# Using PowerPoint Puzzle-picture Games for Teaching Vocabulary to Thai EFL Young Learners

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**Abstract**

**Background and Aims:** This study investigated the effectiveness of using PowerPoint puzzle-picture games in improving vocabulary skills among fourth-grade students defined as EFL young learners in Thailand. It aimed to; (1) examine the impact of using the games in improving vocabulary skills among Thai EFL young learners who possess their English competence at the A1 level under the Common European Framework of Reference for Languages (CEFR) and (2) quantify the learners' attitude towards the implementation of the games.

**Methodology:** This experimental study investigated the efficacy of PowerPoint puzzle-picture games in enhancing English vocabulary learning among Thai young learners, alongside gauging their attitude towards this instructional approach. Utilizing a one-group experimental design, 40 fourth-grade students from Wat Chaisurin School participated in the study, selected based on A1 English competency criteria. The study, validated by three EFL experts, spanned four weeks, comprising three 50-minute sessions per week, and involved pre-test and post-test vocabulary assessments.

**Results:** After the experiment of using the games with the fourth-grade sample group, it was found that the games could be utilized as the media to enhance the English vocabulary skills of the students significantly at 0.01 level (t = -9.29, α = 0.01) meaning that they improved the students' vocabulary skills in terms of vocabulary knowledge retention. It also showed a positive impact on motivation and engagement gained by the students in terms of stimulation that encouraged them to participate in the English vocabulary learning activity. To some extent, the games could practically enhance vocabulary skill instruction in other subjects.

**Conclusion:** The results confirmed that using games effectively improves English vocabulary skills among fourth-grade students, fostering both knowledge retention and heightened motivation for learning. Moreover, the positive outcomes suggest that incorporating such games into instruction may have broader applicability, potentially enhancing vocabulary skill development across diverse subjects.

**Keywords:** Puzzle Picture; PowerPoint Game; English Vocabulary; Young Learners

## Introduction

In the late twentieth century, the field of education mostly required games and activities as they are considered one of the useful techniques that teachers can use in their classes (Hajji & Kim, 2019). Games can encourage learning and motivation, and students get very engaged in games, some of them are appropriate for young and adult learners studying English as their second language. Proper use of games in English pedagogy could help students get rid of the pressure of learning a language and create a relaxed atmosphere for learning (Yang & Dixon, 2015). Competent games are the best examples of cognitive psychology provided in action: a meaningful and motivating activity with clear and consistent reactions set with reliable goals (Rieber et al., 2008).

Learners often find a second language difficult and innovative ways are sought by educators as they are willing to continue to improve language learning and increase the motivation of the second language learners. Several technologies exist to assist in language learning, ranging from basic tools which could be electronic applications on computers, software programs, and mobile learning, to the use of games on mobile platforms to teach language skills (Shennat, 2019).

This paper presents a practical game that teachers of English can use or apply at all levels of students as EFL learners whose English skills are at the level of A1 based on the Common European Framework of Reference for Languages (CEFR) as a part of classroom instruction. The fourth-grade

students studying at Wat Chai Surin Municipality School in Phetchaburi province, Thailand, were selected as the sample for this study.

## Objectives

    1. To examine the impact of using PowerPoint puzzle-picture games on Thai EFL young learners.

    2. To quantify the learners' motivation and engagement towards learning with practical use of the PowerPoint puzzle-picture games.

## Literature review

The PowerPoint game is a game constructed by using the Microsoft (MS) PowerPoint application, and its templates can be assembled (Siko & Barbour, 2012) for a variety of English learning games. This application has been used as an instructional tool in foreign language pedagogy and other different uses. Modern language instruction depends more on the use of technology such as PowerPoint to express or conduct ideas and messages with the help of images, animations, and. In addition, it can be an assistant tool that can be designed and constructed into a game to assist teachers in running lesson activities in the classroom. Moreover, through games roles of the learners and teachers are changed and the learners are encouraged by the teachers to actively participate in their learning (Gozcu & Caganaga, 2016).

