

The Use of Task-Based and Game-Based Learning in English Learning at Small Primary Schools in Nakhon Pathom, Thailand

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Article information	
Abstract	<p>This study aimed to determine the effects of a teaching model combining Task-Based Learning (TBL) and Game-Based Learning (GBL), called the Orientation Performance Presentation Analysis Application (OPPAA) model, developed by the researchers, on primary students' English proficiency and to explore teachers' and students' opinions of the model. The research employed a one-group pre-test post-test design with seven English teachers and 69 Grade 6 students chosen by means of cluster random sampling and simple random sampling. The instruments used included the OPPAA model, an English proficiency test, an opinion questionnaire, and interview questions. Data were analyzed using means, standard deviation, paired samples t-test, and content analysis. The findings revealed that 1) the students' scores on the post-test demonstrated a statistically significant improvement when compared to their pre-test scores ($p < .05$); 2) teachers displayed a strong inclination to express favorable opinions of the model; and 3) the students expressed positive opinions of the model, the teachers, and course contents. This was probably because TBL encouraged language learning through communicative tasks and collaborative learning, while GBL</p>

	enhanced fun and active engagement, both of which assisted students in learning the language in an enjoyable and interactive environment. Based on the study findings, it can be concluded that the OPPAA model integrating task-based and game-based learning could be used to enhance primary students' English proficiency.
Keywords	Task-Based Learning, Game-Based Learning, primary school English proficiency
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1. Introduction

In recent years, the increasing use of English as a global medium of communication has prompted the need for a substantial improvement in English language teaching and learning within educational institutions across all levels in Thailand. This aligns with the goals of the Ministry of Education's Basic Education Core Curriculum, B.E. 2551, which aims at enhancing English learners' English language skills in diverse contexts (Ministry of Education, 2008). The National Institute of Educational Testing Service (NIETS) under the supervision of the Ministry of Education is responsible for designing and administering a national English proficiency test called the Ordinary National Educational Test (O-NET) for Grade 6, Grade 9, and Grade 12 learners, aligning with the learning standards outlined in 2008. The purposes of the test are as follows: 1) the O-NET is used as one component in graduation; 2) some schools use O-NET scores as one of the elements in determining which learners will continue their studies at a higher level; and 3) it is used at the national level to assess their learning outcomes. Due to the importance of O-NET results, schools aim to help their learners achieve high O-NET scores, which can also be used as an indicator of the schools' teaching quality.

As such, the O-NET results have been a cause of concern for schools as not all learners are able to perform well enough to achieve high scores. Among Grade 6 primary students, Jamornmann (2018) has reported that the average scores in English on the O-NET were under 50% for students in all regions of the country, including those in Nakhon Pathom province (Nakhon Pathom Primary Educational Service Area District Office, 2020). Several factors may be responsible for such undesirable outcomes, among the most significant of which is a lack of qualified English teachers, leading to a situation where teachers majoring in other subjects in their undergraduate studies are required to teach the English language even though they may lack the necessary training and expertise. As Lincharoen et al. (2009) have pointed out, the insufficient number of English teachers and a lack of effective

teaching materials and methods, particularly in small schools, are major reasons why more than half of the primary school students failed the O-NET.

In Nakhon Pathom province, just like in many other provinces outside Bangkok, a large number of English teachers at small primary schools do not possess a degree in English language teaching. As a result, they do not have the theoretical and practical background in English teaching techniques necessary to promote active engagement and effective learning outcomes. They may have to rely on traditional teaching methods that heavily involve grammar-translation, drills, and memorization. In a teaching situation like this, learners can become demotivated to learn the target language as the classes can be monotonous and boring and there may be little or no fun or excitement in class. When learners do not have the motivation to learn, it is very likely that they will not achieve the desired learning outcomes. This aligns with Alizadeh (2016) and Boo et al. (2015) who point out that a lack of motivation can adversely affect learners' potential for effective learning. Accordingly, when they have to take a national test like the O-NET, high scores cannot be expected from them.

In order to enable English teachers at small primary schools to more effectively provide instruction to learners, particularly those in Grade 6 who have to take the O-NET at the end of their academic year, the researchers developed the OPPAA model by combining task-based learning and game-based learning with an aim to increase learners' motivation when learning English. The model comprises five phases: Orientation (O), Performance (P), Presentation (P), Analysis (A), and Application (A). This model was then introduced in seven small primary schools in Nakhon Pathom, Thailand. It was anticipated that such a teaching model would increase learners' motivation and encourage positive attitudes towards learning, which, in turn, would increase their English proficiency. Therefore, the objectives of this study were to determine the effects of a teaching model combining task-based and game-based learning, called the OPPAA, to enhance primary students' English

proficiency, explore teachers' opinions of the model, and explore primary students' opinions of the model.

2. Literature Review

2.1 Task-Based Learning

Ellis (2003) defines task-based learning (TBL) as tasks or activities where the primary emphasis is on meaning, and where the focus on language structure occurs in the post-task stage. The central component within this framework is the communication task, which provides learners with opportunities to learn by doing (Prabhu, 1987) and interacting collaboratively in pairs or groups, ultimately fostering a spirit of teamwork. The task enables learners to create language or associate it with a spoken or written text, such as creating a brochure or a storybook, mapping out the timeline of historical events, producing a clip, presenting a cooking show, or designing a guided tour of the city. Learners use their existing language capabilities to complete the task. Therefore, a task used in task-based learning can be described as an activity in which learners engage their linguistic resources to attain a goal by understanding the language used by others and/or producing language output (Ellis, 2020; Zhao, 2015).

Task-based learning enhances the learning experience of learners and encourages active participation while learners are in the process of learning (Bhandari, 2020; Ellis, 2020). Moreover, the task-based approach allows learners to reach their learning objectives in a collaborative environment. This is emphasized by Ellis (2003), Hobbs (2005), and Lee (2002) who argue that tasks provide a meaningful context that assists learners in understanding and collaboratively utilizing the target language to achieve the learning goal. However, if some learners lack confidence in completing assignments, it can result in low participation (Jeon & Hahn, 2006) and poor performance (Moneva & Tribunalo, 2020). Therefore, careful task design and alignment with learning goals and content are important to make TBL a valuable and engaging educational approach for learners.

To summarize, TBL encourages learners to learn by doing and improve their target language skills through meaningful tasks.

2.2 Game-Based Learning

Game-based learning (GBL), which was first introduced as a pedagogical approach in the 1970s by Piaget (1973), Vygotsky (1978), and Hellerstedt and Mozelius (2019), is an educational approach that combines game elements with the learning context. According to Batsaikhan (2021), GBL employs techniques and methods commonly found in games to stimulate and improve the processes of learning, practicing, and evaluating knowledge and skills. It incorporates competitive activities, encouraging learners to either compete against each other or challenge themselves, to enhance their learning motivation. Consequently, this integration of learning with gaming enhances subject enjoyment, which positively influences learner engagement. Also, GBL enables learners to be actively involved in hands-on experiences. In the context of GBL, learning management consists of three important components: 1) the teacher presents games and clarifies the rules, 2) learners play games according to the rules, and 3) the teacher and learners discuss the gameplay experiences (Bui et al., 2020; Centre for Teaching Excellence, n.d.).

