

## Research Article

## The Comparison Between the Effectiveness of the Traditional Teaching Method and the Usage of Images in Vocabulary Teaching

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### Abstract

The purposes of this study were to 1) compare the effectiveness of the traditional teaching method and the usage of images to teach vocabulary, and 2) determine whether the traditional teaching method or the usage of images should be used in vocabulary teaching. The participants consisted of 58 ninth-grade L2 students from Patongprathankirawat School, Thailand. A pre-test and a post-test, validated by three experts, were employed as the main research instruments to assess students' English vocabulary knowledge before and after receiving instruction through one of the two teaching methods. The data were analyzed through mean, standard deviation, and paired samples t-test.

The results unveiled that the experimental group ( $n = 34$ ), which learnt vocabulary through images, achieved a mean score of 7.03 in the post-test compared to 6.08 achieved by the control group ( $n = 24$ ), which learnt vocabulary without images. This showed that the usage of images was more effective than the traditional teaching method in vocabulary teaching. The data indicated that the students receiving the usage of images were able to memorize vocabulary better than those receiving the traditional teaching method. Furthermore, the added section in the post-test revealed that the effectiveness of the traditional teaching method was rated 3.50, and the usage of images was rated 3.62. The latter possessed a higher rating, indicating that the students perceived this method as more effective for vocabulary retention. Therefore, the usage of images should be included in vocabulary teaching because teachers could utilize pictures to make the lessons more interesting and

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memorable. The usage of images could also be combined with different teaching methods, such as role-playing, spelling bees, and flashcards, to create an enjoyable atmosphere in class. For example, students spell words from the given pictures.

**Keywords:** *Traditional Teaching Method, Usage of Images, Vocabulary Teaching, Teaching Methods, L2 Students*

## Introduction

At present, seeking effective ways to enhance students' second language (L2) learning is crucial, as English language instruction in Thailand has not yet led to a significant improvement in students' English proficiency (Pattaradechakul, Daungkaew, Chongchaoen, & Ritcharoon, 2023; Suntornsawate, 2025). In order to learn the target language, L2 students should possess adequate vocabulary. However, studies which investigate ways that can help students learn vocabulary in improving their language learning are still needed to gain deeper knowledge. One of the ways that should not be overlooked is using images to help students learn vocabulary. Stokes (2002) pointed out that there are two main methods in learning through visual aids. The first method concerns students' analyzing or decoding visual stimuli via reading, while the second method concerns encoding via writing pictorials. Regarding the first method, analyzing images can provide a memorable experience allowing students to learn lessons from visual aids (Lester, 2017). As for the second method, it is mainly for communicative intentions (Stokes, 2002), which is beyond the focus of teaching vocabulary in class. Additionally, more studies should look into vocabulary as many researchers claim that it is essential in language learning. Harmer (2007) indicated that grammatical structures cannot express meaning without vocabulary. Many linguists and methodologists have paid more attention on studying about vocabulary. Cameron (2001) considered vocabulary as one of the knowledge areas which importantly involves obtaining a language. Read (2000) pointed out that acquiring vocabulary is necessary for using a target language successfully. Rivers and Nunan (1991) reported that the possession of sufficient vocabulary makes it possible to apply structures and functions of the target language for understandable communication. They mentioned that the acquisition of vocabulary is as important as the acquisition of grammar. Wilkins (1972) stated that "without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (p. 111). In other words, grammar and vocabulary are inseparable. It is impossible to create a sentence if

students lack vocabulary. Although Wilkins established the importance of vocabulary, there are limited studies on its application using images. For teachers, they need to provide vocabulary before teaching grammar to their students. In doing so, they employ various strategies, techniques, and media to teach vocabulary (Fauziningrum et al., 2023). Therefore, using suitable methods for teaching vocabulary is definitely important.

Teaching vocabulary is considered a very challenging and demanding procedure in acquiring any foreign languages. Teachers are thinking of ways to teach vocabulary effectively. Rousoulioti and Seferiadou (2023) revealed that the first approach teachers utilize is teaching students to memorize words by reading aloud, linking new words with previous experiences, using synonyms-antonyms as well as keywords, and explaining the meanings. Vocabulary is the basis of all four language skills, namely, speaking, writing, reading, and listening. Without learning vocabulary, it is difficult for students to develop their language skills. Vocabulary is also the basis of acquiring a second language (Coady & Huckin, 1998). If students do not possess vocabulary, they will be unable to speak, write, and comprehend the target language (Oktavianita, 2022). Eventually, they will not understand the meanings of sentences or the meanings of spoken messages.