Games of vocabulary learning can be designed to reinforce a teacher's instruction and aid student's understanding of significant content (Wells & Narkon, 2011). Playing a learning game requires students to cooperate with other students as a team or group, sometimes just individually to compete against the other teams or players. While playing, the learners need to use the English language and repeated patterns which will help in developing and improving their skills (Bakhsh, 2016). The teacher plays a significant role in helping the students to gain adequate vocabulary to comprehend. Moreover, students should have chances to speak English with their knowledge of vocabulary and knowing how to use the words in certain sentence patterns determined in the gameplay. The teacher should also have a close review of the language in which the students could be rewarded for their ability to use words and expressions (Anil, 2011). For instance, a puzzle picture game is designed to have the learners or students focus on learning the English vocabulary as a part of an entire lesson. The game requires students to use speaking skills and critical thinking skills while playing to win the game. Playing the game is therefore counted as learning with enjoyable actions each team or individual is trying to use the target language while playing it.

Young learners, who are children from the first year of formal schooling (five or six years old) to eleven or twelve years of age (Phillip, 1993), like to play games. Drew and Hasselgreen (2008) define young language learners (YLL) as learners from five years, up to around 12-13 years, which seems to reflect the lower and upper limits of primary school education. These young children always love to have fun with playing games. In addition, from their study, Yolageldili & Arıkan (2011) found that game-like activities have been proven to work well with young learners. Games can encourage young learners to develop motivation toward learning English and develop their communication skills, which is the main target of the instruction.

### Previous related studies

There are significant previous studies on using the PowerPoint game approach in language teaching and learning. Lari (2014) conducted a study on strategies, including games, that impacted secondary school students learning English vocabulary and the results showed that technology plays a big role in language classes. Games could be used as a tool to facilitate teaching and learning practically. However, the researcher had not pinpointed how games developed with PowerPoint applications could enhance vocabulary learning interactively. Hashemi, Azizzinezhad, and Farokhi (2012) conducted a study and found that using the PowerPoint application was a better innovative tool for teaching and learning in modern classes, and school teachers could employ the application to enhance teaching sessions by providing a roadmap, reinforcing what you say and allowing you to use graphics and other multimedia to clarify understanding and to support different learning styles, but developing game design with the application for teaching had not clarified. Barbour, Kinsella, and Rieber (2009) conducted a study using homemade

PowerPoint games in classrooms and they found that using the games could effectively improve students' learning, yet the students' attitude towards learning with this type of software application games, such as motivation, had not been quantified. This study could fill in those research gaps with useful findings.

## Methodology

This is an experimental study that involves the collection and analysis of quantitative data to find out the result of utilizing the PowerPoint puzzle-picture games for English vocabulary learning of Thai young learners and quantify their attitude towards the instruction that used the English vocabulary learning games in the classroom. The sample of this study was 40 fourth-grade students studying at a local primary school, Wat Chaisurin School located in downtown Phetchaburi, purposively selected based on their English competency under CEFR test results at A1 (first level or beginner) criteria. With a verification discussion, the researcher and the school teachers of English agreed that the selected students were a normal representative of the population. The sample was assigned to be the one-group experimental to learn English vocabulary with the picture-puzzle games designed by the researcher on the Microsoft PowerPoint application instruction focusing on the practical vocabulary learning games in various topics associated with real-life situations or activities. The vocabulary instruction and learning include correct pronunciation and communicative practice used while learning in the classroom. The vocabulary content was aligned with the curriculum indicators of English for fourth graders, which include vocabulary in topics of number, time, color, occupation food, and animal. After the game was designed, it was validated by 3 experts in English teaching as a foreign language (EFL) pedagogy. The experiment lasted 4 weeks and each week contained 3 separate period hours of 50 minutes per day. The data were collected by using two appareled vocabulary pre-test and post-test.

### Instruments for data collection

There were two types of instruments used in this study; 1) appareled vocabulary pre-test and post-test, and 2) a questionnaire. The vocabulary tests were created by the researcher and then validated their IOC by 3 EFL teaching experts. Before the experiment, the participants took the vocabulary pre-test and then took the post-test after the experiment had ended. The vocabulary test content includes parts of speech of words (e.g. noun, verb, adjective, adverb, etc.) and the communication of telling time. To determination of the learners' attitude towards the instruction and the PowerPoint picture-puzzle games, a Likert rating-scale questionnaire was used to collect the data after the implementation of the game instruction in the classroom. The questionnaire consisted of 10 items asking about the learner's perceptions and attitudes including motivation, engagement, and satisfaction.