Game-based learning has both advantages and disadvantages for teachers to consider when introducing it into their classroom instruction. On the positive side, it allows learners to engage in high-level learning experiences. Games' interactive nature encourages active engagement and offers a stimulating learning environment that promotes meaningful learning. This is evidenced by Tanago (2017) who indicates that the majority of students thought that GBL improved spelling, increased word memorizing, made learning more entertaining, and promoted a positive classroom environment. The result also showed that post-test scores greatly outperformed pre-test scores. Similarly, Al-Shaw (2014) reports that the students' ability to memorize words was significantly improved after learning through games. However, there are some drawbacks to consider. For starters, GBL may take a longer time than

traditional teaching techniques because playing games may require more time in the classroom. Furthermore, spending too much time on games might distort the main purpose of knowledge transfer. This is the case in Van Rooij (2011) who concludes that excessive gaming can lead to poor academic progress as well as physical and mental health problems such as sadness, anxiety, and sleep disorders in a study on integrating games into the lessons. More importantly, successful implementation is dependent on teachers' ability to create games that properly align with learning objectives (Vitarisma et al., 2022).

To summarize, GBL incorporates game elements into education, utilizing gaming techniques to stimulate and enhance learning. GBL includes competitive activities that motivate learners to compete or challenge themselves, fostering learning motivation. Gaming integrated with learning elevates enjoyment, leading to enhanced learner engagement. Consequently, integrating TBL, which promotes practical language use through tasks and activities, with GBL, which incorporates elements of games to make learning more enjoyable and competitive, should improve language teaching by fostering not only language acquisition but also learning engagement in an enjoyable environment. Figure 1 below illustrates the conceptual framework of the study.

Figure 1: Conceptual Framework of the Study

OPPAA Model

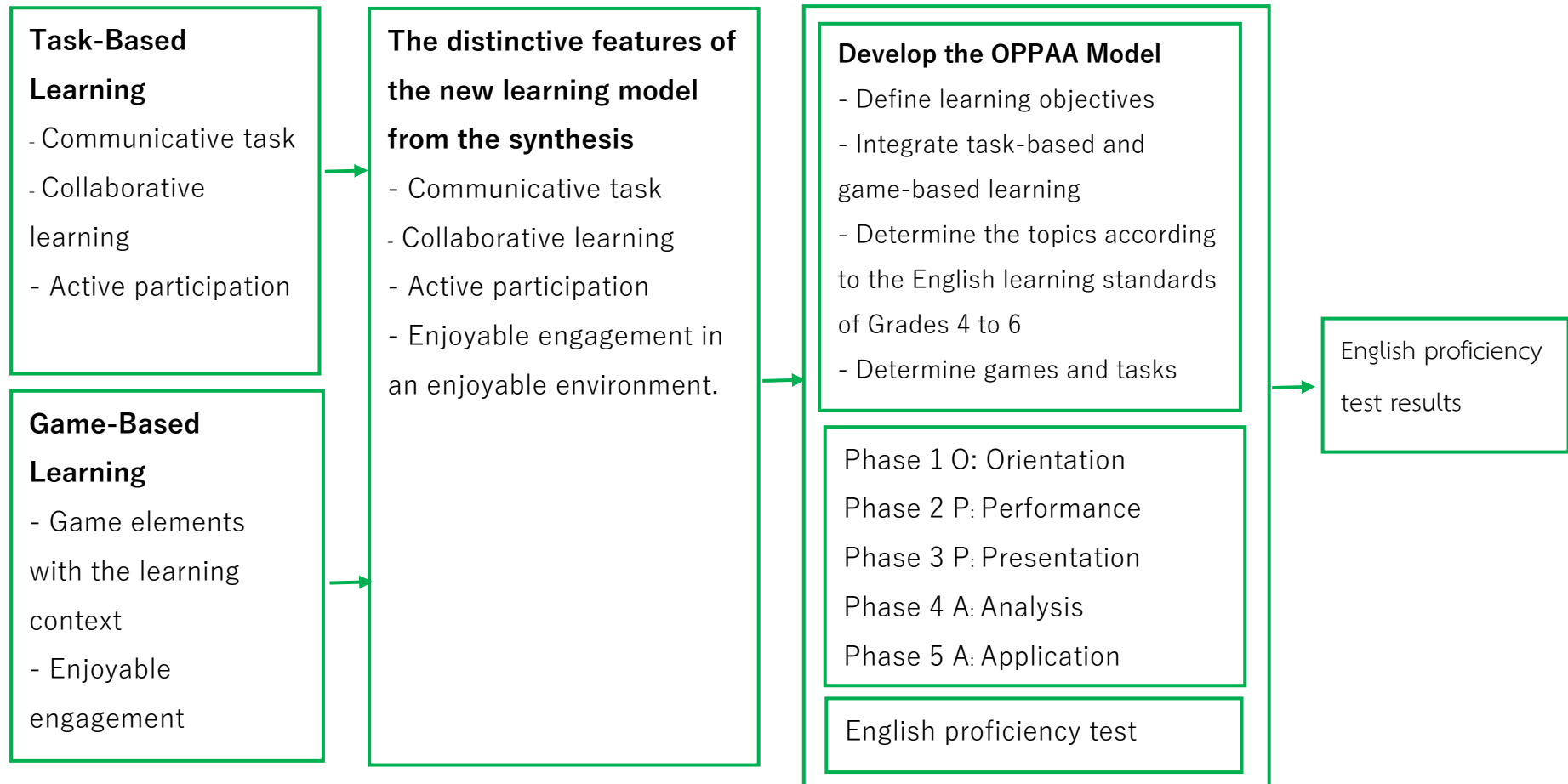


Figure 1 shows how the OPPA model was developed. Firstly, the researchers carried out interviews with teachers to gain insights into the specific preferences of the target audience. Building on this foundation, the researchers researched the theoretical frameworks of task-based learning and game-based learning and identified the strengths and weaknesses of each approach. Subsequently, the researchers blended the two approaches, developed the OPPAA model, and detailed the key principles and the model's components. To validate the efficacy of the model, the researchers sought the expertise of three university lecturers, each having over five years of expertise in English language instruction and research. Their thorough evaluation provided valuable feedback in refining the model. Finally, the researchers conducted a pilot study in three small schools with similar contexts, which were not included in the research.

