during lectures. Videos showing nursing skills about abdominal assessment of pregnant women emphasising the techniques of inspection, palpation and auscultation were also shown. Interactive quizzes and games to motivate student learning about prenatal care and to assist in the understanding and application of topics were also used to visualise nursing procedures.

In the Nursing Skills Lab, clinical instructors demonstrated the correct procedure to perform abdominal assessment by inspection, palpation, and auscultation, utilising mannequin skills from the Maternity Abdominal Palpation Training Model and the Multi-functional Four Maneuvers Leopold Model. Students were instructed on how to do inspections and assessments of the normal appearance and size of the abdomen, how to locate the landmarks in measuring the fundal height of the pregnant woman, and how to identify the vital quadrants of the uterus.

Nursing instructors performed palpation by demonstrating Leopold's maneuver which involved the abdominal assessment of pregnant women. Students then practised the principles of the Maternity Abdominal Palpation Training Model and the Multi-functional Four Maneuvers Leopold Model. These models identify positions and presentations of the baby, location of foetal heart sound, engagement, lie and attitude of the foetus, and fundal height, which in conjunction enable correct assessment of the gestational age.

For auscultation, instructors demonstrated how to use foetal doppler equipment and preparations required before using it. The stethoscope was also demonstrated by showing the students the part to be used when identifying the quadrant where the back of the foetus is located.

Utilising medical scenarios and simulations provides students with an opportunity to observe and practise skills which they have read about in theoretical modules. Clinical simulation also acts as an effective and innovative teaching strategy in the clinical area. Different teaching strategies of clinical instructors are useful to observe and can be used in practicums at an Antenatal Clinic in specific areas of affiliated hospitals.

To fulfill the objectives of this study indicators and tools were used to evaluate nursing students. These included: student's test score data on the standardised test for this subject; individual graded evaluation through the use of a procedure checklist; ability to answer questions related to health assessment of pregnant women; and students' graded evaluation through the use of a recorded video showing pairs taking turns as the role of a nurse and a pregnant woman.

## Results

The results of this study indicated an increase in the students' scores on the standardised test. The results of the Student's Satisfaction Survey determined the level of student satisfaction in the learning process for the health assessment/abdominal assessment procedures. Students talked about feelings of contentment, fulfillment, and their comprehension of theories and concepts of abdominal assessment.

Clinical instructors as well as clinical skills demonstrations were useful. The teaching strategies, medical scenarios, and simulations boosted the confidence of students in performing the abdominal assessment.

In relation to the skill of inspection it was found that students could: assess the general appearance of the abdomen for apparent size and shape of the uterus for any abnormalities; locate the anatomical landmarks in performing abdominal assessment; and measure the height of the fundus and compare it with the corresponding age of gestation.

Students were also able to: identify the quadrants of the abdomen and locate the foetal heart sound according to the position of the foetus in the abdomen; assess the lie and presentation of the foetus; determine the engagement and foetal movements; and for auscultation they could differentiate the sound in the abdomen.

Overall, students demonstrated good therapeutic communication skills between the pregnant woman and the nurse and evaluated the maternal and foetal well-being holistically.

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# **Participatory Management Model for Exercise Activities Among the Elderly at a Community Level**

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## **Abstract**

As people age the importance of physical exercise becomes greater because exercise can prolong life and facilitate greater enjoyment through better fitness. However, it is important that physical exercise to improve health should be undertaken regularly. The Bureau of Health Promotion recommended that physical activities should be undertaken five days each week. (Bureau of Health Promotion, Department of Health, Ministry of Public Health, 2562).

In many Thai communities there is usually only one exercise leader and when that person is out of the community on other duties physical exercise activities among the elderly are neglected.

Sixteen second year nursing students enrolled in Community Nursing Practicum 1 were assigned to be involved in health promotion activities in a community for eight weeks in January to February 2019. The aim of the programme was to work with the elderly in the community to provide them with the knowledge, skills, and confidence to undertake physical exercise when the community exercise leader was absent. A participatory management model was considered appropriate to achieve this aim.

Focus group discussions and in-depth interviews were conducted to determine why the elderly did not exercise when the leader was absent. Data were analysed and a participatory management model for regular exercise activities was developed to facilitate continuity and sustainability.

The results showed that after the elderly in the community used the participatory management model for exercise activities the participants accepted each other more. Once participants had been trained as exercise leaders, they could design activities plans and manage group exercise activities.

## **Background**

As populations continue to experience extended life expectancy, a central concern is whether the added time comprises years of healthy life and high health-related quality of life into old age. To facilitate a high quality of life regular physical exercise has been recommended (Bureau of Health Promotion, Department of Health, Ministry of Public Health, 2562).

Physical activity is defined as any bodily movement produced by skeletal muscles that results in energy expenditure. Exercise is a subcategory of physical activity that is planned, structured, and repetitive. Exercise has as a final or intermediate objective the improving or maintaining of physical fitness. Physical function reflects motor function, control, physical fitness, and habitual physical activity (Garber, Blissmer, Deschenes, et al. 2011).

Physical activity is a protective factor for noncommunicable diseases such as cardiovascular disease, stroke, diabetes, and some types of cancer (WHO, 2018). Physical activity is associated with improved mental health (Schuch, 2016), a delay in the onset of dementia (Livingston, 2017), and improved quality of life and wellbeing (Camboim, 2017). The health benefits of physical activity are well documented, with higher levels and greater frequency of physical activity being associated with reduced risk and improved health in a number of key areas (Musich, 2017).

Improvements in mental health, and emotional, psychological, and social well-being and cognitive function, are also associated with regular physical activity. Despite these health benefits, physical activity levels amongst older adults remain below the recommended 150 minutes per week (Boulton, 2018). Inactivity is associated with alterations in body composition resulting in an increase in percentage

of body fat and a concomitant decline in lean body mass. Thus, significant loss in maximal force production takes place with inactivity. Skeletal muscle atrophy is often considered a hallmark of aging and physical inactivity.

Consequently, low physical performance and dependence when performing activities in daily living is more common among older people (Boulton, 2015). However, strength training has been shown to increase lean body mass, improve physical performance, and to a lesser extent have a positive effect on self-reported activities of daily living (Lopez, 2018). Physical activity can contribute to maintaining a better quality of life, health, and physical function, and reduce falls among older people in general (Tricco, 2017). The increased attention to the relationship between exercise and quality of life in older adults over the last decade is reflected in a recent review. The review showed that moderate physical activity combining multitasking exercises had a positive effect on performing activities in daily living which included physical, mental, and social demands (Roberts, 2017).

Exercise training in older people has been associated with health benefits such as decreased cardiovascular mortality. Furthermore, endurance exercise training in older people decreases resting and submaximal exercise heart rate, decreases systolic and diastolic blood pressure, and increases stroke volume. This is especially notable during peak effort in which stroke volume, cardiac output, contractility, and oxygen uptake are increased, while total peripheral resistance and systolic and diastolic blood pressure are decreased.

Exercise may also have benefits for the brain centres that support executive control and hence facilitate strong executive functioning. Poor executive control has been associated with lower self-reported physical activity rates over a 2-year period (Dupuy, 2015). This observation may also apply to balance exercises (Sherrington, 2017).

Many elderly individuals are incapable of sustaining activities for long on their own. Successful maintenance of physical activity typically requires substantial support and supervision. Even then, a high percentage of people drop out due to difficulties negotiating everyday costs of participating in physical activity. In addition, reduced bodily functions can make it difficult for elderly persons to maintain exercise under different environmental circumstances.

Physical activity plays an important role in the management of disease prevention at all levels of intervention. It counteracts sarcopenia and falls, and improves physical performance and activities associated with daily living.

As people age the importance of physical exercise becomes greater because exercise can prolong life and facilitate greater enjoyment through better fitness. However, it is important that physical exercise to improve health should be undertaken regularly (Bureau of Health Promotion, Department of Health, Ministry of Public Health, 2562). It is recommended that physical activities should be undertaken five days a week.

### **Aim**

To provide elderly people with the knowledge, skills, and confidence to undertake physical exercise when the community exercise leader was absent.

### **Methodology**

This qualitative classroom research was undertaken in Community Nursing Practicum 1. The tools used were interview guidelines for focus group discussions and in-depth interviews. Data were collected over an eight-week period in January and February, 2019.

In Muangtarod Community, Muang District, Nakhonpathom province, elderly people have aerobic exercise or other physical activity five days a week in the evening. Sixteen second year nursing students from Nakhonpathom Rajabhat University enrolled in Community Nursing Practice 1 were assigned to participate in health promotion activities in the community with an exercise group of the elderly.

Focus group discussions and in-depth interviews were conducted to determine why the elderly did not exercise when the leader was absent. Content analysis was used to analyse the data.

The students found that there was only one exercise leader for physical activity. Whenever the leader was not in the community because of other duties physical exercise activities among the elderly were neglected. Students discussed this with the elderly group and decided that a participatory management model to encourage exercise regularly and continuously would contribute to making the group healthier.

A programme to teach the elderly appropriate physical exercises was developed. In addition, members of the elderly exercise group were provided with opportunities to develop skills as the exercise leader.

## Results

The results of focus group discussions and in-depth interviews showed that when the participatory management model was used for exercise activities with the elderly, they took greater responsibility for their daily exercise when the appointed exercise leader was absent.

Exercise members said:

*This is the good chance that we can talk and share our opinion to each other.*

*Focus group discussion makes us dare to express information that we want to say, make us intimate and become more harmonious.*

*This is the good chance to open mind that makes us feel at ease.*

*We want to tell the exercise leader that we are happy to help her and reduce her burden when she is busy.*

The exercise leader must visit her husband at the elderly health care center every weekend. The elderly in the group said to the leader:

*When you are on a mission or busy, unable to become a leader of physical activity on some days let us help you. Don't be considerate, we will organise a table responsible for exercise leadership. And we will be dare and more confidence to show more leadership in exercise.*

The elderly who participated in exercise activities accepted each other more. Once everyone had been trained to be an exercise leader, they could design activities plans, and manage group exercise activities.

The participatory management model for regular exercise activities which was developed to facilitate continuity and sustainability is now considered a prototype for the health of the community.

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# **The Effect of the Gradual Release of Responsibility (GRoR) Model on Primary Students' Reading Competency**

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## **Abstract**

In 2018 the Ministry of Education and Training in Vietnam (MOET) introduced the new General Education Curriculum for primary schools which focuses upon the development of students' capacities. The new Vietnamese language curriculum emphasises the development of students' language capacities including reading, writing, speaking, and listening.

This study focused on students reading comprehension skills and reading aloud. It investigated the way in which the Gradual Release of Responsibility (GRoR) model (Pearson & Gallagher, 1983) can be used to develop the reading comprehension of primary students. The study was conducted in two classrooms, one in an urban setting and the other in a rural setting.

As a result of using the GRoR model students' reading comprehension improved to a high degree. Students' skills involving identifying the main idea, understanding the text structure, making inferences and developing summarising skills all improved. Students were able to read more independently. They were able to read aloud more fluently. Their level of cooperation improved as a result of working in collaborative groups and their problem solving skills improved.

## **Introduction**

The new General Education Program for schools in Vietnam was announced in December 2018 by the Ministry of Education and Training (MOET) to take effect in 2020 looks towards developing qualities and competencies for students. Accordingly, it is necessary to teach students how to learn and self-study and the teacher's task is to guide, supervise and support students. In primary schools the process of teaching reading is basically divided into three main activities: reading aloud, reading comprehension, and expressive reading practice.

In this study, we present the application of the Gradual Release of Responsibility model to develop the reading comprehension ability in 5th grade at two primary schools in Can Tho City, Vietnam. The objective of this study was to develop the ability to read and understand texts, including skills to identify main ideas, skills to identify text structures, skills to reason and skills to summarise. The study was conducted from September 2017 to January 2018.

## **Review of literature**

### ***Gradual Release of Responsibility model***

The term scaffolding was first mentioned in the field of education by Wood, Bruner and Ross (1976) who described it as "the process of helping a child or a beginner to learn how to solve problems, perform tasks, or accomplish goals beyond the original expectations" (p.571).