### Game Details

The purpose of the PowerPoint picture-puzzle games is to teach and review students' knowledge and ability in using English vocabulary for communication within designated situations targeting using words chosen from specific topics that align with learning objectives covering common real-life situations indicated in the fourth-grade curriculum. Moreover, it focuses the learners to practice English pronunciation of words assigned in the gameplay within the learning lesson. In the lesson, the teacher explains the features of the picture-puzzle games and how to play with the PowerPoint application containing attractive animation features that ease the gameplay with mouse clicks. The game mostly consists of using the assigned vocabulary in different functions (such as nouns, adjectives, and verbs) and communication (telling time and numbers) under the rule set. The students (players) are required to say the words they want to pick out correctly from the picture puzzles. They must speak and use their critical thinking skills to analyze the clues to reveal which picture is hidden behind the puzzles. In addition, they need to ask, answer, and request with the game controller (teacher) by using the English language correctly to move the game to the winning point. The game mechanics engage the students to promote active learning by completion among teams that take turns to play and win a single game. Playing the games, therefore makes the students learn the target English unintentionally, or with unawareness. Table 1 below shows the word categories included in the games.

*Table 1*: The different categories of words are the examples used in the game.

| Adjectives | Nouns | Verbs | Numbers |
|---|---|---|---|
| wet | cat | take | one |
| kind | cake | sing | three |
| cute | feed | bet | five |
| shirt | cow | get | thirty one |
| shoes | root | find | seventeen |
| gloves | lake | love | twelve |

**Description of the PowerPoint Picture-puzzle Game**
**The target group** is the Thai 4th graders learning English on a regular class basis.
**The equipment** consists of a computer, a visualized projector, and a screen.
**Roles**:
1. **Players:** Students are divided into groups (4-5 groups) and assigned duty.
2. **Referee**: The teacher is the game conductor.
3. **Timers**: The teacher is also a timer to keep a time limit for each turn of play.

**Game Rules**
1. There are different categories of words that the teacher can put in; such as number, color, verb, noun, adjective, and time telling for all different individual puzzles.
2. The game is played and completed in groups or individuals.
3. Each picture put behind the puzzles on a single slide is considered a round.
4. A round is played until the picture is identified (what it is) correctly.
5. Players in each group have to pick out only one single puzzle by calling (saying) the word on the puzzle that is to be taken out to reveal a picture clue (a part of the hidden picture).
6. When the selected single puzzle is taken out on each turn, the group or player is allowed to choose to identify (to guess what the hidden picture is) or to skip the turn (because the picture is not clear and it is to risk to make a correct identification).
7. If the group or individual student (player) chooses to identify the answer (picture), they will have 5 seconds for a time limit to identify by calling what the hidden picture is.
8. If the group or player chooses to pass (or skip the turn), the next group will take a turn to play. The group or player who identifies what the hidden picture is correctly will get the point(s).
9. If the identification answer is incorrect, the group will get a penalty with a suspension (stay out of playing) for the current round of play. And they will regain the right to play in the next round.
10. A picture puzzle game includes 10 picture slides (10 rounds of gameplay).
11. The group that has the highest points is the winner.

**How to play this game**
*Before playing the game*:
*First*, the teacher divides the students into groups of 5 students, so there are 9 groups to play. *Second*, the teacher explains the rules of how to gain points and win the game to get the rewards. *Third*, each group has to draw a number to decide which group will play first. The group that draws number one will be the first group to play, then second, third, fourth, and fifth in a rotation.
*During the game*:
To start, the first group is asked to pick a puzzle that they want to take out on a slide with the hidden picture by saying the word or phrase on the chosen puzzle correctly. To elaborate on the understanding of how to play, figure 1 shows how the player plays.
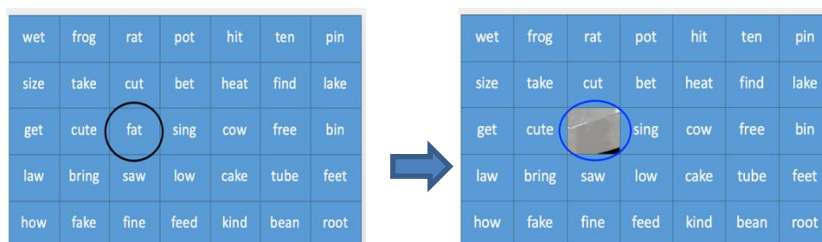
*Figure 1* shows how a piece of the picture puzzle is chosen and taken out.

In Figure 1, the player wants to see what the hidden picture is and they pick out the "fat" puzzle located in the center of the slide, so he or she says "I want the word "fat" taken out." Then the teacher clicks on the puzzle to take it out. After the click, the "fat" puzzle disappears.

