Effects of Collaborative Learning on Thai EFL Primary Learners's Vocabulary Knowledge

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Abstracts

Collaborative learning (CL) is a teaching technique which the students work in a small group and use to enhance their understanding in a subject. This study examined the effect of collaborative learning on vocabulary and sought to explore participants' perception toward CL techniques. Twenty Thai EFL students were the participants in this study. Their aged ranged between 11 and 12 years old. They had studied English for more than five years, and none of them had studied English in an English-speaking country. Three research instruments were employed to collect the data: a vocabulary test, a questionnaire, and a semi-structure interview. The quantitative data were analyzed using t-test, standard deviation, mean, and percentage.

The results showed that the CL techniques could enhance vocabulary knowledge among Thai EFL grade six students. And the overall mean score of the students' perception questionnaire was 4.07. Therefore, the qualitative findings supported the benefits of CL techniques and the positive perception toward the CL techniques. Overall, the present study results support the benefits of collaborative learning on vocabulary knowledge, and CL techniques also improved Thai EFL grade six students' perception toward vocabulary knowledge.

Keywords: Collaborative Learning; English Vocabulary Knowledge; The Perception of Students

Introduction

Vocabulary items play an important role in all language skills (Nation, 2013: 44-62). In an English as a Foreign Language (EFL) context, vocabulary richness is a crucial component of language learning in all four skills which are listening, speaking, reading, and writing (Richards, 2000). Learners who have sufficient vocabulary knowledge can understand the concepts or ideas better than those who have limited vocabulary knowledge (Jahan & Jahan, 2011: 45-57). Therefore, without a necessary vocabulary, students will be unable to use it for comprehensibility and communication (Nunan, 1991). However, vocabulary learning is a major concern among language teachers and students (Astane & Berimani, 2014: 113-123.). The reason is that insufficient vocabulary bank could be a challenge in language learning because it is needed for the students to acquire the language (Gouasmia, 2016; Jahan & Jahan, 2011: 45-57). For example; in reading skills, the students cannot understand a given passage because they don't have sufficient vocabulary (Woolley, 2010: 108-125.).

This is because they might be lack of vocabulary knowledge which are form, meaning, and use. Insufficient vocabulary is the reason for them in struggling with improving their English language ability. This reason can cause a negative perception of them toward English

language class. Furthermore, the teaching techniques used in class is passive. The students learn and receive the information from the teacher. They do not have any activities in English class. This style of learning is teacher-centered. This contrasts to active learning which is student-centered. Active learning is a learning that students participate in learning process.

Collaborative Learning (CL) is one of the successful techniques for enhancing vocabulary to young learners (Fulk & King, 2001: 49 – 53.). According to Slavin (1987: 7-13.), Collaborative Learning is the learning technique of a pair or a small group to learn and complete a task to achieve a goal. CL techniques are flexible and simple to encourage and give the students opportunities to learn language; further, they can apply to different language performance levels of the students (Saputra, et al., 2019 & Ambarwati, 2017 & Rohman, 2017: 82.) to improve the student's vocabulary knowledge. In Thai context, some studies have shown that collaborative learning techniques enhanced the language performance of the students and increased their good relationships with their classmates (Pathak & Intratat, 2012: 1-10.). However, these studies mainly focused on the effect of collaborative learning techniques on university students. And there were a few studies in Thailand have been done on primary students. One study investigated 144 undergraduate students' perception, classroom activities, and difficulties with the CL process (Wichanpricha, 2020: 33-52). In addition, the Office of the Basic Education Commission states that the standard of knowing words of grade six students should be able to apply the words about 1,050 to 1,200 words.

To bridge the gap, investigating the effect of collaborative learning techniques on vocabulary learning and exploring their perception toward the use of collaborative learning techniques on vocabulary learning among Thai EFL grade 6 students at a primary school in Northeastern Thailand would be helpful to English teachers and students, to improve the further curriculum to assist students' vocabulary learning. Whilst, Ihsan (2019: 11-23), Hidayati (2017: 102-132.), and Çelik (2015) claim that think-pair-share techniques can improve the vocabulary knowledge of the students. The reason is that that the application of the think-pair-share technique is a low-risk technique that can apply to any amount of students in a class and at any age of the students (Ledlow, 2001). It is simple technique that provides an opportunity to motivate students' participation and their self-confidence to use the language in class (Singh, et al., 2020; Utami & Yuneva, 2018; Hetika et al., 2017: 125-135; Nasution & Surya, 2017; Marzano & Pickering, 2005). Moreover, the implementation of think-pair-share has also shown success in improving learning outcomes in language classes (Putri, et al., 2020; Apriyanti & Ayu, 2020: 13-19.; Yulianti, et al., 2019: 830-837; Hudri & Irwandi, 2019: 1-7). Therefore, Jigsaw II and Think-Pair-Share techniques are beneficial to improve language ability, encourage attitude, and develop the interaction of the students with others (Agbede & Ba'Aba, 2019).