Regarding vocabulary teaching in class, teachers as well as students often think that vocabulary can easily be translated and memorized (Allen, 1983). However, acquiring vocabulary is more challenging. Students need to learn the literal meaning of words in the second language, not just the equivalent words in their first language. The literal meaning of words involves using words to reflect their exact meanings (Katz, 1977). For example, “Tina goes to school” has a literal meaning. Moreover, they need some sort of motivation to make them desire to learn words in the second language (Allen, 1983). There are many teaching instruments to support students in learning the second language, especially English.

In the past decades, vocabulary teaching has been increasingly studied. It is determined as a way to facilitate learning words of the second/foreign language (Luchini & Ferreira, 2022). The teaching of L2 vocabulary is the basic of creating sentences, expressing thoughts, knowing meanings, and building communication (Lewis, 1993). Using suitable vocabulary teaching methods can make students develop their second/foreign language effectively (Fauziningrum et al., 2023). According to Hafeez (2021), the traditional teaching method focuses on lecture-based instruction as the teaching center involving syllabus and concepts. About this method, the teacher explains theoretical information while students

listen and take notes. The students mainly learn the information passively. For the teachers, they tend to provide a vocabulary list or write words on the blackboard for the students to remember (Nation, 2016). Another teaching method is the usage of images. This method offers students visual aids while teaching vocabulary (Hussain & Khan, 2022). The images connect with the words and meanings to help students remember the vocabulary. Students will be motivated to learn vocabulary in class. According to this study, both the traditional teaching method and the usage of images were compared as Nation (2001) mentioned that these two methods are often used in vocabulary teaching.

### Objectives

1. To compare the effectiveness of the traditional teaching method and the usage of images on vocabulary teaching.
2. To find whether the traditional teaching method or the usage of images should be applied in vocabulary teaching according to the students.

### Literature Review

#### Vocabulary

In learning English, vocabulary is extremely important. Without knowing vocabulary, students who learn English as a Foreign Language or EFL will not be able to speak, write, read, and listen in English. This indicates that vocabulary is the first step towards learning English. Hence, EFL students need to develop their vocabulary knowledge. If they possess limited vocabulary, it can hinder their second language acquisition and communicative competence (Schmitt & Schmitt, 2020).

For vocabulary, it is the primary aspect for all L2 students when learning the target language. The improvement of students' English competency also involves learning vocabulary. It is known that vocabulary learning is a lifelong task of learning a language as students keep on gaining new words throughout their lives. Even though learning vocabulary can be considered a never-ended process, it needs to be included in the learning process. As students learn vocabulary, they are developing their communicative proficiency, student independence, cognition, and problem-oriented skills (Nation, 1990). Therefore, L2 students need to receive proper vocabulary teaching to learn the target language.

### Vocabulary Teaching

Vocabulary teaching is a part of language teaching. It is different from teaching students' first language. Teachers have to apply suitable techniques to teach vocabulary. Beck, McKeown, and Kucan (2013) suggested various teaching techniques such as the Frayer Model and a vocabulary map to deliver vocabulary lessons. Vocabulary teaching can also be carried out by highlighting keywords and utilizing dictionaries or glossaries to define. Teachers should find teaching techniques that work well with students of different ages because teaching vocabulary to children is different from adults (Pinter, 2006). Also, they need to prepare up-to-date teaching techniques to make vocabulary interesting in class. If the techniques used in teaching vocabulary are effective, the goal of language teaching will be achieved.

In vocabulary teaching, students have to apply their language experiences to help them comprehend and remember words taught by the teacher. Furthermore, students are required to know the meanings of unknown words, maintain words in long-term memory, recall words promptly, and use words in both verbal and written forms (Aebersold & Field, 1997). Nation (2001) recommended six ways for teaching vocabulary. First, teachers should teach different words clearly without complicated explanations. Second, teachers need to link the given words with the students' prior knowledge by showing the similarities. Third, teachers should deliver the words through both spoken and written languages. Fourth, they should pay attention to words which are still partially known by the students. Fifth, they need to inform the students about the words that are frequently used and important in the study. Finally, they should not bring up related words which are unknown or hardly known such as synonyms, opposite words, and words in the same lexical set.

For vocabulary teaching, it should contain three sections. The first section includes pronunciation and spelling as correct pronunciation and accurate spelling are necessary in vocabulary teaching (McCarten, 2007). Students need to hear the sound and see the form of each word. The second section is the grammar of target words because English vocabulary can change into different forms to link other words in sentences. For example, teaching nouns can use words in both singular and plural forms (e.g., goose/geese, tooth/teeth, lady/ladies, and person/people), or teaching verbs can apply words in both base and past forms (e.g., run/ran, speak/spoke, look/looked, and buy/bought). The final section is the word formation by teaching words that can be separated into word parts (McCarten, 2007).

Teachers may present words that have prefix and/or suffix forms such as unlock, inequality, colorful, harmless, remarkable, and impoliteness.