1. The group has 5 seconds to identify what the picture is. If the group cannot answer, the group will have to decide to skip the turn by saying "We skip." or "We pass."
2. The group that has the next turn will be asked to pick out another piece of the puzzle and decide to identify the picture or skip (pass) the turn when they don't know the answer (what the hidden picture is) because the clue(s) is not clear enough to guess it.
3. If the group decides to give an answer or identify the hidden picture but it is incorrect. They will get a penalty by a suspension (stop playing) until the round is finished.
4. There are puzzle pictures in which the players must add the adjective to a noun word on the piece of the puzzle to make the game more challenging (a variety of game puzzle designs depending on certain topics of English they are learning or focusing on).
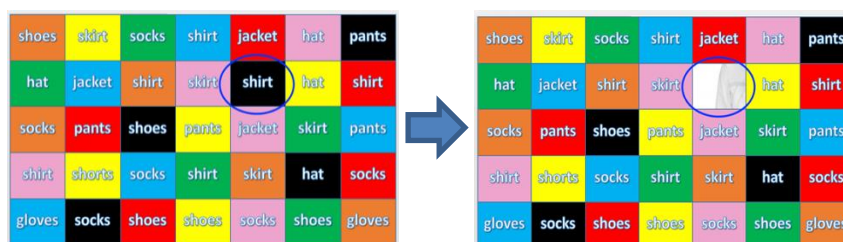


*Figure 2* shows the pieces of the picture puzzle are input with different colors with nouns.

In Figure 2, the example shows that the player wants to take out the word "shirt," but there is more than one word, so the player must say the color and the shirt "black shirt." Like, "I want to take out the *black shirt*, please."

5. The game will continue until one of the groups gets the correct picture (identify the hidden picture correctly).



*Figure 3* The example of puzzles taken out to give clues of the picture.

In Figure 3, the pieces of the puzzle have been taken out and it gives a clue enough for identification that reveals some part of the picture. So, the picture hidden is the "fireman."

6. A bonus stage will be played to allow each group to earn more points before the game wraps up.
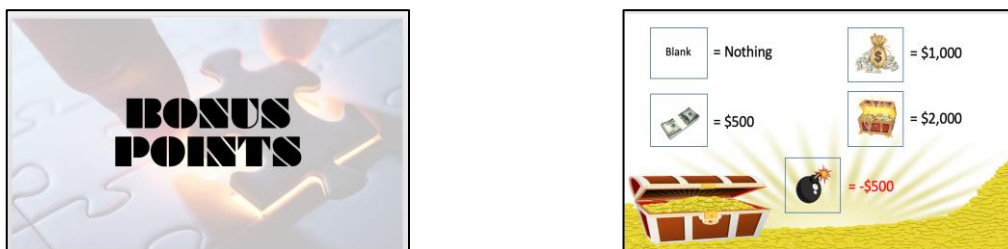


*Figure 4* The bonus stage for the players to get extra points or a deduction

At the bonus stage, the points in this game are set as money for the reward. It could be changed to several points if the teacher does not want to use money as the points of this game.

7. Rules at this stage is that if the players open a piece of the puzzle and find nothing, or "blank," they will get no points. If they open and find the pictures of money, they get points depending on what the money they find as shown in Figure 5. If they open and get a bomb, the players will lose points.
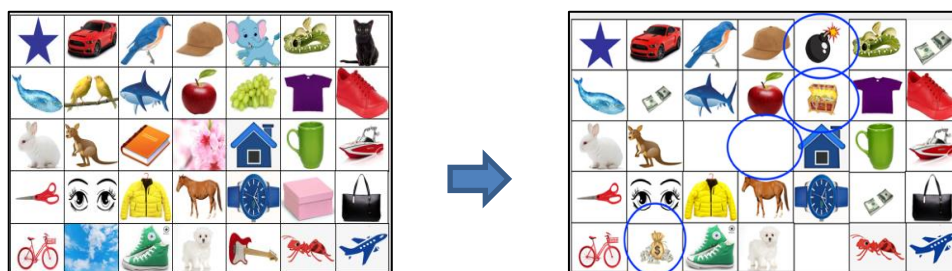


Figure 5 shows the puzzles of 'blank' or money gain with a certain amount of money.

*After playing the game*:

The students and the teacher held a debriefing of what happened while playing the picture puzzle game. The teacher reviews the vocabulary and a dictation can be done to assess the students' recall of how much they have learned or gained the knowledge.