Research Objectives

The present study determined whether collaborative learning (CL) effectively promotes Thai EFL grade six students' vocabulary knowledge by using the integration of jigsaw II and think-pair-share techniques. It is also exploring participants' perception toward the integration of jigsaw II and think-pair-share techniques. Two research questions were as follows:

1. To what extent does the integration of Jigsaw II and Think-Pair-Share techniques affect vocabulary learning among Thai grade 6 students?

2. What are the students' perception toward learning vocabulary through the integration of Jigsaw II and Think-Pair-Share techniques

Research Scope

1. Participants and setting

This present study included 20 participants who were grade 6 students at a primary school in northeastern Thailand. All were Thai native speakers who used their L1 to communicate with their classmates and teachers at school, and no participants had studied in an English-speaking country. They were aged 11 to 12 years old (n = 20). All participants had learned English as a Foreign Language (EFL) for nine years. The participants were selected by purposive sampling because there is only one class for grade six. They studied English for three hours a week with a Thai EFL teacher. The researcher worked as an English teacher for grades one to grade six in this school. All of them were taught the vocabulary from the commercial textbook named "Extra and Friends 6"

2. Research instruments

This study was designed as mixed method research, which combined quantitative data as well as qualitative data. The data were collected to answer the research questions as follows.

RQ1: To what extent does the integration of Jigsaw II and Think-Pair-Share techniques affect vocabulary learning among grade six Thai students?

RQ2: What are the students' perception toward learning vocabulary through the integration of Jigsaw II and Think-Pair-Share techniques?

Quantitative data were collected from vocabulary tests (pretest and posttest). While qualitative data were collected from the students' perception questionnaire and semi-structured interviews. Thus, there were 3 research instruments in this study: a vocabulary test (pretest and posttest), a students' perception questionnaire, and a semi-structured interview.

2.1 The Vocabulary Pretest and Posttest

The test is used to investigate the effect of students' vocabulary knowledge before and after being taught by the integration of jigsaw II and think-pair-shared techniques consisted of three parts (spelling test, meaning test, and sentence completion test).

The first vocabulary test was the spelling test. This test was designed to measure word form. The test includes 30 items, with all nouns. The participants were required to look at the thirty pictures and write the missing letters The time for the test allowed was forty minutes. To avoid misunderstanding, the instruction was given in the Thai version. The scoring was one for each item. If the spelling appeared wrong, it was given zero points. Thus, the total score for this part is thirty.

The meaning test was administrated to the participants as the second test. This test was designed to measure word meaning. The 30 words in this test were nouns. The participants were asked to look at the thirty English words, and write the meaning in Thai. The

scoring in this test was one for each item. If they wrote the wrong meaning, the scoring was zero. They had forty minutes to take this test. The instruction was given in the Thai version.

The final vocabulary test is sentence completion. This test was designed to measure word use. In this test, the participants were asked to choose the correct answer and write in the blank. Thirty items within forty minutes were available for this test. The total score for this test was thirty points. If the participants chose the correct word, it was given one point per each item, and if it was similar to the correct word, one point. If it was a completely wrong word, it was given zero points.

2.2 Students' Perception Questionnaire

The questionnaire is used to investigate the perception of the students through the use of Collaborative teaching techniques on vocabulary learning and to find out the attitude toward the task of understanding new words and retaining them. There is no time limit to complete the questionnaire. This questionnaire consisted of three sections. The first section was students' personal information. The second section was students' learning experience. The last section was the questions on students' perception toward the use of the integration of jigsaw II and think-pair-share techniques. It had been designed in the form of a Likert Scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

2.3 Semi-Structured Interview

In this interview, the questions were focused on the general viewpoint of learning through collaboration in small groups, collaborative tasks, group composition, group work, teacher's assessment, and a reflection on the experience of joining collaborative activities. Due to the limitations of the English language; the L1 allows the participants to respond to the questions from the interview. All the interviews were recorded and transcribed by the researcher. Notes were taken by the researcher whilst interviewing the participants. In each interview, the participants responded to many viewpoints on collaborative learning. They might be mentioned many times in each interview. They were counted as one response.