There are two interesting studies which investigate vocabulary teaching in EFL context. The first study was conducted by Octaberlina and Anggarini (2020). This study examined the influence of using picture cards in vocabulary teaching. The participants were nine third grade students of Nida Suksa School, Thailand. The researchers employed an interview, a pretest, and a posttest as research instruments. The results from interviews revealed that before learning vocabulary through picture cards, the students felt bored with the lessons. They encountered difficulty remembering both words and meanings. Also, they had to learn the lessons slowly to gain understanding. After receiving picture cards, the students enjoyed learning vocabulary. Using picture cards in vocabulary teaching could motivate them to comprehend the target words. Furthermore, picture cards helped them remember English vocabulary and know the meaning easier. This was reflected through their posttest scores as all students gained more points than their pretest scores. Finally, the researchers pointed out that more studies needed to find other learning activities which could enhance vocabulary teaching.

The second study was conducted by Nasri (2022). The researcher investigated the impact of utilizing different teaching strategies to improve EFL students' vocabulary. This study used a questionnaire to collect data from 120 first-year EFL students in Algerian universities, and a semi-structured interview to ask eight university lecturers. The results from the questionnaire revealed that applying language games (e.g., guessing the tools, jigsaws, and crosswords) was preferred by most students (51.8%), followed by word mapping (23.4%), miming (13.9%), and flashcards (10.9%) respectively. They considered that using language games to teach vocabulary could motivate students' learning of new words in a fun way. As for the interviews with the teachers, half of them (50%) mentioned that utilizing pictures as well as flashcards could be beneficial in teaching new words. Furthermore, half of the teachers (50%) regarded the usage of images to be an effective way to teach vocabulary because it could show examples and clarify difficult words. All the teachers agreed that employing effective teaching strategies could help students develop their vocabulary. On the other hand, traditional teaching strategies, such as questioning and discussing ideas, might cause students to be bored while learning vocabulary. The researcher indicated that

using unique teaching strategies allows students to enjoy learning in class. However, most L2 teachers seem to overlook the importance of effective strategies for vocabulary teaching.

Regarding vocabulary teaching in Thailand, there are two interesting studies that show how vocabulary is taught at the present time. The first study was conducted by Lampai and Sukying (2023). This study examined the effectiveness of audio-visual instruction in developing Thai EFL students' vocabulary knowledge. The participants were 51 sixth grade students. In class, the students received English lessons with form-meaning links via audio-visual teaching. They learnt the target words through audio-visual input in the form of pictures, words, pronunciations, and sentences. That is to say, the audio-visual instruction involved presenting vocabulary with word spellings, word pronunciations, and sample sentences. It was used to teach the students how to translate from English to Thai and Thai to English.

As for the second study, it was conducted by Kertthong and Liangpanit (2024). The researchers identified the effects of utilizing activity-based learning instruction to improve Thai primary school students' vocabulary knowledge. The participants were 25 sixth graders of Nonchantuekhuaykaewittaya School, Thailand. This study applied lesson plans with activity-based learning instruction that contained five stages of teaching as follows: leading in, experiencing, applying, discussing and reflecting, and evaluating. The activity-based learning instruction included vocabulary concerning five topics, namely, food, family, health, climate, and places. For each class, the first hour involved the stages of leading in, experiencing, and applying. In the second hour, the students discussed the topic and presented their work. Finally, the third hour concerned completing vocabulary exercises by matching words, filling gaps, and writing sentences. The students further received feedback on their performances in the exercises.

### **Teaching Methods**

Regarding vocabulary teaching, there are two interesting methods utilized for teaching vocabulary. These two methods are the traditional teaching method and the usage of images as Nation (2001) considered them to be widely used in teaching vocabulary. About the traditional teaching method, it has been widely employed for generations. It usually concerns recitation (Liu & Liu, 2021). In this method, students memorize words repeatedly until they can transfer all of them to the memory. It is a direct approach which helps students gain rapid vocabulary acquisition. For the usage of images, it includes visual materials to support

vocabulary teaching (Hussain & Khan, 2022). This method can maintain students' interest when teachers carry out vocabulary lessons in class. The images are employed to link between words and meanings.

As the usage of images has become an interesting teaching method, some researchers investigate its benefits in vocabulary teaching. Pribadi, Chozin, Aini, Yulianti, and Tarihoran (2024) pointed out that teachers must provide students with pictorial materials. The pictures attract students' interest and increase their motivation when learning vocabulary of the target language. For Harmer (2007), pictures are useful teaching materials that are cheap and free. They can be found in various sources such as books, magazines, newspapers, and websites. Moreover, the pictures chosen by teachers display actual facts in the form of visual aids that represent the words of the target language. Liu (2023) mentioned that employing images can support students' associative memory. Liu revealed that specific visual aids allow L2 students to connect words with the meanings. During a period of time, memorizing vocabulary through images can help L2 students retain more words than memorizing through verbal input.