The OPPAA model combines two distinct educational approaches: task-based learning (TBL), which focuses on the completion of educational tasks, and game-based learning (GBL), which incorporates game elements for learning. Through this innovative fusion, OPPAA bridges the gap between traditional TBL and GBL, with the aim being to create a learning experience that is more engaging and motivating. This unification aims to overcome the individual shortcomings of each method; it aims to make the TBL classroom more exciting through using attractive games while ensuring that GBL is implemented with an educational emphasis, preventing it from prioritizing entertainment over learning. The consequence is an educational method, the OPPAA model, that aims to integrate the separate advantages of TBL and GBL and provide learners with a well-rounded and engaging language learning experience.

The OPPAA model involves a structured sequence of activities that engage learners in a dynamic language-learning process. The model emphasizes active participation, collaboration, presentation, analytical abilities, and language application, which suggests a strong potential as an effective approach towards language

education. Table 1 below illustrates how the OPPAA model brings together task-based learning and game-based learning:

Table 1*Integration of Task-Based Learning and Game-Based Learning (OPPAA)*

	Task-Based Learning	Game-Based Learning	Synthesis of Learning - OPPAA
Pre-task	1. The teacher presents topics and highlights useful words and phrases to help learners understand the tasks. Learners may listen to or watch clips or read articles that lead to tasks.	1. Identification The teacher identifies the objectives.	Purpose analysis The teacher determines games related to target content and suitable for learners' knowledge.
		2. Determination The teacher determines games related to target content and suitable for learners' knowledge.	
			3. Organization The teacher organizes game activities in line with parents' expectations.

	Task-Based Learning	Game-Based Learning	Synthesis of Learning - OPPAA
Task Cycle	<p>2. 1 Task</p> <p>Learners perform the tasks in pairs or small groups. The teacher monitors learners’ task performance without fixing errors.</p>	<p>4. Participation</p> <p>The teacher sets the timing and learners participate in a game.</p>	<p>2. P: Performance</p> <ul style="list-style-type: none"> - The teacher divides learners into groups to play games. - Learners perform the tasks. - Learners prepare to present what they have learned to the class. The teacher facilitates learners as needed.
	<p>2.2 Planning</p> <p>Learners prepare to report the task outcome to the class. This may be in the form of speaking/writing about how they performed the task or what was found. At this stage, the teacher may check the correctness of the language that will be used for their presentation.</p>		<p>3. P: Presentation</p> <ul style="list-style-type: none"> - Learners present what they have learned from the task including learning reflection, obstacles, and/or successes arising from learning. - The teacher gives feedback on the content presented by learners.
Language	<p>3. Report</p> <p>Learners report to the class or exchange reports and compare results. The teacher presides over feedback on the content of the report.</p>	<p>5. Evaluation</p> <p>The teacher evaluates the progress throughout the game activities.</p>	

Task-Based Learning	Game-Based Learning	Synthesis of Learning - OPPAA
<p data-bbox="248 301 421 336">3.1 Analyze</p> <p data-bbox="248 357 987 496">Learners examine and discuss language related to the task. This can include vocabulary, phrases, or structure.</p> <p data-bbox="248 547 434 582">3.2 Practice</p> <p data-bbox="248 603 898 687">The teacher teaches new words, phrases, or structures for learners to practice.</p>		<p data-bbox="1491 301 1688 336">4. A: Analysis</p> <p data-bbox="1491 357 1966 496">- Learners identify new structures/vocabulary they have learned.</p> <p data-bbox="1491 547 1733 582">5. A: Application</p> <p data-bbox="1491 603 2022 743">- The teacher teaches learners new language and vocabulary through game activities.</p>

3. Methodology

3.1 Research Design

A mixed-method research design was employed to collect both quantitative and qualitative data on the effects of the OPPAA model.

3.2 Population

The population was 175 primary English teachers and 438 primary students in small schools affiliated with Nakhon Pathom Primary Educational Service Areas 1 and 2 (Nakhon Pathom Primary Educational Service Area District Office, 2020).

3.3 Participants

The study employed cluster sampling to categorize schools into two educational areas. Within each area, small schools with low O-NET English scores were randomly sorted into clusters using simple random sampling. Small schools that had average O-NET test scores within the lowest range of 20-30 points were then selected to participate in this study. The final sample comprised seven English teachers and 69 Grade 6 students from seven small primary schools.

3.4 Research Instruments

Three research instruments, comprising a pre-test and post-test, a questionnaire, and interview questions, were validated by three experts who were university lecturers with over five years of experience in English language teaching and research. Then, the instruments were pilot-tested in three small schools affiliated with the Education District Office, Nakhon Pathom, whose average scores were between 20 and 30 points on the O-NET and were not part of the research, and used in this study as follows:

Pre- and post-tests: These were administered before and after the implementation of the OPPAA model. To effectively compare students' scores before and after learning through the model, identical pre- and post-tests were administered. Initially, an 80-item multiple-choice test was developed based on

the eight most commonly occurring topics identified in the O-NET: hobbies, describing people, requesting, shopping, directions and signs, daily routine, holidays and festivals, and suggestions. The test items were verified by three experts for content validity and revised. Then, a pilot test was administered to 19 Grade 6 students in three of the participating schools that were not included in the research. After being analyzed for the item difficulty (P) and discrimination index (r), 40 test items were then selected for the pre-test. The same questions were used in the post-test, but the order of the questions was different.

Questionnaire: A questionnaire with 20 items arranged in a 5-point rating scale and three open-ended questions was designed to explore teachers' opinions on the teaching process, contents, activities, and benefits. The questionnaire was written in Thai so that teachers could express their opinions more clearly. It was evaluated by three experts and was revised based on their comments and suggestions. The revised questionnaire was then pilot-tested with three teachers from the mentioned schools to assess its content and gather feedback for further refinement. Finally, the questionnaire was edited before being used with the sample group after the model's implementation.

Interview Questions: To elicit more insightful information concerning the students' opinions, the researchers developed a semi-structured interview template, which included questions regarding students' opinions on: 1) the tasks, 2) the activities, 3) the lessons, 4) grammar and vocabulary, 5) the OPPAA model, 6) group work activities, 7) teaching methods and materials, and 8) their problems and solutions while learning. The interview questions were examined by three experts before subsequent revision. Then, the interviews were administered with 19 Grade 6 students a week after the post-test.

3.5 Data Collection

Phase 1

1. As the O-NET covers content taught in Grades 4 to 6, the researchers reviewed the standards and indicators of these grades' English curriculum, as outlined by the Ministry of Education and NIETS, to identify areas likely to be tested.

2. The researchers collected data from the Nakhon Pathom Primary Educational Service Area District Office, analyzed causes of low O-NET English scores, examined O-NET content assessing Grade 6 students, and selected topics for instruction based on a questionnaire and past O-NET exams.

3. The researchers reviewed the literature related to task-based and game-based approaches to develop the OPPAA model, as previously detailed.