Since its first appearance, the term scaffolding has continued to attract many researchers and been described in many ways, such as Rogoff (1990) who argued that scaffolding is a situation which allows students to expand their existing skills and knowledge to a higher level of competence (p. 571), or "what teachers say and do to help children accomplish complex tasks that they cannot be completed without the support of teachers" (Pearson and Fielding, 1991, p.571), or "a process where teachers

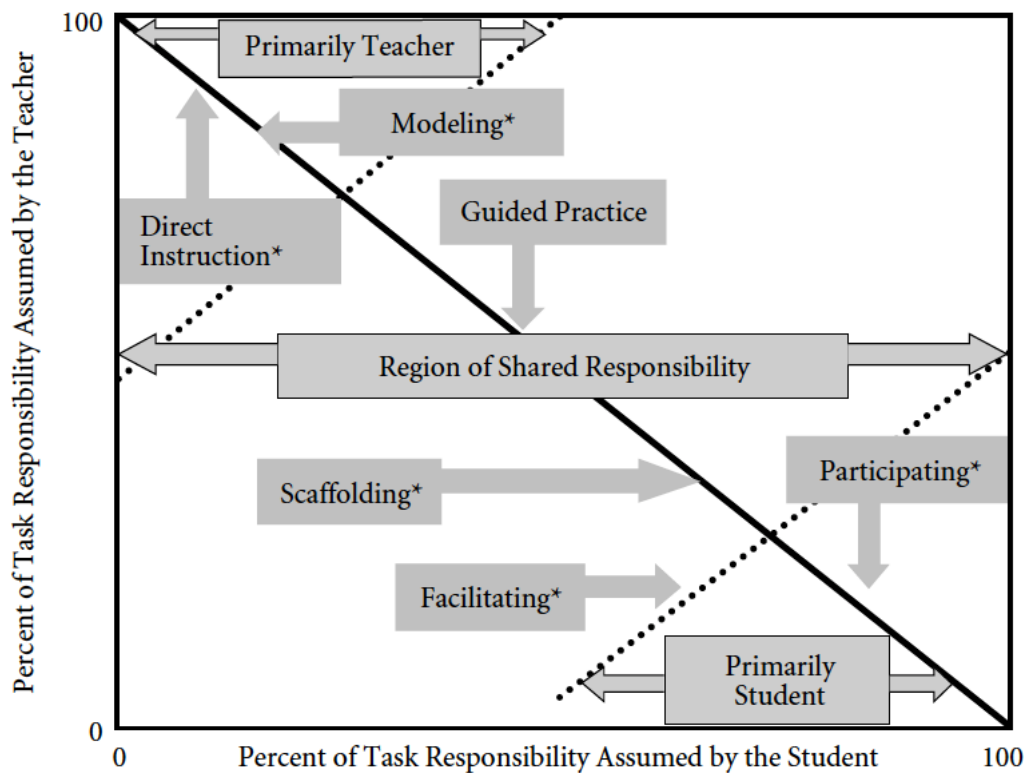
control students' learning carefully and gradually to provide support, and basic necessary assistance” (Wharton McDonald et al., 1998, p. 572). The Gradual Release of Responsibility model, based on the theory developed by Pearson and Gallagher (1983) and Pearson and Fielding (1991), is a structured process of scaffolding.

Researchers utilising the Gradual Release of Responsibility model think that cognitive change should be transferred slowly and purposefully, from teacher modeling to participating with students to support students to practise independently and apply what they have learned in a new situation (Pearson & Gallagher, 1983).

In this model, teachers start by introducing reading and modeling strategies while students listen and observe, then teachers guide and support students' implementation. The next step is for students to take on the role of carrying out learning activities with the support of teachers until they can practise independently.

Pearson and Gallagher (1983) described the teaching stages according to the GRoR model using the diagram below.

**Figure 1. The Gradual Release of Responsibility model**  
(Pearson and Gallagher, 1983; asterisk (\*) case added and improved by Au & Raphael, 1998).



In this model, there are three important points: the teacher guides implementation; the teacher transfers role to the students and shares responsibility with the students; and students practice independently.

In the period of instructing (1), the teacher's role is the introduction of reading strategies, the importance of tactics and to guide students in the implementation. Teachers model reading techniques by reading and speaking their thoughts aloud.

In phase (2), teachers step by step guide, support and create favorable conditions for students throughout the reading process, meaning teachers step-by-step share and join with the students the transfer of reading skills.

In phase (3), students can practise reading independently using the reading techniques they learned through teacher instruction.

### ***Reciprocal teaching***

Reciprocal teaching (Palinscar, 1982 and Palinscar and Brown,1984) is a teaching method using structured conversation to teach students reading skills. These skills include prediction, questioning, clarification, and summary. At the center of this method are conversations between teachers and students/student groups designed by teachers and include reading and discussing the text.

#### *Predicting*

Predicting helps students identify the context and purpose of reading, as well as enhancing comprehension throughout the reading process. It allows students to interact more with the text and makes students more interested in learning to read, thereby contributing to improving students' reading comprehension ability (Fielding and Pearson, 1994).

Students often make predictions while reading. These predictions are usually based on available background knowledge provided through book covers, titles, illustrations, headings, text structure previews, annotations, maps, diagrams, tables, and the like.

To guide students' predicting teachers firstly model how to predict, for example by observing pictures, titles etc. The teacher demonstrates saying aloud their thoughts (think-aloud) on how to observe pictures, and connect pre-existing knowledge with information displayed through illustrations, titles, etc. Teachers then guide students in practicing until they can work independently.

#### *Questioning*

Armbruster, Lehr and Osborn (2001), and Keene and Zimmermann (2007) argued that when students are encouraged and taught to ask questions while reading, their ability to read becomes more profound. Based on the expressions of good readers, Cooper (1993), and Palinscar and Brown (1984) suggested that good readers often ask questions throughout the reading process. However, creating a question is a difficult and sophisticated activity because it relates to the students' background knowledge, reading purpose, and ability to identify important details in the text. Good teachers will model how to ask questions. Good teachers will also show how to support students who are learning how to ask questions. Teachers allow students to read and ask questions in groups based on the important points in the text.

Questioning is an important technique of good readers. Students learn to ask questions about key ideas, important details, and inferences, to improve their ability to read and understand texts.

#### *Clarifying*

Clarifying or monitoring comprehension includes activities such as finding and interpreting difficult words, controlling comprehension, and adjusting to exploring the meaning of text while reading. This is a complex technique that consists of two basic steps: (1) identifying or admitting that you have difficulty in understanding a word or idea, and (2) showing how to correct yourself in understanding and clarifying the meaning of words or ideas in a text. Most students easily identify words that are difficult or elusive to understand but need the support of teachers to decode the text.

To clarify a word, teachers help students gain control by instructing students to read the word in the sentence/paragraph containing it, find another word with a similar meaning, and look for signs of the meaning of the word in the sentence. Moreover, to help students clarify an idea or detail in the text teachers can repeatedly read the unknown part and look for structural forms related to content. This process helps make connections which can be shared with friends.

Teaching students to clarify techniques contributes to reading comprehension and independent reading ability by helping to identify and focus on main ideas and the practice of deduction skills.

## *Summarising*

Summarising is a complex process that requires a combination of diverse skills and strategies including recalling important facts or details, perspectives, and the author's use of synonyms or word choices. Ability to summarise is one of the basic skills used to improve students' reading. (Duke and Pearson, 2002).

When summarising a story, students can rely on the lay-out of the context, characters, problems, events, and solutions. In a reciprocal teaching strategy to help guide students to summarise text, teachers can model by summarising verbally, or through diagrams, charts etc., instead of always asking the students to write a summary. Furthermore, teachers can also ask students to write 5 main points from the text and describe the main points with actions or gestures.

The GRoR model has been applied to teaching reading in many countries around the world. The four reading techniques associated with reciprocal teaching received more attention than other reading strategies. However, this issue has not been focused on in teaching reading research in Vietnam.

## **Methodology**

This study was conducted using both qualitative and quantitative methods. Qualitative methods were used to analyse the students' reading ability during the experimental process. The quantitative methods were used to analyse the results of applying the GRoR model to develop reading capacity for primary school students with comprehension skills before and after the experiment.

The experiment was organised at two primary schools, one in the center and one on the outskirts of Can Tho City, Vietnam. The number of students in each experimental class was 34 students, the experimental class in the center school is denoted TN1, and the experimental class in the suburban is denoted TN2. Each student in the experimental class is coded according to class notation and class list order, such as TN1-01, TN1-02, TN2-01, TN2-02 etc. Students who were absent and did not take the test before or after the experiment, or who moved to another class during the period of experimental teaching were not evaluated. The classes contained students with varying reading capability.

The content of experimental teaching includes 23 reading exercises in the current textbook from week 3 to week 17, with a total of 46 lessons (23 lessons/class) from September 2017 to January 2018. Data collected include lesson plans (23 lesson plans), pre-test and post-test results (34), reading notebooks, exercise sheets, films, and pictures.

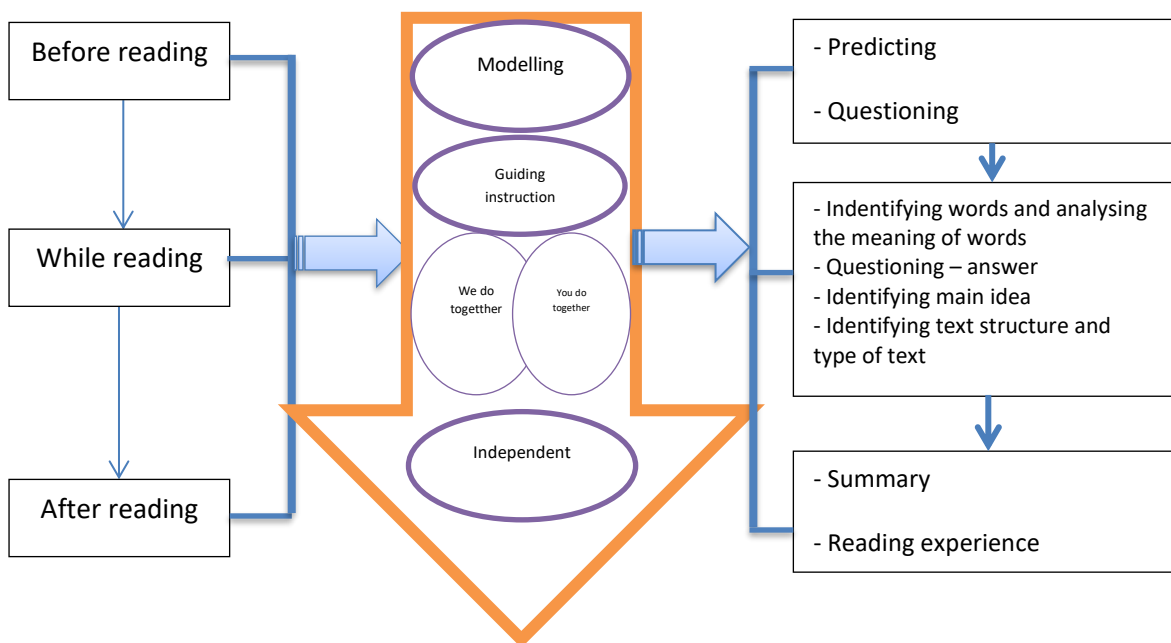
Based on the test results of the students' reading skills, students were divided into three groups to monitor and evaluate the impact of the GRoR model during the experimental teaching process. Due to word restrictions on this article we only analyse some typical cases.

The experimental process was divided into 3 phases: Phase 1 emphasises the role of modeling and instructing by teachers. In phase 2, students perform learning activities under the guidance and support of teachers, and in phase 3 students perform independently.

### ***The process of teaching reading comprehension according to the GRoR model***

From studying the GRoR model and reciprocal teaching strategies, we established the process of teaching reading to primary students in the context of Vietnam. This process includes activities shown through the following diagram:

**Figure 2. Teaching reading process of the GRoR model**



The above diagram depicts the teaching process shown in three main activities, pre-reading, while-reading, and post-reading, with specific teaching activities as follows.

*Pre-reading activities*

In the period of pre-reading, teachers allow students to observe pictures and read titles in order to make predictions and ask questions. Teaching activities include:

- Teachers model the way to predict and ask questions.
- Teachers hand out learning cards to the student group, instructing them on how to use the cards to predict, and ask questions.
- Groups share predictions and questions before reading.
- Teachers orient the problems and prepare the mood for students to start reading.

Example, to teach a reading text called Bai ca ve trai dat (Vietnamese grade 5, episode 1), teachers can model by saying aloud as follows:

*Looking at the title, the teacher recognises that this poem praises our beautiful earth, then observing the drawings in the textbooks the teacher guesses the reading may talk about the dream of peace across the five continents, when looking at the drawings the teacher sees the image of a dove symbolizing peace, and many children with different skin colors are lifting a globe.*

After practicing the model for students to observe, teachers let students practise with them by using the designed study cards with suggestions and instructions.

The purpose of the activities organised at this stage is to help students: with background knowledge; identify genres; connect information; make inferences; pose questions; and orient reading content.

### *While-reading activities*

Teaching techniques for reading include clarification, questioning, and identifying the main content of the lesson. Teaching activities include:

- Identifying categories, split paragraphs, and orienting problems that need student attention.
- Students read in groups, find difficult words/sentences, and explain difficult words/sentences.
- The student group asks questions about key details or issues that are unclear in the paragraph.
- The student group determines the main content of the paragraph and determines the main content of the lesson.
- Teachers organise students to share ideas in the whole class. Reference is made to the original predictions and problems posed in pre-reading to correct and discover new problems.