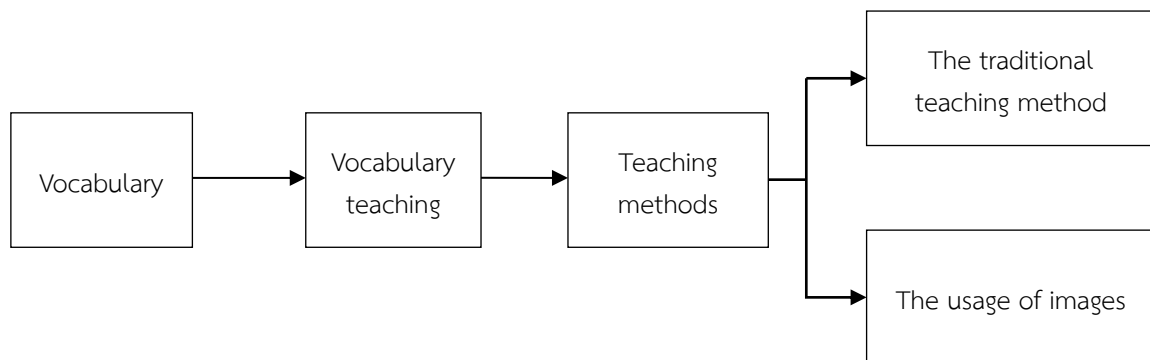
There is an interesting study conducted by Guo, McTigue, Matthews, and Zimmer (2020). This study synthesized 44 articles which involved the usage of visual aids on teaching different subjects such as mathematics, biology, science, geography, and English. The articles were published between January 2002 and October 2017. From the articles, the visual aids included images, tables, photographs, diagrams, maps, and flowcharts. These visual aids were employed to teach students of kindergarten, lower elementary (grades 1-3), upper elementary (grades 4-6), lower secondary (grades 7-9), and upper secondary (grades 10-12) levels. The results unveiled that the use of visual aids did not always lead to a positive learning outcome. As for students' learning, memorization, and perception of information when students received visual aids were both effective and ineffective according to the articles. Moreover, the integration of visual aids into classrooms had positive effects on improving students' higher-level learning, namely, analyzing, evaluating, applying, and creating. The researchers mentioned that there were still limited studies on selecting suitable visual aids to enhance students' learning in class. They supported more studies to investigate effective visual materials for younger students.



## Conceptual Framework

Teaching vocabulary is a way to make L2 students learn words of the target language. In order to acquire the second language, students must obtain vocabulary before they can move on to grammatical structure (Lewis, 1993). If they possess low vocabulary knowledge, it will be difficult to create sentences (Wilkins, 1976). Teachers need to apply suitable teaching methods for enhancing students' vocabulary knowledge. There are two teaching methods that are often employed in vocabulary teaching, namely the traditional teaching method and the usage of images (Nation, 2001). The former urges students to remember the words through recitation, while the latter employs visual instruments to support students' memorization of words.

From the two methods, the study aims to find the effectiveness of the traditional teaching method and the usage of images on vocabulary teaching. Through examining the qualities of both teaching methods, this study is certain to offer profound details about suitable methods for teaching vocabulary as shown in the Figure 1.



**Figure 1** Conceptual Framework

Source: Researcher's Conceptual Framework

## Methodology

This section contains important information about the participants, the research instruments, and data analysis.

### Population and Samples

The population comprised ninth grade students at Patongprathankirawat School, Songkhla Province. This school taught English vocabulary to students, so the study was

conducted there. The school consisted of 184 ninth graders. Most of the students were Thai native speakers. They studied English since kindergarten. A total number of 58 students were selected through purposive sampling. This study used Cohen, Manion, and Morrison's (2000) criteria to determine the sample size. For experimental studies, such as this one, the suitable sample size should be more than 50 participants. Thus, 58 participants were considered an appropriate amount. The participants were from two classes: Class 3/1 included 24 students (8 males and 16 females) and Class 3/2 included 34 students (15 males and 19 females). They took part in this study because both classes had vocabulary lessons. They were low-intermediate students as their test scores in Fundamental English were at the lower average level. The main problem that these students encountered when learning English vocabulary was being unable to remember the words as well as the meanings taught in class. They mentioned that memorizing the word itself and its meaning at the same time was difficult. The students also revealed that most of the teachers delivered vocabulary lessons by employing the traditional teaching method. They wanted vocabulary lessons to be enjoyable by adding some techniques that would help them retain the target words.