Phase 2

4. Based on the results from Steps 1 and 2 in Phase 1, the researchers created research instruments based on the task-based and game-based approaches. These instruments, which comprised a proficiency test, a questionnaire, and interview questions, were examined by three experts.

5. After editing and revision, the instruments were piloted in three small schools that were excluded from the main research.

Phase 3

6. The researchers conducted four days of training on the OPPAA model for seven teachers, which included hands-on workshops and provision of teaching materials, comprising handouts, PowerPoint, online and board games, and handmade materials. The researchers provided eight lesson plans, one of which is taught for one hour. The researchers also provided ongoing support to ensure teachers' comprehension of the model's principles and practical applications.

7. Before taking the pre-test, the students were provided with information about the test, including the test's purpose and duration. Then, the researchers administered the one-hour pre-test to the students.

Phase 4

8. The teachers implemented the OPPAA model in their classrooms with eight lessons of which one-hour lesson was taught per day, over a three-to-four-week period.

9. The researchers administered the one-hour post-test to the students.

10. The researchers conducted the written questionnaire with seven teachers.

11. From the total number of 69 students, the researchers conducted group interviews with eight to 11 students from each school in their first language (Thai) after the students had completed the post-test.

3.6 Data Analysis

As for quantitative data analysis, descriptive statistics of mean, standard deviation, and t-test were used to analyze the data obtained from the pre- and post-tests and questionnaires. The audio recordings of the semi-structured interviews were transcribed to gather information about the students' opinions of the OPPAA model. Then, the data elicited from the interviews were analyzed using content analysis of color-coding for qualitative data. After that, the researchers translated the data elicited from open-ended questions and interviews into English.

4. Findings

Findings from the research instruments including the pre-test, post-test, questionnaire, and interviews are described as follows:

4.1 Comparison of students' English proficiency scores from learning before and after the integration of task-based and game-based learning in the OPPAA model

Table 2*Students' Overall English Proficiency Scores Before and After Learning*

Score	Number of Students	Total Score	Lowest Score	Highest Score	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Before learning	69	40	2	12	6.79	2.54		
After learning	69	40	9	29	21.69	4.53	25.75	.000*

* At a statistical significance level of .05

Table 2 shows the students' English scores before and after learning using the OPPAA model. Students' post-test scores ($M = 21.69$, $SD = 4.53$) were significantly higher ($t = 25.75$, $p = 0.000$) than their pre-test scores ($M = 6.79$, $SD = 2.54$).

Table 3*Students' English Proficiency Scores Before and After Learning Classified by Topic*

Topic	Total Score	Pre-test			Post-test				
		M	SD	Level	M	SD	t	p	Level
1. Directions	5	1.05	.88	2	2.73	1.33	10.13	.000*	5
2. Daily Routine	5	.91	.81	3	2.84	1.25	10.75	.000*	3
3. Holidays	5	.56	.63	8	2.58	1.23	11.15	.000*	6
4. Suggestions	5	.73	.93	6	2.34	1.13	8.64	.000*	7
5. Hobbies	5	.88	.86	4	2.92	1.08	12.42	.000*	2
6. Shopping	5	1.10	.86	1	3.21	0.78	16.50	.000*	1
7. Describing	5	.84	.86	5	2.81	1.12	10.81	.000*	4
8. Ordering Food	5	.69	.81	7	2.23	1.54	7.31	.000*	8
Overall	40	6.79	2.54	-	21.69	4.53	25.75	.000*	-

* At a statistical significance level of .05

In Table 3, the pre-test and post-test scores are classified according to the topic of the questions and ranked by average post-test scores. Mean post-test scores for all topics were significantly higher than the pre-test scores, thus

indicating improvements in students' level of English knowledge in the content areas after learning with the OPPAA model.

4.2 Teachers' opinions on the OPPAA model

Table 4

Teachers' Opinions on the OPPAA Model

Topic	<i>M</i>	<i>SD</i>
Management	4.24	0.34
Contents	4.53	0.50
Teaching activities	4.52	0.52
Benefits	4.57	0.50
Overall	4.49	0.48

Table 4 shows teachers' opinions on the OPPAA Model. Overall, the teachers' attitudes towards teaching using the OPPAA model were very positive ($M = 4.49$, $SD = .48$). However, among the various aspects evaluated, the "Management" component ($M = 4.24$, $SD = .34$) stood out as notably less favorable compared to the others. In addition, analysis of teachers' answers to open-ended questions revealed three common themes: improved student motivation, increased student enjoyment and collaboration, and the need for further training. These will now be discussed in more detail.

Motivation: Findings from the questionnaire indicated that the OPPAA model was supportive of language learning by encouraging students to learn language features or vocabulary through tasks and games, particularly in the fourth and fifth phases of analysis and application. The teachers mentioned a range of benefits. For example, one teacher wrote that "*I think this learning through the five phases of OPPAA is good because playing games led to performing tasks in a relaxing setting, encouraging students to use more English and developing students' English proficiency*" (Teacher #2). The same teacher also stated that "*the teaching methods and games help keep students motivated and happy to*

learn, which encourages them to develop positive attitudes toward English.” Another teacher stated, *“we’ve acquired innovative English teaching methods and procedures that actively encourage students to analyze the language”* (Teacher #1). Other teachers highlighted additional benefits, such as *“this model assists me in acquiring new teaching methods and making my teaching planning easier by just following the phases”* (Teacher #4) and *“it helps me to meet the learning objectives”* (Teacher #7).

Enjoyment and Collaboration: A teacher with a non-English degree in this study reported increases in enjoyment and greater learner collaboration, but also expressed insecurity about guiding students in presentation preparation. *“The model enhanced students working collaboratively in the preparation of presentations which made me concerned about my ability to support them adequately. Still, the phase that tasks were led by games made the lessons more enjoyable and meaningful”* (Teacher #5). Likewise, two other teachers revealed that they found that the OPPAA created a setting in their classroom that fostered enjoyment and collaboration as students not only exhibited enthusiasm to participate but also demonstrated willingness to work together to achieve the lessons’ goals (Teachers #4 and #6).

Training: The teachers made suggestions for additional training, which needs to be adjusted in two areas: content and timing. In terms of content, two teachers (Teachers #2 and #3) commented that the chosen topics should cover all of the areas identified in the O-NET exam. Furthermore, four teachers (Teachers #1, #3, #6, and #7) commented that the training time was insufficient and recommended that the training duration should be extended to help the teachers implement the model more skillfully and effectively.

4.3 Students' Opinions on the OPPAA Model

The students' opinions on the OPPAA model obtained from the interviews can be classified into three main areas: the OPPAA model, the teachers, and the content.

1) The OPPAA Model

The students expressed positive comments on the OPPAA model. In particular, many students commented that it promoted communication, collaboration, learning by doing, and enjoyment, as elaborated below.