The purpose of the activities at this stage are to forge deductive skills, explain words in context, identify main ideas and main content, ask questions, identify genres, and identify layout of the reading.

### *Post-reading activities*

After letting students share and compare issues in reading, teachers can organise some activities for students to do after reading (instead of consolidation as in the current teaching process):

- Summarise the reading: identify genre characteristics; use a mind map; use three words to describe the main events; and fill in the diagram and summary table.
- Reading to experience: activities teachers can organise for students include role playing to express thoughts; identifying the best or most impressive point of the reading; and practicing writing/creating stories/verses according to the reading layout.

## **Results**

### ***Inference skills***

Students develop inference skills through the processes of prediction, clarification of the context, and asking questions about major issues. In the beginning it is difficult for students to ask questions or to know what to rely on to make predictions, so teacher modeling is very important.

To start guiding students to predict or ask questions, teachers set up conversations with the whole class. The conversations enable the teacher to model the way to link what is already known by using words and images. This process shows students how to make predictions, ask questions while reading, and find information in the text. Students ask questions and encourage each other to comment. This activity is repeated many times with the support of the teacher who uses the process of reading to help students devise reading techniques.

By tracking students' progress when they were making inferences through questioning and referring activities, we saw students in both experimental classes have positive changes. This was evident in the following observations:

- Students often asked questions in pre-reading, while-reading, and post-reading. They always found a way to explain the problem that they or a friend in the group posed or was suggested by the teacher.

- Students used understanding based on recognising pictures, words, details, images, and knowledge to create information, ponder, and make inferences.

*Example 1:* When making a prediction before reading the text called *Nguoi gac rung ti hon* (Writer: Nguyen Thi Cam Chau) Minutes recorded on November 22, 2017, TN1), students used the details shown in the illustrations to argue the following:

- *A picture of a young boy, a police officer, and a wooden cart. It might be that this boy helps the police officers to do something (TN1-15).*
- *The people in the car stole the wood so they were arrested by the police (TN1-22).*
- *I know they stole the wood because the car was carrying lots of wood. It was because they destroyed the forest without asking permission. This is an action worthy of being arrested for, and this boy was involved in catching the wood thieves with the police officers (TN1-26).*

**Students often shared their conclusions and understandings with one another for their mutual benefit.**

Inference skills of students who were slower readers in both experimental classes increased significantly. Initially, they did not know how to reason (answer the questions why ...) and were afraid to answer the inference questions. Now they can confidently answer though sometimes such inferences are inaccurate, vague, and unclear.

In addition, when debating a certain issue, the students know how to give opinions, reason, and persuade others.

*Example 2:* When studying the lesson *Cai gi quy nhat* (Writer: Trinh Manh), the teachers let students argue together about the issue "What is the most valuable thing to them", many students in slow, good, average groups said that:

- *The most valuable thing is parents because they are always worried about us.*
- *Friendship is the most valuable because having friends make us happier and help us in life.*
- *Family affection is the most valuable because affection cannot be bought by money.*
- *The most valuable are genuine workers because genuine labor is honest and those who steal things are not good.*

(Minutes recorded on October 23 and October 31, 2018).

The improvement of students' inference skills is also seen in post-reading activities. These activities are very diverse, especially when students use characters to present their thoughts.

*Example 3:* When becoming the character of *Ê-mi-li* (E-me-li con, writer: To Huu) to talk about the feelings of a respectable father, some students wrote:

- *Dear Father, even though I am very sad because you have gone, I am very proud that you died for the justice (TN1-02; Minutes recorded on September 27, 2017).*
- Or when studying work *Nhung con seu bang giay* (Follow World of History Stories) the students folded a paper crane and wrote a note to *Xa-xa-cô* to send to their friends. Some wrote: *Dear Xa-xa-cô, I know that you cannot avoid death but rest in peace because we always remember you (TN1-09).*
- *I hope you leave serenely and smile because we all miss you (TN1-21).*



- *I hope this is the 1000th crane that will bring you the miracle that will cure the disease* (TN2-24; Minutes recorded on September 18, 2017 and September 19, 2017).

### **Skills to identify main ideas**

The ability to identify the main idea of a written text increased significantly for students in both experimental groups after the experimental teaching process was administered. Students: asked many questions around the details and main events in the text; detected details of images or sayings of characters; identified words that indicated the main content of the text; and asked questions about such details, events, and images.

#### *Example 4:*

- *Why did Di Nam not bring the papers to the jailer when he went to the room, but stood in the room and read it aloud?* (Text called: Long dan, Writer: Nguyen Van Xe; Minutes recorded September 13, 2018, class TN1).
- *Why does the author liken the earth to a blue ball, and not a yellow or red ball (a blue ball flies in the middle of a blue sky)?* (Work: Bai ca ve trai dat, Writer: Dinh Hai; TN1-03; Minutes recorded September 20, 2018; TN2-32, September 25, 2018)

#### Comment:

- Students identify key words and sentences containing the main content.
- Students can record key details on the summary document.
- Students know how to rely on genre characteristics to determine the main idea and main content of the lesson.

Activities associated with asking questions during the pre-reading and while-reading processes helped students discover content and details of the reading, thereby forging reading comprehension skills such as deduction, analysis, synthesis, and critical thinking.

### **Skills to identify text structure**

In the first stage students in both experimental classes were surprised with the requirement to determine the type and characteristics of the genre. For familiar genres learned in the subject Writing such as describing and story telling the students had practice, but now when asked about the genre's characteristics the students were confused. Recognising this, when teaching experimentally, the characteristics of genres were described by the teacher. This often led to students identifying the genre during the reading process for themselves.

The results show that after the experiment process, students' skills in both experimental classes increased, as indicated by the following signs:

- Students made predictions based on genre characteristics. After reading the title of a work the teacher made predictions based on genre characteristics. The teacher also made guesses about the work based on reaction to the title of the work.
- Students ask questions about the work's details, images, and art. They also name details and events in the work. Students who start from the starting point regardless of their reading capability are often not practical and cannot do everything until they practise.

*Example 5:* In the study text called *Cu Ún di benh vien* (Writer: Nguyen Lang), the students often pay attention to details and facts to explain or ask questions. Examples would be knowing details of book thieves coming to school, requesting religious teachers to show awareness of the people (TN1-30); Details of the teacher Ún quit his job of shaman shows what his perception is and why he quits? (TN1-02, TN1-32, TN2-03) (Minutes recorded on 11/12/2018 and 12/12/2018).

Comment:

- When using descriptive text or poetry, the students know how to pause at pictures, and verses, and how to use artistic measures to ask questions.
- Students divide the reading layout by structural characteristics. For stories, students know to pay attention to the context, characters, events/issues, happenings, and divide the paragraph or the text.
- Students summarise a reading by making a diagram based on category characteristics. This enables students to identify the category and layout of the reading. On these diagrams, for example with stories, they often divide branches on their diagrams to show characters, contexts, events, interpretations, results, and lessons learned.
- Students who read slowly in both experimental classes showed that they understood how to approach reading texts from a genre perspective at the end of the experiment; they used the techniques of prediction, questioning, and especially summarising the document. This can be clearly seen through the two cases of slowest reading students in the slow reading group in both classes (TN1-31 and TN2-09).

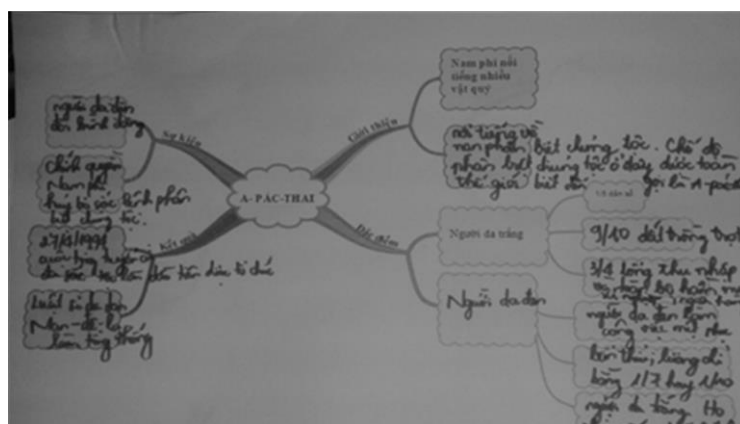
In early reading stages students do not know what genre is used. When the teacher reads and stops at details, events, or pictures, and asks students questions, they can't answer. Later in the course, skills to recognise genre and text structure have changed significantly as shown in the below summary diagram which demonstrates characteristics of this category.

### Summarising skills

In phase 1, the teacher models for the students the process of summarising the text by identifying the category, dividing the layout, identifying the main ideas, and using words or phrases to describe the main content. Then the teacher makes an outline of the mind map diagram. Most students however copy a whole sentence from the text and do not know how to separate the ideas on the diagram, so often lack or repeat ideas. The presentation therefore becomes verbose and confusing.

*Example 6:* In the text *Su sup do cu ache do A-pac-thai* (Following The World of history stories), in the assignment of TN1-15, the students divide the diagram into four general ideas: introduction, characteristics, events and results, and expressing main ideas. They then copy the sentences as they appear in the text of the textbook.

Figure 3: Summary text of Student TN1-15

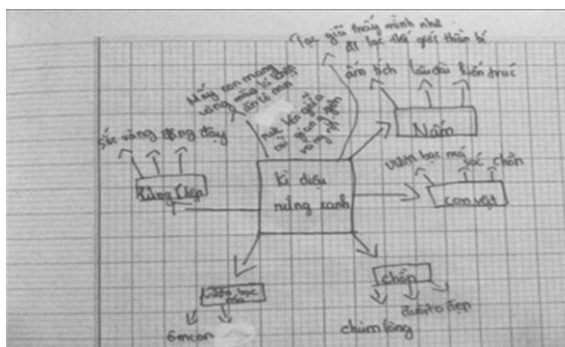


In phase 2, teachers focus on guiding students to identify the genre and the ideas on which it is based. The students then illustrate the ideas in the mind map diagram. The results showed that students who were faster in identifying categories and keywords had difficulty expressing a mind map diagram

because they did not know what the diagram should show. Therefore, when showing categories and keywords in the form of an ideas list, the students don't know how to group ideas together. However, with the guidance and support of teachers they have made progress in summarising the reading by using diagrams.

*Example 7:* Students TN1-11 and TN2-18 have learned how to draw a mind map diagram. The branches in the diagram are clearly decentralised with full content. Previously they often copied verbatim or drawn diagrams.

**Figure 4: Mind map diagram of text *Ki dieu rung xanh* by student TN2-18**



In phase 3, teachers let students practise by themselves and there is no mind map diagram as before. The results show that the students know how to express ideas from the textbook according to genre characteristics using the mind map diagram. For example, when students summarise the story, they have divided it into branches representing characters, contexts, events, happenings, and results. Similarly, for descriptive texts students note objects, characteristics, and the author's feelings. The generalisation of the diagram is high, quite clear, and easy to read.

The skills of summarising the text in both experimental classes of students increased significantly after the experiment process. This is reflected in the following expressions:

- The brief is concise, clear, and informative.
- Summary diagrams clearly show ideas and decentralising ideas.
- Students use their own language to express ideas and do not copy whole sentences from the reading text.
- Students are confident, fluent, and creative in expression when presenting in class.

The students in the group who are good at reading and who understand the idea of summary skills are quick, but the students in the slow group are weaker. At the beginning stage, when teachers ask students to summarise most of them cannot do it and they just listen. At the next stage, when teachers support the summary practice by recalling the characteristics of the genre and designing a mind map diagram that requires students to find information, they begin to select the details shown above. However, the students are very limited and are inclined to copy the whole sentence from the text. With the help of teachers, students edit and practise many times and can draw their own summary diagram by the end.

However, the summary skills of the group of students who read slowly are still unstable. In difficult, complex, or poetic readings, these students have difficulties and this group of students always need the support of teachers in the form of a short summary diagram.

Through the process of experimental teaching outlined above, we found that students' reading skills improved markedly. Students had the ability to observe and practise reading skills such as speculation, deduction, summary, interpretation of words in context, and analysing text layout.