The participants joined this study in the second semester of the academic year 2023. They were required to learn three lessons involving the topic Technology & Communication. Each lesson comprised 10 words for ninth grade students. Furthermore, each lesson was taught two hours a week. All lessons of both classes were taught by the same Thai teacher who had many years of experience in teaching English. Throughout the study, the participants were taught 30 words relating to technology, devices, communication, and living things. Examples of the given words were fax machine, human race, inhabitant, mobile phone, pager, satellite, solar system, spacecraft, and time capsule.

### **Research Instruments**

According to the study, it utilized a pretest and a posttest as the main research instruments to collect data. Both tests were employed to obtain quantitative data which indicated the effectiveness of the traditional teaching method and the usage of images before and after the participants took part in one of the methods. The pretest and the posttest required the participants to match 10 words with the given pictures. The 10 words in each test were the same, but the pictures were different to prevent the participants from remembering the same answers. They answered the tests by writing down the number of each picture in its correct vocabulary form. Therefore, both tests consisted of 10 words and

10 pictures with the total score of 10 points. In terms of the test validity and the content validity of the pretest as well as the posttest, three professionals relating to test development were asked to evaluate and approve the tests to assure that they measured student's vocabulary effectively (Bachman & Palmer, 1996). The index of item-objective congruence (IOC) was rated by the experts to evaluate both tests (Rovinelli & Hambleton, 1977). The question with an IOC value below 0.5 was not added in the test. However, the posttest included another section which was a survey for the participants to rate the effectiveness of the method on teaching vocabulary they partook in class. The ratings were arranged from (1) to (5) as follows: (1) indicates Very poor; (2) indicates Poor; (3) indicates Fair; (4) indicates Good; and (5) indicates Very good. Each participant could choose only one rating. This section was not available in the pretest because the participants were involved in one of the teaching methods after they already took the test.

### Data Analysis

The duration of this study covered five weeks. In the first week, the participants from Class 3/1 ( $n = 24$ ) and Class 3/2 ( $n = 34$ ) took the pretest. From the second week to the fourth week, the participants from Class 3/1, regarded as the control group, received the traditional teaching method through vocabulary lessons without pictures. On the other hand, those from Class 3/2, regarded as the experimental group, received the usage of images through vocabulary lessons with pictures. In each week, both groups were taught the same lesson with the same vocabulary for two hours. All the participants learnt the spelling, meaning, and pronunciation of each word. In the final week or the fifth week, they were required to complete the posttest in order to compare the effectiveness of the traditional teaching method and the usage of images. Moreover, the added section of the posttest was used to find which teaching method should be applied in vocabulary teaching.

This study analyzed the participants' test scores by using a t-test to find the statistical significance of the results. For comparing test scores before and after the participants took part in either the traditional teaching method or the usage of images, a paired samples t-test was employed. Additionally, both mean (or  $\bar{X}$ ) and the standard deviation (or SD) were utilized in this study. The former was applied to the pretest and the posttest to compare their mean scores. On the other hand, the latter was used to find the amount of variation of actual values from the difference between the values in the tests and the mean. The obtained values should be low to show that each participant's test score was related to the

mean of the entire class (Rumsey, 2005). In order to find the mean, standard deviation, and the paired samples t-test, Statistical Package for the Social Sciences (or SPSS) was used in the study. Also, the significance level and the p-value were analyzed to find whether there was a statistically significant difference between the pretest scores and the posttest scores. Concerning the additional section in the posttest, the participants' ratings on the effectiveness of the teaching methods in vocabulary teaching were analyzed. The average ratings were divided into five levels as follows: a rating of 1.00–1.80 means *Very poor*; 1.81–2.60 means *Poor*; 2.61–3.40 means *Moderate*; 3.41–4.20 means *Good*; and 4.21–5.00 means *Very good*. Each participant could select only one rating from (1) 'Very poor' to (5) 'Very good' regarding the teaching method which they partook in class (the traditional teaching method or the usage of images).

## Results

This section shows data collected in the pretest as well as the posttest to point out the effectiveness of the traditional teaching method and the usage of images on vocabulary teaching. The values of  $\bar{X}$  and SD were presented in this section. The t-statistic (t) was included to measure the size of the difference relative to the variation in the data. A larger absolute value of the t-statistic indicates a more significant difference. Degrees of freedom (df) was added to acquire the number of independent variables that may vary (Healey, 1990). In the data, the significance level and the p-value were measured to find any significant difference between scores of the pretest and the posttest. For this study, it intended to investigate two aspects as follows:

1. The study compared the effectiveness of two teaching methods, namely, the traditional teaching method and the usage of images, on vocabulary teaching by applying the participants' scores in the pretest and the posttest. The scores of the pretest and the posttest reflected the participants' vocabulary before and after taking part in one of the teaching methods. The scores of both tests involving the traditional teaching method were compared and revealed in Table 1.