Communication: The OPPAA model promoted students' communication skills as they were required to communicate while working with others to accomplish their goals. It also helped students acquire language skills when performing tasks or playing games, as shown in such interview excerpts as "*I can improve my communication by practicing with friends during tasks and games*" (Student #44) and "*I acquired the language when I performed role-play*" (Student #36).

Collaboration: The model also promoted collaboration, teamwork, and leadership, which are the distinctive skills required when students collaboratively engage in task and game activities to achieve the lesson's learning objectives. This can be seen in the following interview excerpts: "*When doing tasks, we need good teamwork to complete our task. Good collaboration enables us to complete our tasks easily*" (Student #12) and "*I like to study this English class because when the teacher assigned us a task, we had to collaborate with friends to complete the difficult tasks. This made an English class fun*" (Student #23).

Learning by doing: The OPPAA model allowed students to actively engage in practical activities, fostering linguistic proficiency and retention as revealed in the following excerpts: "*When I did the task on my own, I remembered what I had learned and had a better understanding*" (Student #1) and "*It was a class that*

encouraged me to do the task myself. This helped me remember what I had been taught better” (Student #2).

Enjoyment: Students gained a sense of enjoyment during game activities, and the tasks encouraged their interactive engagement, which led to a greater sense of participation and enjoyment as demonstrated in the following opinion: *“Doing exercises was very boring. However, when games were integrated into lessons, this stimulated me to learn and made the learning more interesting” (Student #26).* This aligned with another opinion: *“I enjoyed learning when I had a chance to work on every part of the tasks myself. It was fun through various kinds of activities, and I liked to have games at every phase of the activity” (Student #51).*

2) The teachers

Students expressed positive comments about the teachers in several ways, as evident in these excerpts from the interviews: *“The teacher was engaged and supportive by giving me valuable suggestions. This could reduce my tension while working on the tasks” (Student #34)* and *“When doing activities, the teacher stimulated us by rewarding the winner and scaffolding when we needed help. This encouraged us to learn” (Student #61).*

3) Content

Most students thought that the content learned, which aligned with the content in the O-NET exam, was useful. For example, Student #24 asserted that, *“the content used for tutoring was beneficial, which helped me understand the content in the O-NET as well.”* This corresponded with the opinion of Student #59 who reflected that, *“I could understand the content better since I had revised what I had learned. I thought I might do better on the exam.”*

However, the students also suggested that the teaching program be extended to include all O-NET topics. Students reflected a desire to learn on all topics in

preparation for the O-NET to achieve better learning outcomes and higher scores (e.g., Students #17, #22, #28, and #64).

5. Discussion

Findings from the implementation of the OPPAA model using an integration of task-based and game-based learning are discussed below:

5.1 Comparison of Students' English Proficiency Scores from Learning before and after the Integration of Task-Based and Game-Based Learning

A comparative analysis of English proficiency test scores for 69 students was performed. The results clearly showed improvement from the pre-test to the post-test scores. These results highlighted the effectiveness of the OPPAA model, which can be explained as follows.

The OPPAA model effectively combined task-based and game-based learning to increase students' language acquisition. In the Orientation phase (O), students were introduced to the necessary vocabulary and phrases. This is consistent with the concept of task-based learning which provides learners with the language tools needed for upcoming activities. During the Performance phase (P), the model integrated both task-based and game-based learning as students collaborated in groups to engage in gaming activities. For example, the act of acting out everyday scenarios was implemented as a dynamic game that was appropriate for various content areas and effectively led to task-based activities. Moreover, games, such as word matching and hangman, encouraged students to think about and recall new vocabulary words better. Furthermore, picture guessing was used to assist in strengthening word-picture associations, allowing students to retain words and their meanings more easily. Overall, using games before task-based activities provided a comprehensive and engaging means of language acquisition. The students in the study not only reflected on increasing their vocabulary and language abilities but also on being intellectually and emotionally equipped for the task-based obstacles they encountered, making it a better

alternative than just highlighting useful words and phrases, which is often done in the task-based approach. Furthermore, after the games, students performed tasks such as drawing or coloring activities. Previous studies have expressed concerns that drawing-based activities may not provide sufficient opportunities for students' linguistic output (Carless, 2002). This study addressed this concern by ensuring that drawing-based activities were accompanied with opportunities for language practice. For example, in one lesson students worked collaboratively in pairs to create a poster about a famous person, including pictures or drawings and brief descriptions using vocabulary learned from the preceding bingo game. Then, students prepared to present them, explaining what made the person special. As a result, students' attempts to collaborate and discuss ideas provided opportunities for language practice and improved their retention of the target language.

The Presentation phase (P) provided the students with the opportunity to reflect on their learning experiences and receive the teacher's feedback. Then, the Analysis phase (A) aligned with task-based learning by assisting students in identifying the learned language features or vocabulary. Finally, the Application phase (A) promoted continued language learning through enjoyable games. For example, students had the opportunity to generate more extended responses in Jeopardy and Tic-Tac-Toe when compared to other games. These two games supported language practice as they did not involve short-time restrictions. However, games with a competitive element of racing against time, such as Time to Climb and Kahoot, may also be effective as they encourage enthusiasm and highly active engagement. Moreover, these two games provided options for responses that were advantageous for students, allowing them to concentrate on specific language elements and become more accustomed to language patterns. In brief, by incorporating games to review new language in this phase, a more motivating learning environment was created when compared to learning solely through practice in task-based learning.

Overall, the OPPAA model, which incorporated task-based and game-based learning, provided a comprehensive and effective language learning experience that encouraged active participation and promoted students' development of language skills. As a result, it can be inferred that students who achieved higher English scores in the study were more likely to perform well on the O-NET test.

Despite the indication of success of the OPPAA model with these low-level English students, it is advisable to consider critiques of task-based language teaching, as put forth by scholars including Swan (2005) who raise concerns about its suitability for beginner-level learners. Swan stresses the importance of grammar instruction in early language acquisition, arguing that task-based learning does not provide learners with sufficient opportunity to develop grammatical knowledge. Although our research findings indicated positive outcomes, it is important to acknowledge these contrasting opinions regarding the appropriateness of task-based language instruction for beginners.

5.2 Teachers' Opinions of the OPPAA Model

The completed questionnaires revealed that overall, the teachers had a positive opinion of the OPPAA model. When considering the findings in detail, it was found that they ranked the benefits of the teaching contents as the most positive aspect of the model. The teachers believed that the model helped them learn new teaching methods and plan lessons by following the phases. This can be explained by the fact that these teachers, despite not having a degree in English, had positive opinions on the OPPAA model because they had been provided with ready-to-use teaching materials and trained to use the new teaching process. As shown in the results section, common themes in the questionnaire related to motivation, enjoyment and collaboration, and training, which will now be discussed in more depth.