### Discussion

After 13 weeks of organising reading lessons based on the GRoR model, we found that:

- Students' ability to work with independent texts was formed and gradually became a habit. For example, students always used underlining with pencils to mark words and details that were unclear, or they wanted to ask questions about.
- Reading comprehension skills of students are much higher than before the experimental period especially text summary skills. Before the experiment, the ability of students in both experimental classes to make summaries was very poor, and students could not understand the difference in meaning in the summary and the text. After the experimental process, the number of summaries of the experimental class was sufficient, concise, and the students' creativity had increased significantly.
- Measures forging reading comprehension skills such as prediction, clarification, questioning and summary of reciprocal teaching have a positive impact on students' comprehension ability. In both experimental classes, when tracking students in the average reading group, we found a marked improvement. In the first lesson, students did not actively participate in the process of working in groups nor practise the reading tasks required by teachers. Through conversations, teachers suggested and lead students acting as models. Then the students practiced. This process impacted on their reading, so the students become more active, asked many questions, and could predict and summarised more.
- Experimental results also showed that the reading comprehension skills of the average and pretty good student groups in both experimental classes had a bigger change than the group of good students. In the results of the pre-test, the reading skills of the two reading groups are average and quite low, then by the end of the experiment, the reading skills of these two groups of students have a big change, especially in the skill of summarising. In the group of average and pretty good students, they do not confuse the summary with the main idea. This shows that organising to teach reading comprehension under the GRoR model not only helps good students to promote their reading ability but also effectively affects the reading ability of students who read slowly.
- The independent reading ability of students increased significantly through group work. From the initial stage, students participated in reading with teachers, discussed, exchanged ideas, and practised according to teachers' suggestions until they worked with little support from teachers. At this time, the students in the group who read well played an active role in supporting their peers, sharing with their friends, giving their friends their turns to talk and encouraging their friends to speak up. The students also feel more confident to present in class.

On the teachers' side, we found that the professional competence of the two teachers teaching in the experiments had a positive change:

- Professional competence: the reading comprehension ability of teachers' participating in experimental teaching increased. This was seen in teachers focusing and mastering genre characteristics and using these to guide students to read. Teachers' summarising techniques also improved significantly through the process of instructing and adjusting students' summaries. This was because during experimental teaching, teachers have to read and study lessons more closely to get information.
- Teachers' ability to handle challenging situations increased significantly. For example, students asked many questions and raised new words that were not in the lesson plan, or

the students' inferences extended beyond the scope of reading the text, and the teachers always had an appropriate response.

However, in the process of teaching experiments we also encountered some difficulties as follows:

- Teachers' problem-solving skills were still limited so sometimes they cannot handle difficult situations that arise in lessons. As teachers can not control the length of time students take to do their work the lesson is often long and sometimes not completed.
- Teacher's reading comprehension ability is limited. Teachers' skills when asked questions based on genre characteristics, are weak. Teachers were still confused when teaching students to ask questions, and sometimes they cannot control the questions raised by students.
- The structure of lessons in current Vietnamese textbooks are compiled according to the requirements of the unit of study. Skills are taught separately in each individual lesson (reading, writing, speaking). Therefore, integrating the teaching of reading, writing, speaking, and listening, according to the GRoR model, is difficult for teachers as they face many issues.

### Conclusion

It can be said that any teaching models and teaching methods when researched and applied in practice cannot avoid shortcomings and limitations. Many difficulties are faced due to both objective and subjective factors, and this is so for the GRoR model. The effectiveness of this model has been proven in teaching reading to develop reading skills in students in all grades from primary to high school in many countries around the world. However, when applying the model to developing the reading skills for primary students in the context of Vietnam, the teachers and students face difficulties and challenges. However, with the orientation of teaching in the direction of capacity development, the requirement to develop reading ability for students in general, and for primary students in particular, should be concretised through forging reading comprehension skills.

In addition, the process of the GRoR model concretised into the process of teaching reading to primary students in the context of Vietnam has achieved initial positive results. Experimental teaching results have shown that this process is suitable for both students in the center and the suburbs of the city. Research also identified some limitations, including cases of weak reading, students with language difficulties, and students in the integration process. This opens a new research direction for us in the next research to apply this model to teach reading to these types of students.

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# Improving English Listening Skills for Vietnamese Students in Primary Schools

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## Abstract

As teaching English in Vietnamese primary schools becomes more important, many experts have conducted research to find how to teach English to young learners effectively. However, not many primary school students can speak English well. This is partly due to the testing system which only measures grammar and vocabulary knowledge, not language competence. In addition, English listening and speaking skills are not an important requirement in all national examinations.

This research investigates the realities of teaching and learning English and examines the effectiveness of some experimental methods for improving English listening skills for Grade 5 students. These methods included: 1) using various and flexible techniques in the three stages of each listening period; 2) training students' concentration; 3) improving word emphasis and sentence intonation; 4) improving the use of difficult words and standard pronunciation; 5) using language games in listening periods; 6) encouraging students to speak English after listening; 7) using teaching visual aids; and 8) using e-learning lesson plans in some listening periods.

Thirty-three students in Class 5/4 at Bùi Thị Xuân Primary School participated in this study which was conducted from September 2016 to May 2017. The data used in the study are the results of the pre-test (9/2016) and the post-test (5/2017). The two tests share three identical topics: My family, My school, The world around us; and three kinds of questions: Listen and complete, Listen and tick True or False, and Listen and number. Also, an observation form was used to explore students' attitude changes.

In the post-test, the number of Very Good students increased from 3 to 20, the number of Good students increased by one, the number of Average students was reduced, and the number of Weak students was zero.

## Introduction

As teaching English in Vietnamese primary schools becomes more important, many experts have conducted research to find how to teach English to young learners effectively. However, not many primary school students can speak English well. This is partly due to the testing system which only measures grammar and vocabulary knowledge (not language competence), and the use of the textbook-based curriculum. However, textbooks are not authentic and do not reflect Vietnamese culture, e.g. What do you have for lunch? – I have a sandwich and hamburger (*Let's Learn*). In Vietnam, a sandwich or hamburger for lunch is not common. In addition, English listening and speaking skills are not an important requirement in all national examinations. As a result, both teachers and students lack motivation. Teachers do not have enough motivation because they are asked to apply what they have been trained to do in their classrooms, and to follow a framework of traditional teaching methods such as, warm-up, pre-teaching, while-teaching, and post-teaching, as in the textbook-based syllabus. Students do not use the language they have learned in class in their daily life because they lack an English-speaking environment in their community and are not helped individually.

Thanks to a period of globalisation and the National Foreign Languages Project, policy documents like the 6-level Foreign Language Proficiency Framework for Vietnam (2014) now include the four skills of reading, writing, listening, and speaking. Therefore, English textbooks and the syllabus should integrate these skills. Listening skills are crucial to the development of speaking skills. Speaking skills include

pronunciation and fluency in English. However, in practice, successfully learning listening skills requires time and practice because of the differences between English and Vietnamese pronunciation and phonetics. Motivation is also required. Students in general and primary students in particular have difficulties in understanding and presenting short talks and/or conversations.

Primary students do not like learning English listening skills. Teachers should help students improve their listening skills by encouraging the use of English skills learned in life, by overcoming their shyness and diffidence, and by developing a love of English.

### **Aim of this research**

This research aims to investigate the realities of teaching and learning English by examining the effectiveness of some experimental methods for improving English listening skills of Grade 5 students.

### **Context of teaching and learning English in Bui Thi Xuan Primary School**

The school provides a good setting for the learning of English listening skills. It meets national requirements and has enough equipment for teaching and learning English, such as a computer room, a cassette, many projectors, speakers, headphones, and English CDs. The school leaders support English teaching and learning. The textbooks contain friendly and integrated skills written for the Vietnamese context. The teachers are enthusiastic, hardworking, and friendly, and the students are young and obedient.

However, there are challenges. The students lack motivation and dislike English learning in general. The students have a wide range of capabilities. Many students however are too lazy to learn English words and cannot communicate in English because they are very shy, not confident, and are disinterested in English. In addition, the teachers need to do much paperwork and attend extra-curricular activities apart from teaching and weekly evaluations. They are also asked to teach every part of the textbook, rather than what their students lack and need.

### **Teaching English listening skills: Some literature**

#### ***Listening procedure***

To support students to learn listening and gain confidence, Redpath (2012) set a basic framework which provides a step-by-step procedure as follows:

- Set the task.
- Play a recording and listen.
- Let students compare answers.
- Ask them if they need to listen again.
- If they want to listen a second time, play it again.
- If they do not want to listen again, check answers.

However, in the first stage of teaching to listen, this procedure does not help the participants in this study. The participants feel bored with repeated procedures and they also find the comparison step difficult. Many of them cannot understand the recordings because the vocabulary, pronunciation, and intonation are quite different from those of their first language. Moreover, students easily forget what they have learned in the classroom as they do not speak or write in English. Therefore, teachers need to employ three stages, pre-listening, while-listening, and post-listening, to involve students and help improve listening skills and attitudes to English listening.



### Stage 1: *Pre-listening*

According to Dozer (1997), this stage is useful as it prepares learners for what they are going to hear and usually includes real-life situations. Pre-listening task activities gives students a reason to listen which helps them focus on what to listen. Teachers assess how accurately students succeed in understanding talks and/or conversations.

### Stage 2: *While-listening*

This stage is designed to help learners understand recordings of task activities. These activities usually involve learners obtaining information and doing something with it. Task activities often used in classrooms should teach, not test. Teachers should avoid using activities which tend to focus on memory rather than on the process of listening, or that simply give practice rather than helping learners to develop listening ability (Van Duzer, 1997). For example, the activity which asks learners to listen to a talk/conversation followed by true/false questions might indicate how much learners remembered information, rather than helping them develop skills of determining main ideas and details.

### Stage 3: *Post-listening*

This stage is expected to help students evaluate their listening success and apply what they have learned in the while-listening stage to their daily communications. Students would use task activities which integrate listening with other language skills, such as reading, speaking, and writing. Therefore, teachers should encourage students to use what they have learned in the While-listening stage to their daily life.

### ***Listening task activities***

Many activities can be employed for developing listening skills. Lund (1990), cited in Van Duzer (1997), introduces nine task activities which can be considered comprehension checks:

- *Doing*: Learners respond physically by acting out the teacher's instructions.
- *Choosing*: Learners select, order and/or label from alternatives, such as pictures, objects, texts, or actions.
- *Transferring*: Learners transform messages, such as drawing a route on map, filling in a chart, and/or drawing a picture.
- *Answering*: Learners answer questions about the recordings.
- *Condensing*: Learners take notes or make an outline.
- *Extending*: Learners go beyond the recordings by telling a story or solving a problem.
- *Duplicating*: Learners repeat, shadow, or translate the message.
- *Modelling*: Learners perform a similar task, e.g., give instructions to classmates after listening to a model.
- *Conversing*: Learners actively participate in a face-to-face conversation, an interview, survey, and/or public presentation.

## **Methodology**

### ***Participants***

Eighteen boys and 15 girls in Class 5/4 at Bùi Thị Xuân Primary School participated in the study. The parents of the students are low-income farmers and household helpers who cannot afford any extra English courses in English centres. This means students only learn English at school with the same

core English syllabus and textbooks, without any supporting tutors and/or teachers. All of the students started learning English when they were in Grade 3. In this study the students were evaluated to see if improvements in their listening skills and classroom participation occurred.

**Duration**

The study was conducted over 62 periods of 35 minutes each. Two periods were used for the pre-test and post-test and the other 60 periods were used for the experiment.

**Methods of data collection**

The data used in the study are the results of the pre-test (9/2016) and the post-test (5/2017). The two tests share the three identical topics: My family, My school, The world around us. The three questions: Listen and complete, Listen and tick True or False, Listen and number, are shown in Table 1.

**Table 1. Topics, tasks, and time of listening tests**

Listening tests	Time	Topics	Tasks	Source
Pre-test	September 2016	My family.	Listen and complete.	<i>Family and friends - Special edition 4, 5.</i>
Post-test	May 2017	My school.	Listen and tick True or False.	
		The world around us.	Listen and number.	

**Experiment methods**

This study conducted experiments with the following eight methods of teaching in listening periods.

*Using various and flexible techniques in the three stages of each listening period*

The teacher facilitated the development of listening ability by creating listening lessons that guided the learners through three stages: pre-listening; while-listening; and post-listening, with various and alternative techniques and/or task activities in each stage.

*Pre-listening*

Tasks and activities in this stage aim to prepare students for what they are going to hear, to give students a reason to hear for, to provide the background needed for understanding the recordings, and to focus on what to listen for. Therefore, the following tasks were variously and flexibly applied:

Topics, contexts, and/or situations were given to identify which information in the recordings, students knew, and did not know, and to encourage curiosity and interests in the learning activities. The activities were often matching, brainstorming, asking and answering, telling stories, singing, and guessing. The teaching materials mainly used were visual aids which support both listening improvement and attracting students.

Vocabulary and language structures which were going to be used in the While-listening stage were also taught. However, not all new words were introduced because the teacher wanted the students to guess the meanings in their context. Moreover, vocabulary and structures were reviewed to ease listening and communication in the next stages.

Groupwork and working in pairs was encouraged to not only assist poor and shy students but also develop cooperation skills.