**Table 1** Scores of the Pretest and the Posttest (The Traditional Teaching Method)

No.	Score (10 points)		Increased	No.	Score (10 points)		Increased
	Pre-test	Post-test			Pre-test	Post-test	
1	2	8	6	14	3	8	5
2	3	7	4	15	1	8	7
3	3	5	2	16	1	2	1
4	0	2	2	17	4	10	6
5	4	10	6	18	3	7	4
6	4	5	1	19	1	7	6
7	3	8	5	20	1	3	2
8	3	10	7	21	0	5	5
9	1	3	2	22	1	6	5
10	4	10	6	23	1	5	4
11	0	2	2	24	3	8	5
12	2	6	4				
13	0	1	1	<b>Mean</b>	<b>2.0</b>	<b>6.08</b>	<b>4.08</b>

In accordance with Table 1, each test contains the total score of 10. About the participants, they were 24 ninth graders of Class 3/1 who learnt vocabulary through the traditional teaching method. As for the results, the lowest pretest score was 0 obtained by four participants, while the highest score was 4 acquired by four participants. The scores from the pretest were rather low because none of them obtained more than 4 points. Involving the posttest, the lowest score was 1 obtained by only one participant, and the highest score was 10 succeeded by four participants. Comparing both test scores, all participants (n = 24) gained higher scores in the posttest. The highest increased points were 7 achieved by two participants. Furthermore, the mean score of the posttest was clearly higher than the pretest by 4.08. Thus, the results indicated that the traditional teaching method was effective in vocabulary teaching as all participants accomplished higher scores in the posttest.

In the traditional teaching method, the values of the mean ( $\bar{X}$ ), standard deviation (SD), t-statistic (t), degrees of freedom (df), and the p-value were analyzed by using a paired samples t-test. The data collected from the paired samples t-test are shown in Table 2.

**Table 2** Results of the Paired Samples T-Test: T-Statistic and Associated Values  
(The Traditional Teaching Method)

Test	N	$\bar{X}$	SD	t	df	p-value
Pre-test	24	2.00	1.41	-10.12	23	.
Post-test	24	6.08	2.81			.000*

\*p < .05 indicates statistical significance.

From Table 2, the mean score of the pretest was 2.00 and the mean score of the posttest was 6.08. The higher mean score in the posttest reflected that the traditional teaching method was effective in vocabulary teaching because the participants' test scores improved after taking part in this teaching method. In terms of the standard deviation, the values in the pretest and the posttest were 1.41 and 2.81, respectively. These values indicated that the test scores were closely linked to the mean scores (Brown, 1988). The p-value indicates a statistically significant difference between the pretest and posttest scores for the traditional teaching method as it was less than .05. Additionally, the collected data indicated that the participants' vocabulary significantly improved after partaking in the traditional teaching method. Therefore, this teaching method was effective in vocabulary teaching because the participants could remember words and meanings better resulting in higher posttest scores.

As for the effectiveness in vocabulary teaching concerning the usage of images, the participants' pretest scores and posttest scores were compared and presented in Table 3.

**Table 3** Scores of the Pretest and the Posttest (The Usage of Images)

No.	Score (10 points)		Increased		No.	Score (10 points)		Increased
	Pre-test	Post-test				Pre-test	Post-test	
1	1	2	1		8	0	10	10
2	1	10	9		9	3	10	7
3	0	10	10		10	0	3	3
4	1	10	9		11	2	9	7
5	1	8	7		12	4	6	2
6	3	10	7		13	1	3	2
7	2	4	2		14	2	10	8

Table 3 (Cont.)

No.	Score (10 points)		Increased	No.	Score (10 points)		Increased
	Pre-test	Post-test			Pre-test	Post-test	
15	0	2	2	26	2	10	8
16	0	7	7	27	4	10	6
17	0	10	10	28	3	4	1
18	4	5	1	29	2	8	6
19	4	10	6	30	2	2	0
20	5	8	3	31	3	10	7
21	2	2	0	32	4	6	2
22	0	1	1	33	0	7	7
23	3	8	5	34	2	10	8
24	0	4	4				
25	4	10	6	<b>Mean</b>	<b>1.91</b>	<b>7.03</b>	<b>5.12</b>

According to Table 3, the participants' pretest and posttest scores are disclosed. The participants were 34 ninth grade students from Class 3/2. They partook in a class which employed pictures to teach vocabulary. Regarding the pretest, the lowest score was 0 obtained by nine participants, and the highest score was 5 acquired by only one participant. From the pretest, the scores were quite low since a lot of students did not receive any point. Only one participant managed to score 5 points, whereas the rest scored less than five. In the posttest, the lowest score was 1 received by one participant, while the highest score was 10 remarkably accomplished by 14 participants. Between the pretest scores and the posttest scores, most of the participants ( $n = 32$ ) attained higher scores in the posttest. There were two participants who received the same score of 2 points in both the pretest and the posttest. The highest increased points were 10 wonderfully succeeded by three participants. The mean score of the posttest was considerably higher than the pretest by 5.12. Hence, the results proved that the usage of images was efficient in vocabulary teaching because most participants who joined this teaching method achieved better scores in the posttest. This method could be employed by teachers in teaching vocabulary.