Motivation: Teachers #1 and #2 stressed the importance of teaching methods that actively engaged students in analyzing the language while also

sustaining their motivation, leading to positive attitudes toward learning English. This corresponded with Naserine's study (2020) which discovered that the adoption of GBL in the EFL classroom could heighten students' motivation and engagement levels. This also aligned with Kruthangka's findings (2019) which showed that Grade 1 students were exceptionally motivated when TBL was employed in the classroom. They actively engaged in the tasks and displayed a strong sense of enthusiasm. However, Chua and Lin (2020) found that the motivation of 11 students of different proficiency levels decreased when task-based language teaching was used for teaching Mandarin. It could be assumed that the difficulty level mismatch of tasks made classrooms with diverse levels of language proficiency too challenging or too boring for some learners, resulting in demotivation in learning.

Enjoyment and Collaboration: Although Teacher #5 found that incorporating games into the tasks had positive effects, including encouraging collaborative learning and making the lessons more enjoyable and meaningful, this teacher also expressed concern about supporting students' presentation preparation. It can be deduced that the teacher's insecurity may have been due to his lack of an English degree, so the teacher might not have been familiar with the role of English facilitator which appeared in the second phase of the model. However, the teacher had positive opinions on the games used with tasks during the Performance phase, which made the learning more enjoyable and increased collaboration. This was supported by Teachers #4 and #6 who reported the effectiveness of the OPPAA approach in promoting a classroom environment that encouraged enjoyment and collaborative teamwork among students. This was consistent with Nguyen and Van (2021) who found that the implementation of a task-based approach enhanced collaborative learning skills among Grade 9 EFL students. Similarly, Kruthangka's study (2019) has reported that task-based learning enhanced students' enjoyment, decreased learning anxiety, and strengthened their confidence.

Training: Teachers made recommendations regarding the content and length of the training sessions. Some teachers suggested that the topic coverage should be more comprehensive, encompassing all O-NET areas, as emphasized by Teachers #2 and #3. Additionally, they called for an extended training period, believing it would enhance their proficiency and fluency when utilizing the model, as highlighted by Teachers #1, #3, #6, and #7. This was supported by Bunmak (2017) who highlighted the importance of training and proposed that teachers should engage in a task-based learning program or workshop as it would enhance their comprehension, knowledge, and familiarity with this approach.

5.3 Students' Opinions of the OPPAA Model

Students expressed positive opinions of the OPPAA model during interviews. In particular, many students commented that the model promoted communication, collaboration, learning by doing, and enjoyment. These themes will be discussed below.

Communication: Learning through the OPPAA model encouraged students to communicate in a variety of ways. For example, Students #36 and #44 asserted that they actively practiced communicating with friends during gameplay. This can be explained by the fact that the model allowed students to share their ideas throughout the Performance phase (game-task-presentation-preparation) and Application phase (game activity). Moreover, they had the opportunity to prepare their written or spoken presentations with friends, so communication occurred during these activities. This was in line with Saricoban and Metin (2000) who contend that games serve as excellent communicative activities. During gameplay, learners negotiate their way to desired results, so this increases their linguistic understanding. This process also involves the productive and receptive skills simultaneously.

Collaboration: The OPPAA framework encouraged students' collaboration, leading to enthusiastic participation. Collaborative work enabled students to

develop both teamwork and leadership skills. This was corroborated by the findings of Worawong et al. (2017) who discovered that collaborative learning gave undergraduate students a good attitude toward learning since they had chances to work collaboratively to reach their project aims.

In the present study, the opportunities to work collaboratively promoted positive attitudes toward classroom activities, as emphasized by Students #12 and #23 during the interviews. Similarly, Sholeh et al. (2021) discovered that the majority of students preferred task-based learning after first experiencing its potential for cooperation, interaction, and motivation. This made them eager to participate in their English class. This was consistent with the finding of Erten and Altay (2009) that students tended to employ collaborative behavior when performing tasks.

Learning by doing: Learning through the OPPAA model encouraged students to learn by doing. They had to do the tasks using their own linguistic resources, which helped them remember what they had done, as mentioned by Students #1 and #2. Such a finding yielded support to Prabhu (1987) who maintains that task-based language teaching (TBLT) emphasizes “learning by doing” and can improve EFL learners’ integrative competence. Prapatsaranon et al. (2014) examined the effect of task-based communicative activities on English language acquisition among Grade 3 students and discovered that students had positive attitudes toward learning activities and could recall what they had learned while performing the tasks, which was reflected in their higher academic accomplishments.

Enjoyment: The incorporation of tasks and games in English learning enhanced learning satisfaction. Students found that integrating games into lessons made learning more enjoyable, and students appreciated games as a component of the learning experience (e.g., Students #26 and #51). Accordingly, students developed positive attitudes and acquired enjoyment from studying. It can be deduced that characteristics of games, such as challenges, scores, and competition, created a

stimulating environment that resulted in students' enjoyment. This finding was in congruence with the findings reported by Martín-Hernández et al. (2021) that the GBL method increased motivation and encouraged more compelling learning activities. Additionally, GBL has been found to provide learners with a memorable learning experience by affecting their emotions (Jääskä & Aaltonen, 2022). In addition, Hou et al. (2020) found that assigning games to the lesson could promote enjoyment among students. The finding also showed that their replay rate was high which meant that the students were enthusiastic about learning through games.

2) The teachers

The students' opinions of the teachers from learning through the OPPAA model were positive in several ways. Findings from the interviews indicated that they viewed the teachers as facilitators and supporters who reduced their tension, stimulated learning through rewards, and offered supportive suggestions when needed, all of which increased students' motivation (Students #34 and #61). Long (2015) and Ellis (2003) point out that when learners actively engage in the tasks, the teacher should take the role of a facilitator and a supporter as this promotes positive attitudes among learners towards the teacher and learning. A study undertaken by Gorp and Branden (2015) using multilevel analysis to determine the learning gains of primary students through task-based activities revealed that task-based activities enhanced the relationship between the teacher and students, as well as the students' interest in the topic and the students' assertiveness. In the present study, the teachers played significant roles in supporting and facilitating students during task performance, which increased the students' motivation to learn and encouraged positive relationships between teachers and students.

3) Contents

Findings from the interviews indicated that students viewed the learning content as beneficial for O-NET preparation and the revision improved their

understanding. However, many students desired more comprehensive coverage of all O-NET topics to help them earn higher scores C(Students #17, #22, #24, #28, #59, and #64). Such findings were congruent with Webb (1997) who asserts that alignment of expectations and assessments is a key underlying principle of systemic and standards-based reform. Also Long (2015) and Ellis (2003) point out that learners have a more positive attitude toward learning when the contents align with the test. Conversely, inappropriate course content can result in negative learners' opinions toward the content, causing difficulties in their learning experience. For example, Yagci (2017) has reported that an undergraduate student majoring in computer education and instructional technology expressed some negative opinions regarding the comprehensiveness of the content, resulting in problems in his learning.