*While-listening*

This task involved activities in which students searched for information and immediately actively did something with it. Activities including choosing, transferring, answering, condensing (Lund,1990) were used with tasks, such as Listen and tick the Box, Listen and tick True or False, Listen and Number, Listen and Draw. Before giving the answers, students were encouraged to compare and to help one another with task completion.

#### *Post-listening*

Activities in this stage should help students evaluate their success in carrying out the task and integrate listening with the other language skills. As a result, task activities frequently used in each listening period were Doing, Choosing, Extending, Duplicating, Conversing, and Modelling (Lund,1990).

#### *Training the students' concentration*

This study used the four following strategies.

Guided questions: often given in the pre-listening stage to gain students' concentration on listening.

Listen and repeat (shadowing): used after listening for main ideas because when students focus on the content, they can repeat what they have heard precisely. As a result, students can improve listening and speaking skills at the same time and improve English pronunciation and intonation.

Listen and draw: used in group work since this task requires high concentration; otherwise students cannot draw what the recordings describe.

Listen and note key words: used in the while-listening stage due to high focus requirement.

#### *Improving word emphasis and sentence intonation*

In each listening period, word emphasis and sentence intonation were practised since correct input will lead to correct output. Moreover, this helps reduce the effect of Vietnamese on English.

#### *Improving the use of difficult words and standard pronunciation*

Standard pronunciation and word stress were practised by students because incorrect pronunciation will lead to misunderstanding. The task activities were usually *Before you read* and *Listen and Read*. For multi-syllable words, students were asked to listen and repeat words until they could pronounce them correctly and fluently.

#### *Using language games in listening periods*

Language games used in this study included *Kim's Game*, *Clap the board*, *Shack attack*, *Matching*, *Brainstorming*, *Lucky number*, *Buy my sentences*, *Musical ball*, *News transfer*, *Who is faster?*, *Find someone who*, and *Help each other learn better*. These games help students learn in a fun environment. Also, shy, and passive students became more active and self-confident.

#### *Encouraging students to speak English after listening*

When students use the language that they have learned from the CDs to speak, English words and structures will stay in their minds longer. The task activities included Extending, Duplicating, Modelling, and Conversing (Lund,1990).

#### *Using teaching visual aids*

Since young learners love colourful pictures and materials, visual aids help them learn better.

#### *Using e-learning lesson plans in some listening periods*

E-learning lesson plans with moving colourful pictures and video could attract students' attention and lead to active and fun classes. However, E-learning lesson plans should not be over used as this may make the students bored with the repeated activities.

### Research procedure

The study involved three steps: pre-experiment; during experiment; and post-experiment; with instruments, focus, and target data, as shown in the following Table 2

**Table 2. Research procedure**

Procedure	Instruments	Focus	Target data
Pre-experiment.	Pre-test.	Assessing students' listening skills.	Performance level in 10-mark scale.
During experiment.	Eight methods of teaching listening skills.	Involvement, improvement, and activeness.	Attitudes, tendencies, practices, and reasons behind them.
Post-experiment.	1. Post-test.	Impact of the experiment on students' listening skills.	Performance level in 10-mark scale.
	2. Observation form (for the teacher).	Exploring students' attitude changes.	Attitudes, tendencies, practices, and reasons behind them.

Pre-experiment, the students completed the pre-test of listening in their classroom and the results were recorded.

During the experiment, the students learned through the eight experiment methods, covering 60 periods over 30 weeks.

Post-experiment, the students took the post-test of listening in their classroom. The scores of the pre-test and post-test were statistically analysed, compared, and interpreted.

An Observation form (see Appendix) was used to observe and measure how much the participants enjoyed the activities, how many were in favour of the activities, and how many were shy and passive in each listening period.

### Results and discussion

#### ***Results of listening (pre-test and post-test scores)***

Table 3 below shows the comparative result of English listening pre-test and post-test scores of students. The average scores of the pre-test and the post-test are 5.75 and 7.5. The learning achievement of students' post-test is higher than that of the pre-test. In the post-test, the number of Very Good students increased from 3 (9.1%) to 20 (60.6%), the number of Good students increased by one (3.0%), the number of Average students was reduced 12 (36.4%) and the number of Weak students was zero (0%). Eight different experiment methods as described above were used successfully to increase students understanding of English talks/conversations, vocabularies, pronunciation, and intonation.

**Table 3. The results of pre-test and post-test on listening**

Tests	Very good		Good		Average		Weak	
	Number	%	Number	%	Number	%	Number	%
Pre-test	3	9.1	5	15.2	19	57.5	6	18.2
Post-test	20	60.6	6	18.2	7	21.2	0	0

**Results of observation form**

The 12 items on the observation form provided information about the students' attitudes, tendencies, practices, and additional reasons (Table 4 below). Before the experiment, 8 out of 33 students were active and self-confident in listening periods; whereas, all students were observed to be active after the experiment.

It is concluded that students' attitudes improved from negative to positive. Also, their listening skills and cooperation skills were developed thanks to the eight experiment methods in listening periods.

**Table 4. Results of observation form before and after experiment**

No	Observation items	Pre-experiment				Post-experiment			
		Yes		No		Yes		No	
		Number	(%)	Number	(%)	Number	(%)	Number	(%)
1	Students enjoy activities.	4	12.1	29	87.9	33	100	0	0
2	Students are eager to take part in activities.	6	18.2	24	72.7	33	100	0	0
3	Students are active and self-confident.	8	2.6	25	75.8	33	100	0	0
4	Students pay attention to intonation and pronunciation practice.	3	9.1	30	90.9	20	60.6	13	39.4
5	Students' intonation and pronunciation are improved.	3	9.1	30	90.9	20	60.6	13	39.4
6	Students attempt to use English as much as they can.	5	15.2	28	84.8	26	78.8	7	21.2
7	Students' listening skills are good.	2	6.1	31	93.9	22	66.7	11	33.3
8	Good cooperation skills.	7	21.2	26	78.8	28	84.8	5	15.2
9	Visual aids are helpful.	N/A				33	100	0	0
10	Task activities support listening improvement.					28	84.8	5	15.2
11	Games are helpful for listening improvement.					33	100	0	0
12	Which game is students' favourite? News transfer, Who is faster, Help each other learn better.					28	84.8	5	15.2

## Conclusion

Assisting primary students in the development of listening skills is a challenge. Listening plays an essential role in both communication and language acquisition. As a result, teachers should integrate listening with speaking, reading, and writing.

After seven months conducting eight experiment methods with 33 primary students of Class 5/4 in Bui Thi Xuan Primary School it can be concluded that the eight methods used in the study seem to be effective because the post-test scores were significantly higher than the pre-test scores. Students' attitudes, cooperation skills, and practices, changed from negative to positive during observations.

The findings indicate that the eight methods used contributed positively to language learning and processing. The methods used helped learners to develop listening skills, learn new words, and encouraged autonomous learning.

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**APPENDIX. OBSERVATION FORM FOR TEACHERS**

- Date: -----
- Period: -----
- Unit: ----- Lesson: -----
- Topic/Content: -----

No	Observation items	Numbers of students	
		Yes	No
1	Students enjoy activities		
2	Students are eager to take part in activities		
3	Students are active and self-confident		
4	Students pay attention to intonation and pronunciation practice		
5	Students' intonation and pronunciation are improved		
6	Students attempt to use English as much as they can		
7	Students' listening skills are better		
8	Good cooperation skills		
9	Visual aids are helpful		
10	Task activities support listening improvement		
11	Games are helpful for listening improvement		
12	Which game is the students favourite? -----		

# The Effects of Mind Mapping on Teaching and Learning Vocabulary Retention

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## Abstract

When teaching English, teachers frequently teach some vocabulary explicitly with a view to avoiding student misunderstanding. This raises the question of what alternative methods could be employed in vocabulary teaching and learning.

Mind mapping has been suggested as a means to improve factual memory as well as the memory of individual words (Buzan, 1979). Mind mapping has been used as a learning tool that can foster memory, thanks to its visual, radial, and organisational properties (Nada et al, 2008). There is, however, very little evidence from research in educational contexts of the benefits of mind maps (Tattersall, 2007), and especially the benefits for enhancing memory in language learning or increasing vocabulary retention.

This research aimed to determine the effects of mind mapping on high school students' vocabulary retention, and students' attitudes towards this method.

A research design using a two-group pre-test and post-test study was conducted with forty-one grade 11 students in a high school in the Mekong Delta of Vietnam. The instruments utilised in this study consisted of two vocabulary knowledge scale tests and a questionnaire on students' attitudes towards mind mapping, to collect both quantitative and qualitative data.

The results indicated that the students in the mind mapping group outperformed those in the control group in terms of retaining knowledge of words. The results also demonstrated that the students in the mind mapping group had positive attitudes towards mind mapping. This suggests that mind mapping can be used to improve high school students' vocabulary retention, and as a learning strategy is welcomed by students.

## Introduction

Vocabulary is an important part of language. Good knowledge of both receptive and productive vocabulary plays an important part in successful communication. Therefore, vocabulary learning becomes an essential part in language learning, and an important aspect of second language acquisition (Knight, 1994).

Unfortunately, most of methodologies for teaching foreign languages such as the grammar-translation method, the direct method, the audio-lingual method, and communicative language teaching, do not provide explicit strategies on how to teach vocabulary (Schmitt, 2000). It was somehow expected that vocabulary would be acquired along the way and 'it would take care of itself' (Coady, 1993 cited in Hauptmann, 2004). Therefore, little emphasis was placed on the acquisition of vocabulary (Zimmerman, 1997) and it was largely ignored by researchers (Meara, 1980; Singleton, 1999). However, according to Hauptmann (2004), there seems to be a trend that some explicit teaching has to take place. Explicit teaching of some vocabulary is required to avoid misunderstanding or misinterpreting.

A pilot study on about 100 high school students in my school indicated that more than 80% of the participants thought they had limited vocabulary and vocabulary memory. A similar percentage of students expected to be taught vocabulary by a new method which could help them gain better vocabulary retention. This raised the question which method could be used as an alternative method for vocabulary teaching and learning.



Recently, mind mapping, a graphic organiser popularised by Tony Buzan, has been considered to be able to improve factual memory as well as memory of words (Buzan, 1979 cited in Goodnough & Long, 2002). This method has been used as a popular technique across the curriculum and at all key stages in the UK (Hasbún, 2005).

Mind mapping is believed to hold potential for widespread benefits and uses when applied to vocabulary teaching and learning. Goodnough and Long (2002) consider mind mapping as a graphic organiser which can be utilised as both a teaching and learning strategy. However, there is very limited research available on its positive effects on the memory of words (Goodnough & Long, 2002).

### **Aim of the study**

I am interested in exploring whether mind mapping could be used for better lexical retention. Therefore, I intend to conduct a study using mind mapping as an innovative method in vocabulary teaching and learning to find out whether it can foster my high school students' vocabulary retention.

### **Review of the literature**

#### ***Vocabulary teaching and learning***

The term vocabulary can be understood in different ways. It can be used to refer to a set of words in a language (Hasbún, 2005) or used to mean knowledge of words regarding their forms, meanings, and use (Lehr et al., 2004). However, in the context of vocabulary teaching and learning, vocabulary needs to be treated as involving the many aspects of language rather than simply a set of words.

Traditionally, learning vocabulary meant learning a bilingual word list. However, vocabulary learning does not mean memorising spelling, pronunciation, and translation only (Richard, 1976 cited in Ghazal, 2007). More aspects of lexis need to be concerned in vocabulary instruction. In the guide book for vocabulary teaching and learning *Working with Words*, Gairns and Redman (1986) regard knowing a word as involving a wide range of understandings and skills related not only to the form of the word, but also to the meaning and use of that particular word in different contexts.

However, all these aspects cannot be acquired at once. Hasbún (2005) argues that learners tend to acquire original or typical meanings and uses first, and later, as they advance, they begin understanding other types of meaning and usage that are more marked. Therefore, teachers should not expect learners to learn all the possible meanings of a word at a single point of time. Some prototypical verbs and adjectives that co-occur have meanings which need to be explored first. In addition, Lewis (1993) proposes that in the initial stages of language learning the role of sentence grammar should not gain so much focus, instead there should be increased attention on word grammar.

#### ***Mind mapping as a tool for improving retention of words***

Currently mind mapping is growing in popularity. It is used by millions around the world (Hauptman, 2004) as a useful and powerful mind tool for education, training, and business (Buzan & Buzan, 1993). The use of mind mapping is achieving growing recognition in educational situations with many applications including note taking, brainstorming, summarising, revising, and general clarifying of thoughts. As mentioned in many documents, mind mapping can also be used as a technique to foster memory (Buzan, 1979 cited in Goodnough & Long, 2002; McClain, 1986; Farrand, 2002; Budd, 2004; Montgomery, 2005 and Nada et al, 2008).