**Data Analysis**

The vocabulary test results were analyzed using the dependent t-test and the impact size was also computed. The data from the questionnaire was analyzed with descriptive statistics for mean ($\bar{x}$) and standard deviation (S.D.).

**Results**

The results from the data analysis are shown in 3 parts:

**Part 1: Analysis of IOC.** The result of the congruency analysis from the 3 experts is shown in the following table:

Table 1. IOC evaluation analysis

| No | Issues to analyze | IOC evaluation by the three experts | | | Total | IOC value |
|---|---|---|---|---|---|---|
| | | #1 | #2 | #3 | | |
| | **English Learning Contents** | | | | | |
| 1. | English vocabulary knowledge | 1 | 0 | 1 | 2 | 0.67 |
| 2. | English pronunciation knowledge | 1 | 1 | 1 | 3 | 1.00 |
| 3. | Appropriateness of vocabulary use | 1 | 1 | 1 | 3 | 1.00 |
| 4. | English vocabulary accuracy | 0 | 1 | 1 | 2 | 0.67 |
| 5. | English vocabulary skill improvement | 1 | 1 | 1 | 3 | 1.00 |
| | **average** | | | | | **0.87** |
| | **Content in the Game Design** | | | | | |
| 6. | The appropriate content in the game | 1 | 0 | 1 | 2 | 0.67 |
| 7. | The pictures used in the game | 0 | 1 | 1 | 2 | 0.67 |
| 8. | Learning motivation from the game | 1 | 1 | 1 | 3 | 1.00 |
| 9. | Integration of game and lesson | 1 | 1 | 1 | 3 | 1.00 |
| 10. | Rules and score evaluation | 1 | 1 | 0 | 2 | 0.67 |
| | **average** | | | | | **0.80** |
| | **Overall average** | | | | | **0.78** |

According to the IOC evaluation analysis, it can be concluded that the constructed PowerPoint picture-puzzle games are appropriate for EFL vocabulary instruction and learning at 78% (IOC = 0.78).

**Part 2: The impact of using the game for learning vocabulary for Thai EFL learners**

Table 2 Result of pre-and post-test analysis

| | n | $\overline{x}$ | S.D. |
|---|---|---|---|
| Pre-test | 40 | 15.22 | 3.21 |
| Post-test | | 21.15 | 2.37 |

From Table 2, the mean score achieved by the participants from the post-test is higher ($\bar{x}$ = 21.15, SD = 2.37) than the mean score achieved by participants on the pre-test ($\bar{x}$ = 15.22, SD = 3.21). The result of the data analysis indicates that there was an improvement in the student's vocabulary knowledge gained from learning with the PowerPoint picture-puzzle games.

Table 3 Results of t-test analysis comparing the test scores from the pre-and post-test

| | n | $\overline{x}$ | S.D. | t-value | df | Sig. |
|---|---|---|---|---|---|---|
| Pre-test/Post-test | 40 | -5.93 | 1.68 | -9.29 | 39 | .000* |

*significance level 0.01

Table 3, shows that there is a statistically significant difference between the mean scores on the pre-and post-vocabulary test comparison, as indicated by the t value = -9.29, $\alpha$ = 0.01. Therefore, the participants of this study have significantly improved their vocabulary knowledge after playing the PowerPoint picture-puzzle games. This indicates that the use of the game is effective for vocabulary learning. This analysis gives a definitive answer to the first research objective.

**Part 3: The attitudes of the students towards the Picture Puzzle game**

Table 4 Learners' attitudes towards using the Picture-puzzle games in the classroom.

| Questionnaire items about the Picture-puzzle games | x̄ | SD |
|---|---|---|
| 1. They can motivate learners to learn the vocabulary enthusiastically. | 4.48 | .60 |
| 2. They provide opportunities for learners to practice vocabulary in the classroom. | 4.40 | .67 |
| 3. They stimulate learners' needs and interests. | 4.46 | .68 |
| 4. They provide attractive fun tasks for learning the target language. | 4.25 | .70 |
| 5. They provide tasks that help learners develop not only speaking ability but also writing skills in vocabulary. | 4.30 | .64 |
| 6. The games encourage learners to have more motivation when speaking the target language. | 4.33 | .65 |
| 7. They provide a relaxed atmosphere to promote the use of the target language. | 4.45 | .55 |
| 8. They can attract the attention of the learners. | 4.26 | .73 |
| 9. Picture-puzzle games can improve the learners' vocabulary knowledge. | 4.40 | .67 |

Table 4 presents the descriptive statistics on the 3 categories of learners' attitudes towards learning the vocabulary through the PowerPoint picture-puzzle games ranging from highest to lowest. It shows that the game can motivate the students to learn the vocabulary enthusiastically at the highest level (x̄ = 4.48, S.D. =.60). It stimulates the learners' needs and interests (x̄ = 4.46, S.D. = .68). Lastly, the game provides a relaxed atmosphere to promote use of the target language (x̄ =4.45, S.D.=.55). This indicates that the games can motivate, engage, and satisfy the students in learning the targeted English vocabulary.