3. Establishing the test reliability and validity

The reliability and validity of these research instruments were assessed by the Index of Item-Objective Congruence (IOC) method. The content validity of the test was also confirmed by the 3 experts who had more than 10 years of experience in teaching English in Thai EFL contexts. The IOC scores for each test were as follows: 1.0 for the spelling test, 1.0 for the meaning test, 0.90 for the sentence completion test, 0.84 for the students' perception questionnaire, and 1.0 for the semi-structured interview questions.

The reliability of the research instruments was accessed by the pilot study with 30 grade six students who were in grade six at another primary school, and who lived in the same area and were required to take the pilot-study test. Specifically, Cronbach's Alpha coefficients of 0.88, 0.92, and 0.84 were identified on the spelling test, the meaning test, and the sentence completion test, respectively.

4. Data collection procedure

The data collection in this study was completed over six weeks. The first week, the participants were required to take a vocabulary test that was adapted from what is involved in knowing a word (Nation, 2013: 44-62).

Six lesson plans followed the six modules from the school-given book. The integration of jigsaw II techniques and think-pair-share techniques was the last activity of the lesson. After participating in the activity, the teacher reviewed all the target words. The target students

checked their vocabulary on their vocabulary graphic organization. After completing all the lessons, the students were required to take a vocabulary posttest. Later, the students took the student perception questionnaire. On the next day, five participants participated in the semi-structured interview. The semi-structured was face to face interview. The language used in the interview was Thai. The students were interviewed individually about what are their perception of learning vocabulary through jigsaw II and think-pair-share techniques. The interviews were recorded and transcribed by the researcher.

5. Data analysis

For the vocabulary test, the score for each test was analyzed by the descriptive statistics including mean ($\overline{X}$), and standard deviation (S.D.) in the Statistical Package for the Social Science (SPSS) program. After that, inferential statistics, t-test analysis, was used to analyze whether test scores were statistically significant. The data from the semi-structured interview was transcribed and grouped into categories. After that, the data was tallied and presented in percentages.

Research Conceptual Framework

This study focuses on the effect of the integration of jigsaw II and think-pair-share techniques on vocabulary learning among Thai EFL primary students in Northeastern Thailand, and explores their perception toward this technique. In vocabulary class, Gouasmia (2016), Neno and Erfiani (2018: 171-183), and Maulana (2018) found out that the Jigsaw II technique is a simple and effective collaborative learning technique; it also enhances the student's interest and their interactions with the teacher and other students during the class. This is because the Jigsaw II technique tends to eliminate competition in the classroom and increase collaboration among students (Slavin, 1995). Whilst, Ihsan (2019: 11-23), Hidayati (2017: 102-132.), and Çelik (2015) claim that think-pair-share techniques can improve the vocabulary knowledge of the students. The reason is that that the application of the think-pair-share technique is a low-risk technique that can apply to any amount of students in a class and at any age of the students (Ledlow, 2001). It is simple technique that provides an opportunity to motivate students' participation and their self-confidence to use the language in class (Singh, et al., 2020; Utami & Yuneva, 2018; Hetika et al., 2017: 125-135; Nasution & Surya, 2017; Marzano & Pickering, 2005). Moreover, the implementation of think-pair-share has also shown success in improving learning outcomes in language classes (Putri, et al., 2020; Apriyanti & Ayu, 2020: 13-19.; Yulianti, et al., 2019: 830-837; Hudri & Irwandi, 2019: 1-7). Therefore, Jigsaw II and Think-Pair-Share techniques are beneficial to improve language ability, encourage attitude, and develop the interaction of the students with others (Agbede & Ba'Aba, 2019).

Research Results
The effect of the integration of jigsaw II and think-pair-share techniques

The quantitative data analysis derived from the vocabulary knowledge test revealed that the participants' vocabulary performance before and after being taught by the integration of jigsaw II and think-pair-share techniques in all vocabulary tests. In short, this study showed that the use of the integration of jigsaw II and think-pair-share techniques enhances vocabulary knowledge among Thai grade six students. This finding also showed the improvement of students' vocabulary learning after being taught by the integration of jigsaw II and think-pair-share techniques. Moreover, these results showed that the participants tended to gain word meaning before word form and word use. Table 1 shows a summary of the results.