Mind maps are diagrams that are constructed from visuals and/or words with lines to show the relationship between the main concept (image) with its components or attributes in a radial and graphical manner (Buzan, 1991 cited in Nada et al., 2008 and Goldberg, 2004). A mind map has a central key item with its related items surrounding it. These elements of a mind map are arranged according to the importance of the concepts, and are classified into groups, branches, or areas to show their semantic relationship or other connections between portions of information (Nada et al., 2008).

Mind mapping can function as a memory tool because it possesses visual, radial, and organisational properties. First, the visuality of mind mapping can help balance the workings of the brain (Buzan & Buzan, 1993). The graphic properties of mind mapping can help learners stimulate not only the left side

of the brain but also the right side for deeper processing, encoding information better and maintaining it for a longer duration. Furthermore, the combination of visual and verbal information in mind mapping helps students form in their minds the connections between previously learned items and the items that are being learned, and between stimuli that will be encountered in the future (Conley, 2008). This also leads to better retrieval. In short, with its visual manner, mind mapping can maximise the entire brain function, and then allow information to move more easily from short-term to long-term memory, and be retrieved more easily from long-term back to working memory, for immediate use.

Buzan and Buzan (1993) argue that radial mind maps provide a brain-friendly recording system that facilitates recall. Mind mapping captures concepts in the same way the brain does. Other elements radiate from the central element in an organised manner with lines to indicate the associations. In this way, mind mapping really facilitates learners to work out in all directions; to think, take notes, and review their notes with a quick glance from the center. McClain (1986) suggests that people need to let students be exposed to information in a non-linear form like this to foster the absorption of information and help maintain the focus.

The organisational structure of a mind map also aids the facilitation of memory (Nada et al., 2008). The organisation of a mind map which includes grouping concepts, emphasising key concepts, arranging the concept from general to specific, and making links between concepts reflects the way our brain organises ideas. Information in a mind map, therefore, becomes easy to be perceived. Moreover, constructing a mind map requires students to process the concepts deeply and organise them in a logical manner. This engages students in meaningful learning. McClain (1986) agrees that mind mapping is an organisational skill which helps students to better comprehend a concept or an objective, and fosters memory. Remembering the structure of such a diagram can provide cues necessary to remember and recall the information within it.

With the above properties, mind mapping shows its function as a memory tool in vocabulary teaching and learning as it elicits new words through brainstorming, processes the meanings of words in a semantic network, and advocates the taking of notes for revision. When used for brainstorming, mind mapping can help recycle the learned words and elicit new words. Therefore, it not only creates a chance for learners to review their vocabulary but also draws learners' attention to the need to learn new words.

In addition, when employed as a semantic network, mind mapping can involve learners in processing a new word, which can result in better encoding and storing. When exploited as a note-taking technique, mind mapping is a technique for creating a vocabulary log with most aspects of a word well organised in the one map. Forms, meanings, grammar, collocations of the word and its sample sentence are all available for use. Besides fostering memory of form and meaning mind mapping also benefits the use of words. In the form of a vocabulary log, mind mapping can also facilitate revision through a quick glance at the map. It supports visual, linguistic, logical, and auditory learning and encourages learning through multiple intelligences (Nada et al, 2008) which may result in better learning (Armstrong, 1994).

Mind mapping is believed to have widespread benefits and uses. There is, however, very little evidence from research in educational contexts of the benefits of the use of mind maps (Tattersall, 2007), especially benefits for enhancing memory. The studies by Farrand and his associates (2002) and Salzberg-Ludwig (2008) indicate the effectiveness of mind mapping in facilitating memory, but only in aiding factual recall. More studies need to be conducted to test its effectiveness in language learning, especially in enhancing memory of words.

### **Methodology**

To investigate the effects of mind mapping on vocabulary retention, I attempted to find answers to the following questions:

- To what extent does mind mapping impact on high school students' vocabulary retention?
- What are the students' attitudes towards mind mapping in teaching and learning vocabulary?

### **Participants**

The subjects involved in the study were forty-one sixteen-year-old students in grade 11 at a high school in the Mekong Delta of Vietnam. They had studied English for at least five years prior to the experiment. They were non-English majored students from two of my classes and were selected on the basis of their pre-test scores (vocabulary test). Thus, they were supposed to have similar levels of vocabulary knowledge.

### **Research design**

This experimental research followed two groups in a pre-test and post-test design. Based on the results from the pilot test (pre-test) of vocabulary knowledge, two classes were selected and randomly assigned as an experimental group and a control group.

The experimental group consisted of 19 participants ( $n = 19$ ), and the control group had 22 participants ( $n = 22$ ). Both groups were treated in the same way by the researcher except for vocabulary instruction. The former was taught vocabulary by mind mapping, while the latter was taught vocabulary by the traditional method (without mind mapping).

Seven weeks after the experiment, a post-test was conducted to measure how much vocabulary knowledge the two groups had retained after the study.

The results from the pre-test and the post-test were compared to see the differences in vocabulary knowledge in each group before and after the treatment. In addition, the lexical knowledge each group retained after the treatment was also compared, especially to find out the effects of mind mapping on vocabulary retention.

### **Research instruments**

Two instruments were employed. First, the Vocabulary Knowledge Scale (VSK) test was used to measure the learners' vocabulary knowledge before the study and vocabulary retention after the experiment. Second, a questionnaire was employed to survey the learners' attitudes towards the use of mind mapping in vocabulary teaching and learning.

The pre-test and the post-test for the study were adapted from the Vocabulary Knowledge Scale (Paribakht and Wesche, 1993). These tests were in the form of students' self-reports and aimed to measure aspects of a specific word including form, meaning, grammar and use in both receptive and productive dimensions of knowledge. The test consists of four categories. All categories test the learners' recognition of word form except Category I.

- Category I, *I don't remember having seen this word before*, which states no recognition of the presented word.
- Category II, partial knowledge, *I have seen this word before, but I don't know what it means*, shows recognition of word form without knowledge of meaning.
- Categories III, receptive knowledge, *I know this word. It means \_\_\_\_\_ (synonym or translation)*, helps indicate whether learners know the meaning of the word.
- Category IV, productive knowledge, *I can use this word in a sentence \_\_\_\_\_*, helps identify learners' knowledge of word grammar and word use with semantic appropriacy.

The four category VKS pre-test consists of 30 target words and 10 additional distracters. It was used to verify the participants' lack of familiarity with the target words. Similarly, the post-test including 30 learnt words and 10 other distracters were used to measure the participants' vocabulary retention. Thirty items of vocabulary in the pre-test were taken from the lessons of the intervention and were the same as those used in the post-test. However, the order of these items was changed in the post-test.

One point was given for receptive word knowledge if a synonym or translation of the target word was correct. Another point was given for productive word knowledge when the use of the target word was

both grammatically and semantically correct, even if other parts of the sentence contained errors. One point was given for each target word to make the scale for each item from one to three instead of zero to two. This was to facilitate the processing by SPSS. Therefore, the minimum score for the test of 30 target items was 30 and the maximum score for receptive and productive target word knowledge was 90 each.

The questionnaire was designed to measure the learners' attitudes towards the use of mind mapping. The questionnaire consists of 24 items in total. Twenty-three presented statements about learners' attitudes towards using mind mapping in learning and teaching vocabulary on a five-point scale (completely disagree, disagree, neutral, agree, completely agree). All the items were classified into three main categories including learner interests in learning vocabulary with mind mapping, their attitudes towards benefits of mind mapping on vocabulary learning, and their attitudes towards the feasibility of mind mapping. The questionnaire also included an open question to elicit the learners' additional ideas about mind mapping and vocabulary learning. For the sake of this study, the questionnaire was designed in Vietnamese to avoid misunderstanding due to the participants' limited English proficiency.

### Results and discussion

The research results indicate that the two groups performed the same on the pre-test, and the experimental group outperformed the control on the post-test.

#### Changes in the students' vocabulary knowledge

Figure 1: Vocabulary knowledge of the two groups before and after the study

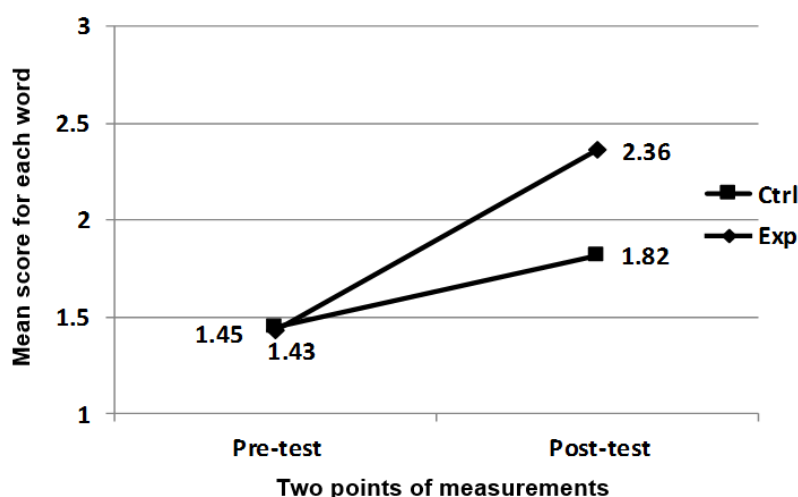
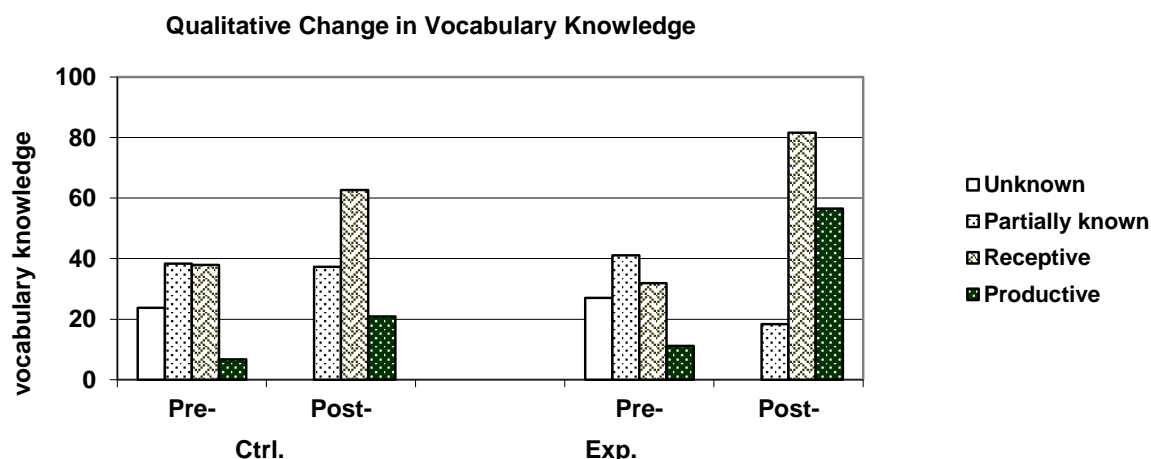


Figure 1 indicates that the participants in both groups gained more knowledge of words after the study. However, the students in the experimental group ( $M_{Exp} = 2.36$ ) retained more than those in the control group ( $M_{Ctrl} = 1.82$ ).

Figure 2 below presents an overall picture of lexical knowledge for the two groups at two points of measurement. On the pre-test, the groups' responses focused on partially known words, while on the post-test the focus moved to receptive word knowledge. Moreover, the percentage of productive word knowledge for the two groups increased in the post-test.

These results indicate that both receptive and productive knowledge of words for the two groups increased after the treatment. However, the experimental group was superior to the control group in both aspects of vocabulary knowledge; in other words, the mind mapping group had better retention of word knowledge than the non-mind mapping group.

**Figure 2: Response patterns of the two groups at two points of measurement**



***Students' attitudes towards mind mapping (after the study)***

The result from One Sample T-test indicates that the learners had positive attitudes towards the use of mind mapping in vocabulary teaching and learning. The respondents also agreed that they had interest in using mind mapping in their vocabulary learning. They admitted that they liked it because it was new, interesting, and suitable for vocabulary teaching and learning. They even formed a habit of using mind maps in their vocabulary learning. However, they were not sure that this habit would last long without the teacher's instruction. The fact that the participants had interest in using mind mapping could be explained through the data about their attitudes towards the benefits of mind mapping.

The respondents recognised the benefits mind mapping gave their memory of vocabulary. It was beneficial for their short-term memory, revision, and long-term memory. The participants agreed that it facilitated their memory of the spelling and meaning of words, and memory of word use thanks to improving memory of collocations and word parts. The high mean scores for a number of items indicated that the learners thought the visuality, clarity, and linking of mind maps helped increase their memory of words.

In addition, the students agreed that mind mapping was feasible to use in the context of vocabulary teaching and learning. They thought that with the teacher's instruction, the maps could be constructed with ease. They also agreed that it did not take them much time to get familiar with mind mapping and to make maps, nor did it take their teacher much time to teach vocabulary by mind mapping.