6. Limitations and Recommendations

This section describes the limitations of the study, provides recommendations, and discusses the implications of the findings.

6.1 Limitations

The limitations of this study can be classified into three main areas: teachers, time constraints, and teaching materials. Because the teachers did not have educational background in English language teaching, some of them reflected that they were not confident in implementing the model for teaching their students effectively. This could have led to inconsistent research outcomes. Moreover, because teachers in small schools have heavy workloads, including teaching tasks for various subjects and some other administrative responsibilities, the researchers could not arrange a long period of training, affecting the training duration and intensity of training. In addition, most of the teaching materials used in the research were digital teaching materials; however, due to limited technology facilities at these small primary schools, some participant teachers were unable to use these materials for all lesson topics, which could have affected students' engagement in learning.

6.2 Recommendations

Our findings have a number of implications for educators and researchers. Further training should be provided for primary English teachers to ensure that teachers without English certification gain substantial knowledge. This training should be divided into three phases: Phase 1 for in-depth English training for teachers without an English degree to gain better knowledge of basic English content in the O-NET examination; Phase 2 for in-depth training in the OPPAA model, and Phase 3 for material training to provide teachers with recommendations on types of games and tasks that can be used in the model. Although methodologically challenging, it would be very useful to conduct some longer-term studies that add more learning content to cover all areas measured and evaluated on the O-NET.

Also, to sufficiently cover the topics that will be tested in the O-NET, it may be appropriate to extend the allotted time for training. However, to reduce restrictions on teachers who need to attend training while handling heavy workloads at school, flexible training times, such as weekends or semester breaks, should be considered to avoid disrupting their weekday responsibilities. Moreover, online training is a viable option to facilitate teachers and eliminate time-consuming traveling.

Furthermore, because the availability of teaching materials at some small schools is inadequate, teachers should be encouraged and supported in creating and adapting teaching materials. Both handmade materials and digital media can be used interchangeably to align with the context of the school to ensure practicality in the actual classroom.

Additionally, tasks and games used in the model can be adapted to suit varying levels of English proficiency of learners. For example, when dealing with learners who have limited English ability, Jeopardy and Tic-Tac-Toe can incorporate multiple-choice questions instead of fill-in-the-blank items which are

more difficult. Also, true/false questions can be changed to open-ended questions when the tasks are used with learners with higher ability in the English language.

7. Conclusion

This study explored the integration of task-based and game-based learning through the OPPAA model, which encompassed five distinct phases: Orientation (O), Performance (P), Presentation (P), Analysis (A), and Application (A). This approach was implemented in English lessons for Grade 6 students at small primary schools, and post-tests based on O-NET content indicated significant improvements in the students' English proficiency scores. Notably, the students expressed overwhelmingly positive opinions on learning through the OPPAA model. The key feature of OPPAA lied in its learner-centered approach, engaging students in joyful learning and fostering active collaboration.

An essential factor contributing to the success of learning through the OPPAA model was the role of the teacher, who assumed the position of a facilitator and supporter. Such roles could create a relaxing and comfortable learning atmosphere and generate favorable impressions among the students, which resulted in enhanced learning outcomes. Also, the contents of the training were aligned with the O-NET, so students were more eager to make use of the chance to practice and prepare specifically for the O-NET. This preparation helped the students perform better on the post-test, which was likely to correspond with improved performance on the O-NET. Furthermore, the lessons were specifically designed to be engaging and collaborative, thereby promoting an enjoyable learning environment.

The findings of this study demonstrated potential benefits of the OPPAA model for both students and teachers. It appeared to have the capacity to contribute positively to the learning process, potentially enhancing the overall learning experience and fostering academic excellence among students. Based on the findings of the study, it appears that the integration of task-based and game-

based learning through OPPAA could potentially be considered as an applicable alternative to small schools with similar contexts.

8. About the Author

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10. References

Alizadeh, M. (2016). The impact of motivation on English language learning. *International Journal of Research in English Education*, 1(1), 11–15.

- Al-Shaw, M. A. (2014). Using game strategy for motivating students to learn new English vocabulary. *AMARABAC, Journal of American Arabic Academy for Sciences and Technology*, 5(12), 137–146.
- Batsaikhan, O. (2021). Game-based learning. In C. L. Miller & O. Batsaikhan (Eds.), *Game-based and adaptive learning strategies* (pp. 9–13). Minnesota State Colleges and Universities.
- Bhandari, L. P. (2020). Task-based language teaching: A current EFL approach. *Advances in Language and Literary Studies (ALLS)*, 11(1), 1–5.
<http://dx.doi.org/10.7575/aiac.all.s.v.11n.1p.1>
- Boo, Z., Dörnyei, Z., & Ryan, S. (2015). L2 motivation research 2005–2014: Understanding a publication surge and a changing landscape. *System*, 55, 145–157. <https://doi.org/10.1016/j.system.2015.10.006>
- Bui, P., Rodriguez-Afecht, G., Brezovszky, B., Hannula-Sormunen, M. M., Laato, S., & Lehtinen, E. (2020). Understanding students' game experiences throughout the developmental process of the number navigation game. *Education Technology Research Development*, 68, 2395–2421.
<https://doi.org/10.1007/s11423-020-09755-8>
- Bunmak, N. (2017). The influence of task-based learning on ELT in ASEAN context. *Language Education and Acquisition Research Network (LEARN) Journal*, 10(1), 201–209.
- Carless, D. (2002). Implementing task-based learning with young learners. *ELT Journal*, 56(4), 389–396. <https://doi.org/10.1093/elt/56.4.389>
- Centre for Teaching Excellence. (n.d.). *Gamification and game-based learning*. University of Waterloo. <https://uwaterloo.ca/centre-for-teaching-excellence/catalogs/tip-sheets/gamification-and-game-based-learning>
- Chua, H. W., & Lin, C. Y. (2020). The effect of task-based language teaching in learning motivation. *International Journal on Social and Education Sciences*, 2(1), 41–48.
- Ellis, R. (2003). *Task-based language teaching and learning*. Oxford University Press.