**Discussion**
**The impact of a Picture Puzzle PowerPoint game on Thai EFL young learners**
The research results found that the PowerPoint picture-puzzle games had an impact significantly on Thai EFL fourth-grade elementary learners learning English vocabulary regularly. The learners have strongly and significantly improved their performance on vocabulary knowledge after the instruction that used the PowerPoint picture-puzzle games as a medium of learning in the classroom. As a result, the learners were more inspired, interested, and engaged in doing the tasks, making them progress in their vocabulary skills Wells and Narkon (2011) mention that games of vocabulary can be designed to reinforce teacher-conducted instruction and help learners' understanding of significant content. In addition, the results conform to the findings of the study conducted by Lari (2014) which showed the impact of using PowerPoint presentation applications on secondary school students, and the results show that the PowerPoint application can be used as a tool to facilitate teaching and learning in the classroom. Moreover, the researcher also made a content analysis of the constructed and designed game used in the classroom for significant implications as follows;

1. *Class Management*: Many players in the classroom participated in playing and learning, indicating that it a time-consuming in each single classroom lesson. Teachers should divide the students into groups of 5 and there were 9 groups played and took turns until all the pictures were revealed and the answers identified. It took quite a lot of time to finish the game if no one could give the correct answer to each picture hidden behind the puzzles and there were 8 picture puzzles to play. The teacher should also make sure that every student has a chance to participate, not just only the active learners. Patience is a must for all students to take turns. It can be applied to a big class or even an English camp activity with about 100 campers, but it needs a team of teachers to assist in playing the game as well as monitoring and encouraging all students to take part in learning by playing the game under a proper control and behavior monitoring.

2. *Complexity*: The teacher, as the game modulator, had explained the rules made it clear to the players, and described thoroughly how they could gain points for the group. First, the students needed to pronounce the word on the puzzle they chose correctly. This makes them learn English word pronunciation unconsciously in a fun way. In some cases, the teacher assisted those students who did not pronounce the word incorrectly by spelling out the words and saying it for them to repeat. Some of the words were difficult

to pronounce, so the teacher had to help them with proper pronunciation. Second, the students had to guess the answer or identify the hidden picture by using their team brainstorm for the word they wanted to guess. This practice is said to be learning from peers. Then when the groups identified the name of the picture correctly, they earned a point. However, some groups gave the wrong answer, they were punished by stopping their turn to play or holding a suspension in that round. Third, the game could become more challenging by adding more adjectives to the nouns in the puzzles or making the word more complicated, such as a longer phrase, collocations, or even a short sentence. Also, the picture can be more difficult if it is trickily hidden in a strange way to guess; such as placing it in the center of the slide. Finally, there were several times that the groups skipped or passed their turns because they had no confidence in making the correct identification of the hidden picture even though almost all of the parts of the hidden picture appeared. And it would be considered a lucky turn if a group could take out the puzzle piece that revealed a significant part of the picture, or a clear clue. Below is figure 6 shows several pieces of the puzzle were taken out for many turns in pictures (1) and (2), and picture (3), but it still had no absolute answer until the "window" was taken out, which showed the object more clearly for the group to answer with confidence. The answer to this hidden picture is "knife."
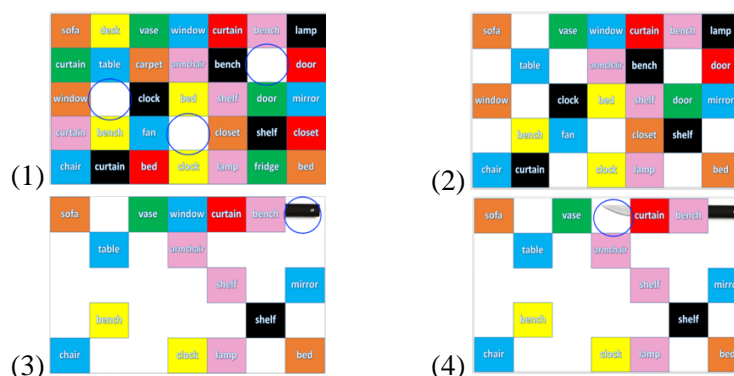