As for the utilization of the paired samples t-test, it analyzed the mean, standard deviation, t-statistic, degrees of freedom, and the p-value. The values acquired from the paired samples t-test are displayed in Table 4.

**Table 4** Results of the Paired Samples T-Test: T-Statistic and Associated Values (The Usage of Images)

Test	N	$\bar{X}$	SD	t	df	p-value
Pre-test	34	1.91	1.55	-9.39	33	.000*
Post-test	34	7.03	3.19			

\*p < .05 indicates statistical significance.

In Table 4, the values pointed out that the mean scores of the pretest and the posttest were 1.91 and 7.03, respectively. The posttest obtained higher mean score showing that the usage of images was effective in vocabulary teaching. That is to say, applying pictures to support the memorization of words and meanings proved to be efficient as most participants received higher test scores after taking part in this teaching method. Concerning the standard deviation, the value of the pretest was 1.55 and the value of the posttest was 3.19. Both values insisted that the pretest and posttest scores were related to the mean scores. The p-value was less than .05, showing a statistically significant difference between the pretest and posttest scores for the usage of images. This reflected that the usage of images could improve students' vocabulary. Thus, utilizing this teaching method was efficient in vocabulary teaching as most participants improved their memorization of words together with meanings.

By comparing Table 1 involving the traditional teaching method with Table 3 involving the usage of images, the data revealed that the former's posttest mean score was 6.08 and the latter's score was 7.03. The usage of images obtained a higher average posttest score. Remarkably, there were 14 participants who achieved 10 points in the posttest after attending the usage of images. This shows that the usage of images could make participants remember words and meanings better than the traditional teaching method. Therefore, images could be used as mnemonic devices to help students memorize target words in vocabulary lessons.

In order to determine whether there was a significant difference between Class 3/1 and Class 3/2, posttest scores of the two classes were compared. The values obtained from the independent samples t-test are revealed in Table 5.



**Table 5** Results of the Independent Samples T-Test: T-Statistic and Associated Values

Test	N	$\bar{X}$	SD	t	df	p-value
Post-test 1	24	6.08	2.81	-1.17	56	.248
Post-test 2	34	7.03	3.19			

From Table 5, the posttest 1 involved the traditional teaching method and the posttest 2 involved the usage of images. The values showed that the mean score of the posttest 1 was 6.08 and the mean score of the posttest 2 was 7.03. The posttest 2 possessed a higher mean score, indicating that the usage of images was more effective than the traditional teaching method in vocabulary teaching. Regarding the standard deviation, the values of the posttest 1 and posttest 2 were 2.81 and 3.19, respectively. Both values were considered related to the mean scores. Furthermore, the t-statistic was -1.17 and the p-value was .248. The latter was more than .05, showing a non-significant difference between the scores of both posttests. This reflected that there was no significant difference between the posttest performances of Class 3/1 receiving the traditional teaching method and Class 3/2 receiving the usage of images.

2. This study also determined to find whether the traditional teaching method or the usage of images should rather be employed in teaching English vocabulary. To acquire the answer, the added section, which was a survey, in the posttest was analyzed. In this section, each participant was required to rate the teaching method they received by choosing only one rating from (1) *Very poor* to (5) *Very good*. The results are presented as means to point out whether the traditional teaching method or the usage of images was highly rated by the participants according to the effectiveness in vocabulary teaching. The means of both teaching methods are displayed in Table 6.

**Table 6** The Effectiveness of the Teaching Methods

Teaching methods	N	Rating					Mean
		1	2	3	4	5	
The traditional teaching method	24	0	2	11	8	3	3.50
The usage of images	34	0	4	14	7	9	3.62

About Table 6, it shows that most of the participants ( $n = 11$ ) who partook in the traditional teaching method considered its effectiveness in teaching vocabulary as '(3) Fair'.

The same occurred in the usage of images as the majority ( $n = 14$ ) rated this teaching method as '(3) Fair'. The information indicates that most participants from both groups considered that the teaching methods they received were moderately effective in teaching vocabulary. Concerning the second most selected rating, one third of the participants ( $n = 8$ ) in the traditional teaching method regarded its effectiveness as '(4) Good'. Relating to the usage of images, the second most selected rating was '(5) Very good' as over a quarter of participants ( $n = 9$ ) considered that it helped them effectively memorize English vocabulary. Thus, many participants considered that both teaching methods were effective for teaching vocabulary in class. Most participants acknowledged that their memorization of words and meanings became better after receiving the teaching methods.