These results indicate that the participants thought they could construct mind maps with ease, but to them constructing a mind map was a bit complex and they were not very confident of their ability to construct their own map without any instruction from the teacher. Three of the participants agreed that they needed more time to review a word in a mind map than in a word list.

The students stated some ideas about mind mapping.

Fifteen students (78.9%) demonstrated positive attitudes towards mind mapping by admitting its usefulness for retention and enhancing their ability to use words. They also had suggestions to make mind mapping more suitable in their context.

However, 4 students (21.1%) appeared to have negative attitudes towards the use of mind mapping. One student thought using mind mapping in vocabulary learning was overload.

Another student stated that mind mapping was useful for her to understand more about words but more confusing than word lists when it was used in the form of a vocabulary log.

Two others preferred to receive teacher-made maps instead of constructing their own maps.

Although some students did not have much interest in mind mapping, this method appeared to attract many students in the experimental group. They had a positive perception of mind mapping and agreed that mind mapping was beneficial for their memory of words.

### Conclusion

The results from this study show that the students in the mind mapping group retained more knowledge of words than the students in the control group. The experiment group had positive attitudes towards mind mapping as a method. This implies that mind mapping can enhance vocabulary retention in high school students and as a technique is welcomed by students.

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# ICT Year Six Teachers' Self-Efficacy and Attitudes Towards Scratch 2.0

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## Abstract

The purpose of this study is to investigate the self-efficacy and attitudes of teachers using Scratch 2.0 computer program language to teach Year 6 Information Communication and Technology (ICT).

All government primary schools in Malaysia were instructed by the Ministry of Education (MOE) to offer ICT to Year 1 pupils beginning in 2011. In the beginning, pupils were taught the basics of Microsoft Office and used simple multimedia for drawing and colouring animals and shapes that suited their age. When these pupils reached Year 6 in 2016 teachers had to teach Scratch 2.0 programming language. Teachers had received just a short course of one to three days in programming language and Computational Thinking (CT).

Only a very few teachers in primary schools throughout Malaysia had majored in ICT in their first degree. Teachers teaching the first cohort of pupils programming in 2016 were concerned they did not have enough knowledge and skills to teach the subject.

In this study the Computer Programming Self-Efficacy Scale (CPSES) (Ramalingam and Wiedenbeck, 1998) and the The Computer Programing Learning Attitude Scale (CPLAS), (Korkmaz and Altun, 2014), were used. Thirty-two ICT Year 6 teachers in the Seberang Perai Tengah district participated in the study.

Findings provide useful information for researchers, the training division of the Malaysian Ministry of Education (MOE), and other related divisions and parties who are responsible for providing training, consultation, and supervision of in-service and pre-service teachers.

## Background to the study

In 2011 the Primary School Standard Curriculum (KSSR) was implemented in all government and government-aided schools across Malaysia. The subject of Information and Communication Technology (ICT) was introduced at this time. KSSR aims to create a balanced curriculum based upon human, physical, emotional, spiritual, intellectual, social human capital knowledge, values, and skills. There are six spikes representing the areas of knowledge, skills, and values that are fundamental in developing creative, critical, and innovative thinking citizens. ICT disciplines are incorporated under the spikes of science and technology, together with science, mathematical and technological design disciplines (BPK, 2014).

## Research problem statement

Initially teachers were chosen from current science and mathematics teachers to teach ICT. Then Life Skills teachers took on the role of ICT teachers. The short training course for the teachers which is two or three days, was begun in 2014 by the Curriculum Development Division of the Ministry of Education Malaysia (KPM). Beginning in 2016, the first pupils of the first cohort entered the Year 6 learning programming using Scratch 2.0 (BPK, 2014) software. Unlike the ICT content of the Years 1 to 5



syllabus, which involved commonly used software such as Microsoft Office, the Year 6 ICT syllabus included programming using Scratch 2.0 and required a theoretical and practical knowledge of the software. Ultimately, students needed to be able to produce one interactive programming or interactive multimedia presentation project.

Although Scratch 2.0 is said to be a simple visual programming software, without basic training and knowledge teachers have difficulty teaching students especially when the students are required to apply the software. Research conducted by Naufal and Amat Sazali (2015) and Obaidah et al. (2012) found that teachers using ICT in teaching and learning used presentation software such as Microsoft Powerpoint and Microsoft Word for documentation, and spreadsheet software Microsoft Excel. Graphic editing software such as Adobe Photoshop, Adobe Illustrator, and video editing software Adobe Premier and Adobe After Effect were found to be infrequently used by teachers. No authoring and programming software were used by teachers in these studies. MOE gave short day-to-day training to teachers from science, mathematics, and other disciplines to learn Scratch software. This has become a challenge that needs to be faced.

### **Preliminary investigation**

A preliminary investigation found that ICT Year 6 teachers were unable to teach Scratch 2.0 software. The teachers stated they were not specialists in ICT and were not adequately trained. Programming is a new thing in their life and it is felt too difficult for those with inadequate training in the basics of a software programming language.

### **Research questions**

The following questions formed the focus of this study:

- What is the level of self-efficacy perceptions of Year 6 ICT teachers towards Scratch?
- What is the attitude of Year 6 ICT teachers towards programming when using Scratch?
- What is the relationship of attitudes, perceptions of self-efficacy, and programming ability of Year 6 ICT teachers who have specialised in Computer Science, Science, and Literature for their first degrees?
- Is there a difference in attitudes, and perceptions of self-efficacy, in Year 6 ICT teachers towards Scratch?

### **Definition of important terms, and literature**

#### **Self-efficacy**

Self-efficacy is defined as a persons' belief in their ability to perform at a certain level. (Bandura, 1994). Self-efficacy beliefs determine how people think, feel, self-motivate and behave. It involves cognitive, motivational, affective and process selection. A person who has a high level of confidence in his ability to perform something will approach a difficult task as a challenge to master rather than regard it as a threat to be avoided. A person with a high level of self-efficacy will set a goal in a challenge and maintain a strong commitment to master the goal; they will increase and sustain ability to face challenges or failures.

Efficacy can be constructed through four sources:

Mastery through *experience* is considered to be most effective in building self-efficacy capacity. Success will build strong confidence in one's personal efficacy. Failure will build confidence after working diligently and succeeding later (Bandura, 1994). The self-directed teacher of Scratch will learn from experience in developing educational games or other educational software using blocks and instructions. Teachers can learn from their own experience or from those who master Scratch software at a high level.

The second way to create and strengthen self-efficacy is through observing the experiences of *social models*. Improved results for Scratch teachers can come from observing models on the Scratch's website. The website develops games and education software using Scratch.

*Persuasion* is a third factor relevant to self-efficacy. A person who is verbally persuaded that he has ability to master a given activity will be able to master the task. Scratch's new teachers who are not adequately trained with no basis in programming will acquire confidence from a facilitator. The role of the facilitator is very important because the facilitator helps structure the situation and this increases the chances of success (Bandura, 1994).

The fourth way to modify self-efficacy beliefs is to *reduce stress* reactions and adjust negative emotions and physical reactions to circumstances (Bandura, 1994). Scratch's facilitator can be the coach who delivers the skill in a relaxed, easy to follow step by step process, rather than having the person experience the pressure of a final exam.

### ***Attitudes towards programming***

Despite being aware of the country's requirements and the career opportunities for computer science graduates as computer scientists and programmers, there is a negative attitude towards computer science amongst many students in Malaysia. Even among students who choose computer science and ICT courses, programming is regarded as very difficult, tedious, and not social (Erdoğan, 2010). It is very clear that students show a negative attitude towards programming.

Attitude is defined as the overall assessment of cognitive-based, affective, and information-based objects (Erdoğan, 2010). Attitude is considered to influence how we process information and how we behave. Teachers' performances in programming is a result of their attitudes towards programming hence identifying teachers' attitudes towards computer programming is an important issue.

### **Methodology**

This study aimed to investigate self-efficacy perceptions and attitudes of ICT Year 6 teachers in PPD Seberang Perai Tengah, towards Scratch software. The study also examines the correlation between teachers self-efficacy perceptions and attitudes towards programming and their first degree specialisation. The Year 6 ICT teachers were selected from science, mathematics, technology designs, life skills, and humanitarian fields. They had no overall programming background and only received short courses of two to three days training for teaching programming.

Two instruments were used to measure self-efficacy perceptions and attitudes of ICT Year 6 teachers towards Scratch. Both instruments were adapted from the original instrument which was translated into Bahasa Malaysia and modified to use a 4-point Likert scale rather than a 5-point scale.

The Computer Programming Self-Efficacy Scale (CPSES), developed by Ramalingam and Weidenbeck (1998), contains 9 items aimed at examining the perceptions of an individual's self-efficacy towards programming.

The Computer Programing Learning Attitude Scale (CPLAS), developed by Korkmaz and Altun (2014), measures attitudes towards computer programming. This instrument contains 14 items, grouped into three factors, namely Willingness, Negative/Negativity and Requirement/Necessity.

*N. B.* See Appendices for details of the instruments used.

### ***Population and sampling***

In the Seberang Perai Tengah district under Permatang Pasir PPD, there are 34 government primary schools. The number of teachers teaching ICT in Year 6 is 36, comprised of 16 male teachers and 20 female teachers. Thirty-two teachers out of the possible 36 returned the questionnaire.

### ***First degree specialisations***

The researcher wanted to know whether there is a difference in self-efficacy perceptions and attitudes towards programming between teachers with background specialisations in computer science; science; and literature.

### **Descriptive data analysis**

#### ***First degree specialisations***

The following table describes the specialisations of the Year 6 ICT teachers who participated in this study.

**Table 1. Teachers' first degree specialisation**

Subject	No.	%
Computer science	3	9.4
Science	14	43.8
Literature	15	46.9
Total	32	100.0

#### ***Mean perception of self-efficacy***

Overall, for the 32 research participants, 15, or 46.8%, had low self-efficacy perceptions, while 17, or 53.2%, had high self-efficacy perceptions.

In reference to the teachers' areas of specialisation, three teachers specialised in computer science in their first degree and the perception of self-efficacy of these three people was high.

For teachers with a science specialisation, six participants had high self-efficacy perceptions, while eight had low self-efficacy perceptions. For teachers with a literature specialisation, six participants had a low self-efficacy perception while nine participants had high self-efficacy perceptions.

#### ***Attitudes towards programming***

Overall, a total of 22 participants recorded a negative attitude towards programming, while 10 had positive attitudes towards programming.

The attitude of 3 people specialising in computer science towards Scratch software was negative.

For teachers with a science specialisation, two participants had positive attitudes about programming while 12 participants had negative attitudes about using Scratch.

For teachers with a literature specialisation, seven participants had a negative attitude towards programming, while eight had positive attitudes towards programming.

### **Conclusions**

This study investigated self-efficacy perceptions, and attitudes, of ICT Year Six teachers in PPD Seberang Perai Tengah who use Scratch software. This study also investigated the relationship between self efficacy perceptions and attitudes toward Scratch, within different specialisations of Year 6 ICT teachers.

In terms of the level of self-perception of ICT Year Six teachers overall, it was found that 46.8% had low self-efficacy perceptions, while 53.2% had high self-efficacy perception. In terms of specialisation

it was found that the self-efficacy perception of three participants specialising in computer science was high. For science specialisation, 42.9% had high self-efficacy perceptions, while 57.1% had low self-efficacy perception. For the literature specialisation, 40% had low self-efficacy perceptions, and 60% had high self-efficacy perception. This result is in line with Erman and Serhat's (2016) study on self-efficacy perceptions of pre-service education specialists who have learned C ++ programming.

Three participants specialising in computer science had negative attitudes towards Scratch software. For science specialisation teachers, only 14.3% were positive towards programming. For literature specialisation 46.6% had negative attitudes toward programming, while 53.4% had positive attitudes towards programming. Overall, 68.7% recorded negative attitudes towards programming. This finding is consistent with Teczi's (2010) study on teachers' attitudes towards ICT's use in teaching and learning which indicated the higher their level of knowledge, the more positive teachers are towards ICT.

By using Spearman's correlation analysis to determine the attitudes and levels of self-perceptions of ICT Six Year teachers it was found that there was a negative and low correlation between perceptual self-efficacy, specialisation, and attitudes, towards Scratch programming.

The one-way anova analysis of attitude tests on Scratch programming for specialisation differences found  $F(2, .914) p = .412$ . This indicates that attitudes towards programming for different specialisations is not statistically significant. Based on a one-way anova analysis of self-efficacy perception tests on Scratch's programming for different specialisations ( $F(2, .622)$  value  $p = .54$ ), the perception of self-efficacy on programming for differentiation is not statistically significant.