3. *Classroom Environment*: The environment of the class while playing the puzzle game was quiet at the beginning of the play because the students who were the first group to play were not confident to give the exact answer so they had to skip or pass their turn to guess the answer. In the middle of the game play when the hidden picture was almost completely revealed, some groups had a meeting to discuss the answer and kept it secret. When the picture was identified correctly by a group, all the members in that group were cheerful and shouted with delight and excitement as they were being rewarded with a point. Finally, when the whole game was finished, the winner group was praised with praise and applause from the whole class. Class chaos is natural for a fun game playing, therefore the teacher must learn how to control the class to move on with learning with ease and satisfaction.

4. *Satisfaction*: The students were satisfied with this game. Each student had a chance to practice saying English words or phrases and learn and gain knowledge about the vocabulary. Some students could improve their pronunciation skills with confidence. In doing so, they feel that they can use English words from what they have learned in school but are scared to use them. Even though some of the students in each group could understand the meaning of a few words in the puzzles, the feedback from students was positive. They mentioned that the PowerPoint picture-puzzle games caught their attention and made them eager to find the meaning of the words that appeared on the puzzles. This could imply that the students had the motivation to focus on learning the vocabulary with this gameplay activity in the classroom, implying that the teacher should allow the students to use other vocabulary learning tools while playing the games.

5. *Debriefing*: The students stated that they had learned a lot of vocabulary, and some were new to them while playing these games. They learned with their peers and from listening to the teacher explaining how to pronounce the words correctly. They were able to assist each other in their group while playing the

game using critical thinking to identify the hidden picture. This game guided them to learn and to work together. Besides, they had learned to communicate in English in real situations by playing games that they never used in their real life in the Thai environment. It shows an amazing eagerness in trying to speak English to help the team to win the game. The games then proved to be very beneficial and every teacher of English and other fields can learn how to construct and use them for their classroom lessons. It is not complicated pedagogically.

**Part 2: The attitudes towards the Puzzle Picture PowerPoint game in the classroom**

The findings of this study revealed that the young learners had positive attitudes towards the use of the Picture Puzzle PowerPoint game for learning English in the classroom. These research findings are in line with the study of Bakhsh (2016) where the learners used the language and repeated patterns of communication while playing the game, which would help develop their skills in vocabulary. Accordingly, this game could stimulate the students' attitudes towards learning English, which many thought was difficult and boring for them. Moreover, it could create the students' need and interest in learning other English skills by paying more attention because they had gained more vocabulary knowledge and more confidence to grow in more difficult things, such as reading and writing. In addition, the students felt relaxed in the learning as the atmosphere was like a normal game playing in everyday life. When the teacher used this as a learning aid for teaching vocabulary in the classroom. They are motivated and stay focused when there is competition with rewards, which is the condition stated in a psychological learning theory. Last but not least, the game could be expanded to be more challenging when teachers put them into a sequence of simple to more difficult tasks. It can be stated that game-like activities have been proven they work well with young learners (Yolageldili & Arıkan, 2011).

**Conclusion**

According to the purposes of the study, the findings show the impact of using the PowerPoint puzzle-picture games on the Thai EFL fourth-grade sample with statistical significance, yielding that the constructed games are proved to be effective and beneficial for English vocabulary instruction and learning in Thai school classroom, which could be generalized to different learning content and subject matters. The findings also imply that practical games designed on computerized applications propose learning more than just fun from playing. According to Lorenzutii (2016), different English vocabulary learning activities are important if the learners are to exercise all the perspectives of word knowledge The activity that requires games and rules integrated with the lesson in the classroom is very useful in most of the subjects in schools. Students or learners feel relaxed and enjoy the action while playing and practicing the English language. Secondly, the practical use of PowerPoint puzzle-picture games in the classroom has been proven to be attractive, motivating, and satisfying at a high level among the students. Therefore, PowerPoint applications can be widely utilized for learning game designs for teachers who have some knowledge of using this application. The application could create simple simulations depending on the designers, instructors, or teachers, for better use in education (Barbour, et al, 2007).