Table 1: The summary of the vocabulary test

N=20	Spelling test		Meaning test		Sentence completion test	
	Pre	Post	Pre	Post	Pre	Post
Mean score	8.50	12.25	13.50	18.75	7.25	10.5
S.D.	0.68	0.75	0.78	0.85	0.62	0.70
t-test	8.01		6.35		3.48	

*p<.05

The Students' perception toward the integration of jigsaw II and think-pair-share techniques
1. Students' perception questionnaire

The overall mean score of the students' perception questionnaire was 4.07 (S.D. = 0.52). The highest mean score was 4.25, obtained by statement 4 *(The techniques of jigsaw II and think-pair-share help me to learn the meaning of a new word)*. It shows that the students help them improve their vocabulary knowledge in terms of meaning. The lowest mean score was 3.90 in statement 2 *(Using techniques of jigsaw II and think-pair-share has increased my enjoyment of classes.)*. This indicates that some of them did not enjoy the vocabulary class using the integration of jigsaw II and think-pair-share techniques. The results are presented in Table 2.

Table 2: The students' perception questionnaire (N=20)

Students' perception	$\bar{X}$	S.D.	Meaning
1. The techniques of jigsaw II and think-pair-share are interesting.	4.00	0.64	High
2. Using techniques of jigsaw II and think-pair-share has increased my enjoyment of classes.	3.90	0.78	High
3. The techniques of jigsaw II and think-pair-share help me to learn the spell of a new word.	4.00	0.72	High
4. The techniques of jigsaw II and think-pair- share help me to learn the meaning of a new word.	4.25	0.79	High
5. The techniques of jigsaw II and think-pair- share help me to learn the usage of a new word.	4.00	0.63	High
6. The techniques of jigsaw II and think-pair- share motivated me to learn new vocabulary.	4.15	0.81	High
7. They are easy to use the techniques in learning new vocabulary.	4.10	0.91	High
8. Using techniques of jigsaw II and think-pair- share made the target vocabulary more meaningful and unforgettable for me.	3.95	0.68	High
9. Using the techniques of jigsaw II and think-pair-share made me more confident to use the new vocabulary.	4.20	0.61	High
10. Using the techniques of jigsaw II and think-pair-share helped me pay more attention in class.	4.20	0.69	High
Total	4.07	0.72	High

2. Students' perception through the Semi-Structured Interview

The six participants were selected for the interview based on the vocabulary test. The interview employed their perception of collaborative learning and their vocabulary knowledge. The data from the interview were described into six parts which were a general viewpoint of student learning through collaboration in small groups, collaborative tasks, group composition, group work, assessment, and reflection on the experience of joining collaborative activities. To sum up, these findings indicate that the use of the integration of jigsaw II and think-pair-share techniques improved the students' vocabulary knowledge in terms of form, meaning, and use. Most of them were satisfied with this activity because it helped them to learn new vocabulary and enhanced their vocabulary knowledge. As shown in Table 3, the students' perception on their vocabulary knowledge through the use of collaborative learning.

Table 3: Students' perception on the semi-structure interviews

Participants	Participants' perception
Student A	I divided the duty to my friends in the way they are good at. Some of them are good at writing so they need to write. Some of them are good at drawing and coloring so they are drawing and coloring. Some of them are good at English, they are checking and teaching us in a group."
Student B	At first, I prefer to work individually when we need to work in a group. This is because I do not trust others. Some of my friends do not good at English. I change my mind after I talked to my teacher and my friends. Thus, I need to share, listen, trust, and respect to my friend's opinion. At the last, I find that working in a group is interesting and challenging. If I rate my group work, it should be eight out of ten.
Student C	I am not good at English so that is why I want to work with friends who are good at English. She might help me in working. I don't want to work with friends who have no responsibility.
Student D	I am close to my friends who are not good at English. She has responsibility for her work. I thought we might do well in the task.
Student E	Everyone in a group helps each other and works together. Working with my friends is good for me because I am not good at English. My friend might help me with my English.
Student F	Working in a group means working with friends to complete the task that is given by the teacher. I sometimes do not want to do the task because it is too difficult for me.