- Ellis, R. (2020). Task-based language teaching for beginner-level young learners. *Language Teaching for Young Learners*, 2(1), 4–27.
<https://doi.org/10.1075/ltyl.19005.ell>
- Erten, İ. H., & Altay, M. (2009). The effects of task-based group activities on students' collaborative behaviours in EFL speaking classes. *Journal of Theory & Practice in Education (JTPE)*, 5(1), 33–52.
- Gorp, K. V., & Branden, K. V. D. (2015). Teachers, pupils and tasks: The genesis of dynamic learning opportunities. *System*, 54, 28–39.
<https://doi.org/10.1016/j.system.2015.04.018>
- Hellerstedt, A., & Mozelius, P. (2019). *Game-based learning – a long history* [Conference paper]. Irish Conference on Game-based Learning 2019, Cork, Ireland.
- Hobbs, J. (2005). Interactive lexical phrases in pair interview tasks. In C. Edwards & J. Willis (Eds.), *Teachers exploring tasks in English language teaching* (pp. 143–156). Palgrave Macmillan.
- Hou, X., Nguyen, H. A., Richey, J. E., & McLaren, B. M. (2020, July 6–10). Exploring how gender and enjoyment impact learning in a digital learning game. In I. I. Bittencourt, M. Cukurova, K. Muldner, R. Luckin, & E. Millán (Eds.), *International conference on artificial intelligence in education* (pp. 255–268). Springer International Publishing.
- Jääskä, E., & Aaltonen, K. (2022). Teachers' experiences of using game-based learning methods in project management higher education. *Project Leadership and Society*, 3, 1–12. <https://doi.org/10.1016/j.plas.2022.100041>
- Jamornmann, U. (2018). What should The National Institute of Educational Testing Service of Thailand (NIETS) do to develop Thailand 4.0? *Nursing, Health, and Educational Journal*, 1(2), 3–9.
- Jeon, I. J., & Hahn, J. W. (2006). Exploring EFL teachers' perceptions of task-based language teaching: A case study of Korean secondary school classroom practice. *Asian EFL journal*, 8(1), 123–143.
- Kruthangka, K. (2019). *The effect of task-based language teaching on improving English speaking and listening skills of young Thai EFL learners* [Master's

- thesis, Thammasat University]. Thammasat University Digital Collections. http://ethesisarchive.library.tu.ac.th/thesis/2019/TU_2019_5606040102_12701_13068.pdf
- Lee, S. M. (2002). Development of elementary school students' meaning negotiation skills. *Foreign Language Education, 9*(4), 1–26.
- Lincharoen, A., Ardwichai, S., & Chanin, P. (2009). *The causal factors causing low O-NET scores in K-6 and K-13*. National Institute of Educational Testing Service (Public Organization). <http://www.niets.or.th/th/content/download/279>
- Long, M. (2015). *Second language acquisition and task-based language teaching*. Wiley-Blackwell.
- Martín-Hernández, P., Gil-Lacruz, M., Gil-Lacruz, A. I., Azkue-Beteta, J. L., Lira, E. M., & Cantarero, L. (2021). Fostering university students' engagement in teamwork and innovation behaviors through game-based learning (GBL). *Sustainability, 13*(24), 1–16. <https://doi.org/10.3390/su132413573>
- Ministry of Education. (2008). The *Basic Education Core Curriculum B.E. 2551 (A.D. 2008)*. https://academic.obec.go.th/images/document/1525235513_d_1.pdf
- Moneva, J. C., & Tribunalo, S. M. (2020). Students' level of self-confidence and performance tasks. *Asia Pacific Journal of Academic Research in Social Sciences, 5*(1), 42–48.
- Nakhon Pathom Primary Educational Service Area District Office. (2020). *O-NET results of Nakhon Pathom primary educational service area district office 1 and 2 affiliated schools in the academic year 2018–2020* [Unpublished raw data]. Nakhon Pathom Primary Educational Service Area District Office.
- Neserine, L. (2020). *Effects of game-based learning on learners' motivation and engagement in EFL classroom* [Master's thesis, University of Abdelhamid Ibn Badid Mostaganem]. DSpace EBIBLIO. <http://e-biblio.univ-mosta.dz/bitstream/handle/123456789/17391/DES.pdf?sequence=1&isAllowed=y>

- Nguyen, B. N. P., & Van, A. T. (2021). Using task-based approach to improve the 9th graders' speaking skills at a secondary school in Ho Chi Minh City. *Advances in Social Science, Education and Humanities Research*, 621, 76–83. <https://doi.org/10.2991/assehr.k.211224.009>
- Piaget, J. (1973). *The child and reality: Problems of genetic psychology*. Grossman.
- Prabhu, N. (1987). *Second language pedagogy*. Oxford University Press.
- Prapatsaranon, J., Srisanyung, S., & Chomdokmai, M. (2014). Development of communicative English learning through task-based learning of prathomsuksa III students. *Journal of Education and Social Development*, 10(1), 186–196.
- Saricoban, A., & Metin, E. (2000). Songs, verse and games for teaching grammar. *The Internet TESL Journal*, 6(10).
- Sholeh, M. B., Salija, K., & Sahril. (2021). Indonesian EFL learners' attitudes and perceptions on task-based language teaching. *Lublin Studies in Modern Language and Literature*, 45(3), 109–127.
- Swan, M. (2005). Legislating by hypothesis: The case of task-based instruction. *Applied Linguistics*, 26(3), 376–401. <https://doi.org/10.1093/applin/ami013>
- Tanago, N. (2017). *The effectiveness of using game-based learning in teaching English vocabulary* [Master's thesis, Thammasat University]. Thammasat University Digital Collections. http://ethesisarchive.library.tu.ac.th/thesis/2017/TU_2017_5821042263_8608_7212.pdf
- Webb, N. L. (1997). *Criteria for alignment of expectations and assessments in mathematics and science education (Council of Chief State School Officers and National Institute for Science Education Research Monograph No. 6)*. University of Wisconsin, Wisconsin Center for Education Research.
- Worawong, K., Charttrakul, K., & Damnet, A. (2017). Promoting intercultural competence of Thai university students through role-play. *Advances in Language and Literary Studies (ALLS)*, 8(6), 37–43. <https://doi.org/10.7575/aiac.all.s.v.8n.6p.37>

- Van Rooij, A. J. (2011). *Online video game addiction: Exploring a new phenomenon* [Doctoral Thesis, Erasmus University Rotterdam].
<https://core.ac.uk/download/pdf/55816439.pdf>
- Vitarisma, I., Rahayu, S., & Dasna, W. (2022). Game-based learning application in chemistry learning: A systematic literature review. *Jurnal Pendidikan Mipa*, 23(1), 1–12.
- Vygotsky, L. S. (1978). Mind in Society: The development of higher psychological process. In M. Cole, V. John-Steinener, S. Scribner & E. Souberman (Eds.), *The role of play in development* (pp. 92–104). Harvard University Press.
- Yagci, M. (2017). A Web-based blended learning environment for programming languages: Students' opinions. *Journal of Education and Training Studies*, 5(3), 211–218. <https://doi.org/10.11114/jets.v5i3.2118>
- Zhao, M. (2015). Implementation of task-based language teaching in classes of second language acquisition. *International Conference on Education Technology, Management and Humanities Science (ETMHS 2015)*, 27, 113–117. <https://doi.org/10.2991/etmhs-15.2015.42>