## Recommendations

Based on the findings of this study, the researcher recommends that English teachers adapt and use certain kinds of game activities to help motivate Thai young learners to learn interactively by using the target language through game playing, and the PowerPoint application is made very easy to design learning games, as well as installing students' motivation and attitudes towards learning English and other subjects. It is recommended that designing PowerPoint learning games should be simple and easy to play, but include all students in the class to have a chance to actively participate in the gameplay. It should be played competitively among teams with proper classroom control and wrap-up or lesson summary to assist the learners in recognizing and recalling what the lesson provides and targets them to learn. Last but not least, a trick of using games pedagogically is to prepare rewards for the winners and other participating ones to reinforce their learning under the behavioral conditional principles.

Different educational stakeholders, such as policymakers, curriculum developers, school administrators, and parents should encourage and support English teachers and all other subject-matter teachers to be creative in designing and developing computerized educational games for all age levels.
For further study, the researcher has the following suggestions:

1. The game can be recorded to check the students' vocabulary pronunciation in English while students are playing this game for improvement solutions.

2. The purpose of this game is to encourage the students to use English, so teachers may make it more serious by making the rules more rigid. There should be different types of English skills learned through games designed on the PowerPoint application

3. There should be a study of using a variety of games in teaching and learning a whole course of a regular semester in a certain level of students, young children, and teenagers.

## References

Anil, B. (2011). Teaching Vocabulary Through Games-A Sanguine Step. *i-manager's Journal on English Language Teaching*, *1*(4), 46-50.

Bakhsh, S.A. (2016). *Using Games as a Tool in Teaching Vocabulary to Young Learners*. English Language Teaching, *9*(7), 120-128.

Barbour, M., Kinsella, J., & Rieber, L. (2007). PowerPoint Games in K-12 e-Learning Environments. *Conference: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education,* October 2007

Barbour, M., Kinsella, J., & Toker, S. (2009). PowerPoint Games in a Secondary Laptop Environment. *In I. Gibson et al. (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2009* (pp. 1373-1380).

Drew, I. & Hasselgreen, A. (2008). Young language learner (YLL) research: An overview of some international and national approaches. *Acta Didactica Norge,* 2 (1), 1-18.

Gozcu, E., & Caganaga, C.K. (2016). The Importance of Using Games in EFL Classrooms. *Cypriot Journal of Educational Science, 11*(3), 126-135.

Hajji, A.K., & Kim, Y. (2019). Teaching and Learning Grammar by Games In EFL Classrooms in Moroccan High Schools. *International Journal of English and Education, 8*(1), 330-342.

Hashemi, M., Azizinezhad, M., & Farokhi, M. (2012*). PowerPoint as an innovative tool for teaching and learning in modern classes. Procedia – Social and Behavioral Sciences*, 31, 559 – 563.

Lari, F.S. (2014). The Impact of Using PowerPoint Presentations on Students' Learning and Motivation in Secondary Schools. *Procedia - Social and Behavioral Sciences,* 98, 1672 – 1677. doi: 10.1016/j.sbspro.2014.03.592

Lorenzutti, N. (2016). Vocabulary Games: More than Just Word Play. *English Teaching Forum.* 54, 2-13. Retrieved from americanenglish.state.gov/english-teaching-forum

Phillips, S. (1993). *Young Learners*. London: Oxford University Press.

Rieber, L., Barbour, M., Thomas, G., & Rauscher, D. (2008). *Learning by Designing Homemade PowerPoint Games.* Games: Purpose and Potential in Education, *9*(4), 23-42. doi 10.1007/978-0-387-09775-6_2

Shennat, M.I. (2019). Game Framework to Improve English Language Learners Conference Paper. *Conference: FTC 2018, At Vancouver BC, Canada.*

Siko, J., & Barbour, M. (2012). Game Design and Homemade PowerPoint Games: Game Design Pedagogy Aligned to the TPACK Framework. *Computers in the Schools,* 29, 339-354.

Wells, J.C., & Narkon, D.E. (2011). Motivate Students to Engage in Word Study Using Vocabulary Games. *Intervention in School and Clinic.* 47 (1),45-49. Doi:10.1177/1053451211407493.

Yang, Q., & Dixon, V.L. (2015). Application of Games in College English Teaching in China. *International Research and Review,* 4 (2), 65-75.

Yolageldili, G., & Arıkan, A. (2011). Effectiveness of using games in teaching grammar to young learners. *Elementary Education Online,* 10(1), 219-229.