Discussion

1. The Effect of the Integration of Jigsaw II and Think-Pair-Share Techniques on Vocabulary Learning

The first research question in this present study was to what extent did the integration of jigsaw II and think-pair-share techniques affect vocabulary learning. To answer this research question, the quantitative data from vocabulary pre-test and post-test were analyzed. The results from the vocabulary test score (the spelling test, the meaning test, and the sentence completion test) showed that the students' vocabulary knowledge significantly increased. These results suggest that the integration of jigsaw II and think-pair-share techniques enhanced Thai primary students' vocabulary knowledge. This is because Collaborative learning (CL) allows the students working in teams to complete the task and achieve their goals. Each member of the group had their own responsibility to complete and share their work to others. In addition, CL constructed the social connection in the group because they provided the feedback, making the decision, and supporting each other. The current findings align with previous studies showing that CL promotes vocabulary learning (Ali, 2020; Katemba, 2020: 40-50; Siregar and Girsang, 2020: 87-101; Pariati, 2019; Ihsan, 2019: 11-23).

CL encourage students to interact and share their ideas with others results in improving vocabulary knowledge. The integration of jigsaw II and think-pair-share techniques also allow the student to work in groups, share their ideas by listening and assisting to each other. This technique increased the participation of each member in each procedure to think and share their idea. The previous studies have also showed that group discussion enhances language skills and social interaction (Johnson et al., 2014.)

2. The students' perception toward the use of the integration of jigsaw II and think-pair-share techniques

The second research question in the current study was what are the students' perception towards learning vocabulary through the integration of Jigsaw II and Think-Pair-Share techniques. To explore the student's perception, the qualitative data from the questionnaire and the semi-structured interview were analyzed. The results showed that the students had a positive perception after the treatment. The positive attitudes towards this technique are because of the students' interaction with others. Working in a group, they work and interact with their members to explain, share, and clarify their ideas to achieve their goals. (Phuong, 2019; Abdullah, 2010: 777-787; In addition, collaborative learning techniques helped them in gaining knowledge through working in groups and developing their communication skill. The previous study (Hetika et al., 2017: 125-135; Quirey, 2015; La Hanisi, 2018: 29-35.; and Utami, 2019) presented similar results. In Collaborative learning techniques, the students were grouped with different language proficiency levels. They were encouraged to work together and share their ideas to complete the task and achieve the goal. In this study, the integration of jigsaw II and think-pair-share techniques helps the students interact with others.

Based on the interview, most of the participants showed a positive perception towards the use of the integration of jigsaw II and think-pair-share techniques.

"Everyone in a group helps each other and works together. Working with my friends is good for me because I am not good at English.Myfriend might helpme with my English."(Student E)

"I am not good at English so that is why I want to work with friends who are good at English. She might help me in working." (Student C)

"I am close to my friends who are not good at English. She has responsibility for her work. I thought we might do well in the task." (Student D)

This showed that the integration of jigsaw II and think-pair-share techniques helped them to learn the language, increased their communication and participation, and enhanced their motivation and confidence in working in a group.

A negative perception of the use of integration, students described that they do not want to work with friends who have no responsibility. Their group member does not understand all the tasks and does not pay attention to their group task. They sometimes contribute to the challenging task. Some students might feel unmotivated to engage in the task because of their low proficiency but working in teams or pairs may feel comfortable to share and clarify their ideas. This may increase their confidence to use the language in class.

The findings are shown in the following:

"I prefer to work individually when we need to work in a group. This is because I do not trust others. Some of my friends do not good at English." (*Student B*)

"I sometimes do not want to do the task because it is too difficult for me." (*Student E*)

"I don't want to work with friends who have no responsibility." (*Student C*)

In short, the present study showed that CL techniques could help students' vocabulary knowledge, especially Thai EFL primary students. In addition, the result showed that the integration of jigsaw II and think-pair-share techniques help students to engage the task and achieve their goals.

Limitations

In this study, the small number of participants may limit the generalizability of these findings to different contexts. Second, the research selected the target words from the school commercial textbook which was assigned to be a curriculum textbook for grade six students at school; therefore, they were chosen from a school given-textbook.

Recommendation

This current study would recommend investigating in area of vocabulary and CL for further studies. First, the results of this study suggest that CL techniques should be one standard teaching technique in an EFL context to improve students' learning and develop students' knowledge and skills to achieve their individual learning goals. Second, students at other language proficiency levels are suggested, including different contexts and levels of education. Third, further studies can investigate the effect of other techniques from CL on vocabulary knowledge such as round-robin discussion and fish bowl.   Finally, exploring the relationship between CL techniques and student retention would be required.

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