For the means of the two teaching methods, the traditional teaching method was 3.50 and the usage of images was 3.62. The means indicated that the effectiveness of each method was 'Good' (Mean 3.41-4.20) according to the participants' ratings. However, the mean concerning the usage of images was higher reflecting that many participants who received this method clearly recognized their improvement in memorizing vocabulary. From the results, teachers could carry out vocabulary lessons by showing pictures. The utilization of pictures could help students remember new words. Teachers should also teach pronunciation and spelling together with images in the vocabulary lessons.

This study included important information regarding the effectiveness of the traditional teaching method and the usage of images on vocabulary teaching. It proved that the latter was more effective in teaching vocabulary and highly rated by the participants. Teachers could apply the results by adapting the usage of images to be suitable for their vocabulary lessons. This teaching method could make learning memorable and enjoyable for students in class.

## Discussion

1. In accordance with the first aspect, this study reported that the students who learnt English vocabulary through the usage of images accomplished higher test scores than those who learnt through the traditional teaching method. This showed that after the students took part in one of the teaching methods, the group attending the usage of images achieved higher mean score in the posttest. That is to say, the group receiving vocabulary lessons with pictorials of actions, objects, and places relating to the target words was able to memorize English words better than the group receiving vocabulary lessons without pictorials. This was

according to the study by Guo et al. (2020), which pointed out that combining visual aids with lessons has positive effects on enhancing students' learning, for example, analyzing the information. It was also related to both Octaberlina and Anggarini's (2020) study and Nasri's (2022) study. From Octaberlina and Anggarini's (2020) study, they mentioned that pictures could support students in remembering words and understanding meanings easier. As for Nasri's (2022) study, the researcher revealed that teachers supported the usage of images in teaching vocabulary because it displays examples and clarifies difficult words, which could be beneficial in helping students comprehend new vocabulary. Thus, the results indicated that the utilization of images is more efficient than the traditional teaching method in helping students retain vocabulary. In addition, this study fulfilled the suggestions of the related studies by emphasizing the significance of effective methods for vocabulary teaching (Nasri, 2022), conducting a study to acquire a learning activity which suits vocabulary teaching (Octaberlina & Anggarini, 2020), and examining images to find visual aids suitable for teaching younger students (Guo et al., 2020).

2. For the second aspect, the study intended to find whether the traditional teaching method or the usage of images was highly regarded by the students for vocabulary teaching. From the study, the effectiveness of both teaching methods was regarded as 'Good'. However, the usage of images received a higher mean than the traditional teaching method. The findings indicated that many students considered the usage of images as an effective method in developing their vocabulary. This was related to the study by Octaberlina and Anggarini (2020) who agreed that pictorials are important in helping students remember words as well as meanings. Furthermore, it complied with the study by Nasri (2022) who regarded utilizing images as an efficient method for vocabulary teaching because it includes pictures to simplify target words. Therefore, the usage of images should be applied in vocabulary teaching rather than the traditional teaching method. Finally, the study involved two teaching methods, namely, the traditional teaching method and the usage of images. However, vocabulary teaching through images is similar to audio-visual teaching which was used in Lampai and Sukying's (2023) study because both methods employed visual aids. This showed that the usage of images could be applied to teach vocabulary lessons at the present time in Thailand.

This study contains some limitations that need to be considered to acquire profound results. First, the number of participants is small, which cannot be generalized to a larger population or applied to participants in other contexts. Second, the duration of the study is

short, which may affect data accuracy. Finally, the study used a pretest and a posttest, which resulted in only quantitative data.

## Recommendations

### Recommendations for Applying the Results

1. Teachers can integrate images into vocabulary lessons by adding visual aids such as pictures, photographs, and slides to teach pronunciations, spellings and meanings.
2. Teachers can utilize proper visual aids according to the students' educational levels. For example, teachers can apply animated pictures to teach vocabulary to students of elementary education.
3. Teachers can combine the usage of images with other teaching methods such as vocabulary lists, spelling bees, role playing, and flashcards. For example, students spell words according to the pictures shown by the teacher.
4. Teachers can employ images in various lessons. For example, teachers can apply pictures to teach reading comprehension and parts of speech.
5. Teachers can use visual aids at the beginning of each lesson for students to link images with meanings.

### Recommendations for Further Research

1. Future studies can add an interview as one of the research instruments to collect data on students' attitudes to examine whether the traditional teaching method or the usage of images should be applied in vocabulary teaching.
2. Future studies can include a larger sample size of 70 to 80 students or more for achieving profound results.
3. Future studies can extend the duration from three weeks to five weeks or more, for students to sufficiently receive the teaching methods in class.
4. Future research can investigate the long-term effects of visual aids and extend the study to diverse educational levels to gain deeper insights.

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