This study was limited to 32 Year 6 ICT teachers who work under one authority in Malaysia. The small sample size means that the results of the study cannot be considered representative of other regions or countries. This study only used quantitative questionnaires. The sample selected the Likert scale of questionnaire items to determine personal opinion. Qualitative research such as observation and interview would explore the perception of self-efficacy and attitudes of Year 6<sup>th</sup> ICT teachers towards Scratch 2.0 programming.

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## Appendices

### ***The Computer Programming Self-Efficacy Scale (CPSES)***

Simple programming tasks:

I can write a program that display "Hello world" message.

I can write a program that can computes the average of three values.

I can write a program that can computes the average of any given number of values.

*Complex programming tasks:*

I can write a long and complex program to solve any given problem as long as the specifications are clear.

I can organise and design my program in a modular manner.

I can debug (correct all the errors) a long and complex program that I had written and make it work.

I can comprehend a long, complex multifile program.

I could rewrite lengthy confusing portions of code to be more readable and clear.

I can find a way to concentrate on my program, even when there were many distractions around me.

### ***The Computer Programming Learning Attitude Scale (CPLAS)***

#### **Willingness**

Given the chance, I would like to participate in computer programming courses in different departments in my free time.

Writing a computer program is funny for me.

Computer programming courses are at the head of the courses that I enjoy the most.

I feel very comfortable in computer programming courses.

I'm sure I can learn to computer programming.

I am sure I am able to achieve a higher level using programming products.

I think I can write long and complex programs.

#### **Negativity**

I am afraid of computer programming courses.

I am not good at computer programming.

Computer programming is very difficult to me.

Programming courses has always been my worst courses.

I can handle many issues, but I cannot keep a good job with programming.

#### **Necessity**

Programming will not be important to my business life.

Taking programming course is a waste time for me.

It does not matter for my future to be successful in programming.

# **The Impact of Expert Role Models on Novice Teachers' Professional Development**

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## **Abstract**

This study investigates how the practices of experts in a teacher education model influence practices used by novice teachers in classrooms.

Shulman (1986a), and Brophy and Good (1986), identify teacher behaviours and strategies most likely to lead to achievement in students. Classroom instructional methods provide teachers with strategies to meet challenges in teaching (Silver, Strong & Perini, 1997). Palardy (1999, 116) states that teachers need to present classroom instructional information in a variety of ways.

Bandura's (1997) theory of self-efficacy states that teacher efficacy is among the characteristics of effective teachers. Positive benefits of teacher efficacy include planning, organisation, and enthusiasm towards new ideas and teaching behaviours. Efficacy on the part of teachers also leads to more student engagement and higher learning outcomes (Henson et. al., 2001). Research by Akbari and Tavassoli (2014) indicates that the English Language Teaching (ELT) community has become increasingly conscious of the role and importance of teacher efficacy in the performance of teachers.

The participants for this qualitative study were six female and four male in-service primary school teachers from various disciplines. The participants are teaching English (ELS) and Bahasa Melayu (BM) in primary schools.

Data were gathered from teachers' interviews and classroom observations of mentoring and peer coaching sessions. The participants were then interviewed to identify ideas about good teaching and ways to handle different situations. To ensure consistency in the observations an open-ended checklist was used.

The findings of the study indicate that novice teachers have high self-efficacy when applying multiple strategies in their classroom practice. Overall, participants valued the mentoring and peer coaching process and declared its collaborative nature as the greatest benefit.

## **Introduction**

Professional development is a common and necessary approach to improving teacher quality. Teachers play a significant and crucial role in human development (Fatimah, 2015). A good teacher is a crucial factor in student learning. Teacher quality outweighs the importance of standards, funding, and class size (Darling-Hammond, 1998; Geringer, 2003). If a teacher is effective in the classroom, they will be able to pass on their skills and knowledge to others, through the act of mentoring. As such, mentoring is used in teacher education to assist in the practical development of knowledge and skills for teaching. Recently, mentoring is acknowledged as a desired attribute for teachers in the profession.

In Malaysia, the Ministry of Education (2010) emphasised the importance of planned programmes. Teachers in Malaysia have a mandate to produce well-balanced individuals and to prepare students to be responsible. Novice teachers in Malaysia undergo a trial period from one to three years, attend and successfully complete an induction course, are certified by department heads, and pass a security clearance. Only then will they be confirmed by the Educational Services Commission (Educational Services Commission Circular Number 2, 2010). As novice teachers play a part as catalysts for students' achievement, they need to be supported and exposed to various approaches

and improvement programmes. Bolam et al., (2005) wrote that by giving teachers opportunity and support their professionalism will be raised and will impact positively on the knowledge and practice of teachers in schools.

Teaching is challenging work that requires certain skills and knowledge (Ingersoll, 2012). Teachers need help developing and applying teaching skills (Birkeland & Neiman-Nemser, 2012). They need a space in which they can share ideas, observe other teachers, and reflect on their own practice.

Expert teachers: identify key ideas, present them in several ways, and highlight connections; make careful plans, but remain flexible; provide “low threshold, high ceiling” problems; and never stop learning (Caroll & Findell, 2009). Experts think more effectively about problems. Glaser & Chi (1988) define expertise as the possession of an organised body of conceptual and procedural knowledge that can be both readily accessed and used with superior metacognitive skill. Expert teachers are highly attuned to the subtle cues of learning, and so infer accurately whether pupils are making progress or not (Wolf et al., 2017). Expert teachers appear to do several things differently to more novice colleagues (Berliner, 2004).

Mentoring is a professional relationship between a mentor who has experience in the role being learned by the mentee. The relationship is characterised by guided support and teaching. It is a process in which the mentor serves as a role model, trusted counsellor, or a person who provides opportunities for development, growth, and support, to less experienced individuals.

As of 2010, novice teachers will go undergo the Beginning Teacher Induction Program (BIP) with the objective of developing an excellent work culture for duties and responsibilities. Novice teachers will be mentored by experienced teachers who will inculcate more effective teaching practices in classrooms (MOE, 2012). The implementation of this induction programme helps new teachers personally and with social interaction, and with management of curriculum and classroom management (Hamzah & Abdullah, 2009). Regrettably, novice teachers often learn through trial and error and most school leaders assume that novice teachers can develop professional expertise on their own (Marzano et al, 2011).

### **Literature review**

Many research studies have focused on novice teachers. Some findings indicate teacher educators are including some evaluative comments in their professional feedback practices. However in-depth interpretive analysis about student thinking is often lacking, and connections between student's thinking and the broader principles of teaching and learning are often not acknowledged (Star & Strickland, 2008; van Es, 2011).

As educators engage in teaching, experts among them are distinguished by what they professionally notice as well as what they do not notice; educators who excel are observers of practice and they engage in professional opportunities (Miller, 2011). In the literature however, the definition of experienced teachers seems to hinge principally on the number of years taught (Atay, 2008; Bivona, 2002). Most commonly, studies identify experienced teachers as those who have five years or more of classroom experience (Gatbonton, 1999; Martin, Yin, & Mayall, 2006; Richards, Li, & Tang, 1998; Tsui, 2003, 2005). In addition, teachers' beliefs about expert instruction do not always match their own instructional practices. Farrell and Lim (2005) examined the beliefs of two experienced teachers and discovered a discrepancy between what the teachers said they did in the classroom and what they actually did. Both teachers were observed using a teacher-centred traditional approach in the classroom, although both reported employing student-centred strategies.

Many novice teachers report an inability to cope, and describe feeling isolated (Cherubini, 2007) as well as frustrated, anxious, demoralised, and overwhelmed by the demands of the profession (Fox et al., 2011). Consequently, when new teachers are left without guidance, support, and resources, they have difficulty adapting to the school community. The new teachers fail to apply knowledge and skills and to be effective in the management of teaching and learning. For new teachers, help, support, and guidance at the beginning of their first working year are needed as they sometimes face problems or challenges that they cannot solve (Holt, 2011). Novice teachers, on the other hand, see ideas and errors as possible obstacles and focus principally on maintaining the flow of their lesson plan. According to Mullock (2006), novice teachers are also more likely to engage in self-criticism.



A range of studies has provided insights into how student teachers and beginner teachers first encounter teaching, and their respective ability to reflect on practical experiences (Penso, Shoman, & Shiloah, 2001).

One attribute that has been important to consider in new teachers is self-efficacy. A person who possesses high self-efficacy is more likely to possess tenacity and perseverance to complete an assigned task (Ong & Harold, 2013). Teachers have measured a teacher's perception of his or her capacity as a teacher (Tschannen-Moran, Hoy & Hoy, 1998). Novice teachers need to build their self-efficacy. An important factor in the determination of a teacher's sense of efficacy is experience (Bandura, 1977). Allinder (1994) reports that efficacy is significantly related to instructionally relevant components of innovativeness in teaching, organisation and planning of instruction, and confidence. Hoy and Spero (2005) suggests that some of the most powerful influences on the development of teacher efficacy are mastery experiences, while student teaching and during the induction year. Kimberly (2014) reported that novice teachers' general instructional pedagogical practices were related to efficacy.

A study by Johari, et al., (2009) found that novice teachers' efficacy differs and depends on the type of training received and their teaching experience.

### **Aim of this study**

This study aims to examine the role of experts on novice teachers' professional development.

The following research questions were addressed:

- What roles should expert teachers play as models to influence the performance of novice teachers?
- Does coaching by expert teachers enhance the self-efficacy of novice teachers?

### **Methodology**

A qualitative design was chosen in this study to gather an in-depth understanding of respondents' perspectives (Creswell & Clark, 2007). This study was carried out in three states in the northern region of Peninsular Malaysia, namely Kedah, Penang, and Perak States. The participants for this study were ten novice teachers, six were female and four were male. They were chosen from various disciplines and were involved in teaching English (ESL) and Bahasa Melayu (BM) in primary schools.

In this study the researcher used a descriptive case study approach: to describe the problems faced by novice teachers in applying instructional practices; and to address the role of expert teachers as mentors for novice teachers in the enhancement of their professional development and self-efficacy.

The method involves the pairing of two colleagues in a session for classroom observation, feedback, and discussion. From this scenario both colleagues had a chance to learn from one another (Loucks-Horsley et al., 2003).

In this study the researcher used interviews to identify and portray the common challenges experienced by beginning teachers and their mentors. The interviews provided reports of individuals' perceptions, attitudes, beliefs, views, and feelings. The meaning and interpretation given to events by beginning teachers and their reactions was also reported. The expert teachers played a role as mentors. The expert teachers coached, helped to reduce isolation among novice teachers, and built collaboration to enable mentees to support each other (Liew Wai Yee, 2016).

This study used an adaptation of the six-level Mertz's Hierarchy of Mentoring Intent and Involvement Levels Framework (2004) as a conceptual framework to improve the professional development of novice teachers. The Mertz' Hierarchy allows the novice teachers to effectively move forward on their professional growth, and in turn get closer to meeting the Standards of Education in Malaysia. Novice teachers were observed twice by mentors and they also observed each other. Some teachers were observed by the researcher following procedures established by Simon and Tzur (1999).

The peer coaching process had a three-phase cycle that involved:

A pre-conference whereby the coach helps the novice teachers to determine the focus of the observation.

### **Observations**

The coach and teacher met to debrief the observed lesson.

The Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001) was used to measure the novice teachers' efficacy. The TSES measures self-efficacy under three dimensions:

- Instructional strategies.
- Classroom management.
- Student engagement.

The items in the instrument tackle both personal teaching efficacy and efficacy in carrying out tasks related to teaching and learning in the classroom. Content analysis is used to analyse data.

### **Results and discussion**

The findings revealed that novice teachers could demonstrate high self-efficacy levels as well as an ability to use multiple strategies in their classroom practices.

Other findings indicated that peer coaching encouraged novice teachers to exchange teaching methods and materials, cultivate the development of teaching skills, and improve teaching methods and styles, all of which are needed to thrive in the 21<sup>st</sup> century.

The major problems faced by the novice teachers in their teaching practices are a lack of subject knowledge and classroom control, coupled with a lack of experience in controlling the students. Collaboration among novice teachers and mentors, an increase in subject knowledge, and development of positive attitudes and beliefs, are factors needing encouragement.

### **Conclusion**

In this research the goal was to discover how the expert teachers' mentoring and peer coaching affected novice teachers' professional growth. Through teacher interviews and in-class observations of mentoring and peer coaching sessions, it was found that novice teachers were able to develop professionally. This finding is consistent with the statement by Koehler & Kim (2012) that novice teachers should not be left to their own devices in the early years of teaching.

The main challenge that the teachers faced was the amount of time that the process required. Some participants felt it was stressful to be observed by a colleague. Perhaps this study will: bring a greater awareness of the need for support for novice teachers; promote the use of teachers' peers for instructional support; and emphasise the importance of collaboration

between all stakeholders. In addition, the need for more practical approaches such as workshops and open discussions to meet challenges is advocated.

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