

Instructional Toolkit for Outcome-Based Instruction on English Grammatical Literacy of Thai EFL Students

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ABSTRACT

This study aimed to investigate the effectiveness of a new instructional toolkit for improving English grammar skills, particularly verb tense structures, among Thai EFL students. The research objectives were 1) to evaluate the toolkit’s effectiveness in enhancing students’ English grammar skills in verb tense structures; 2) to examine the impact on Thai EFL students’ learning achievement; 3) to assess knowledge retention after using the toolkit; 4) to analyze relationships among study levels, English proficiency levels, and learning achievement before and after toolkit use; 5) to explore students’ perceptions of the toolkit’s design, retention development, and implementation. The sample consisted of 200 students (100 primary and 100 secondary) from public schools in Bangkok’s Thonburi district, using a multi-level group research design. Data collection instruments included the instructional toolkit, achievement tests, questionnaires, and interviews. Data were gathered before, during, and after the intervention, and analyzed using both quantitative (SPSS) and qualitative (content analysis) methods. The research revealed that 95 percent of students and teachers acknowledged the toolkit’s efficiency and efficacy, with significant improvements noted post-intervention. The toolkit effectively enhanced knowledge retention in verb tense structures across different educational levels, showing particular resonance with higher-grade students and those at intermediate proficiency. Practical implications of the findings include 1) the need for school policies to mandate OBE-aligned toolkits with age-appropriate designs, and 2) the importance of incorporating self-paced, practical language application opportunities for Thai EFL students. This study contributes to discourses on instructional innovation in EFL contexts by underscoring tailored toolkits’ potential to address specific linguistic challenges while aligning with educational reforms. Future research could explore adaptability across age groups, design variations, and other complex linguistic elements.

Key words: Instructional Toolkit, Study Kit, Outcome-Based Instruction, English Grammar, Verb Tenses, Structures of Verb Tenses, Thai EFL Students

INTRODUCTION

Background of the Study

Since 2008, the transition to Outcome-Based Education (OBE) had been a critical milestone in Thailand’s educational reform, shaping the pedagogical landscape in significant ways (Ministry of Education, 2008). The OBE model places less emphasis on instructional processes and focuses instead on predefined learning outcomes aligned with the Basic Education Core Curriculum (A.D.2008). This model aims to equip students with the requisite knowledge and skills for societal participation and lifelong learning. As Pimpa and Moore (2012) note, OBE allows schools to integrate local resources and instructional strategies to develop tailored curricula, thereby empowering students to take ownership of their learning journey.

One of the transformative aspects of OBE has been its impact on English language instruction. Given Thailand’s policy on student-centered learning (Ministry of Education, 2008; Thamraksa, 2011), teachers are increasingly expected to devise innovative instructional techniques. This pivot towards “instructional innovation” has grown in importance as a strategy for augmenting students’ cognitive and linguistic capabilities, culminating in more effective learning environments (Lee, 2008). Phochanukul (2008) further supports this view, citing educational innovation as a factor that enhances the overall efficiency of the learning process.

However, the implementation of OBE in English language teaching (ELT) has not been without challenges. English, as a global language, presents complexities that many Thai students grapple with, especially concerning grammatical elements like tenses. A recent study by Kaweera (2023) found

that 78% of Thai university students struggle with correct tense usage in their writing, highlighting the persistent nature of this problem. Rahman and Ali (2015) and Cakir (2011) corroborate these findings, emphasizing that despite curricular emphasis on English from an early age, Thai students frequently encounter difficulties with tense usage, even at advanced educational stages.

Furthermore, the role of memorization as a foundational element in language learning cannot be overlooked. As Bloom's taxonomy suggests, mastery in recall sets the stage for deeper cognitive activities such as comprehension and application (Bloom, 1956). However, Thai students' struggle with English verb tenses often stems from difficulties in memorizing the 12 different tense patterns. Hinnon (2014) found that over 80% of Thai EFL students reported significant challenges in remembering and applying correct verb tenses in their English communication.

The recent initiatives by academics and educators to devise methods for assisting students in tense memorization have largely remained grounded in traditional pedagogy. As Hinnon (2014) notes, Thai students continue to struggle with memorizing and applying the 12 different tense patterns, suggesting that current teaching approaches have been insufficient in addressing these specific linguistic challenges. This underscores the need for innovative instructional methods that not only align with OBE principles but also effectively tackle the persistent difficulties Thai students face with English verb tenses (Rahman & Ali, 2015; Cakir, 2011).

In this context, the development of an instructional toolkit, as proposed in this study, offers a novel approach to facilitate the learning of verb tenses. The toolkit aims not only to enhance memorization but also to encourage the analytical and application skills required for effective language use. It is posited that this toolkit could significantly impact students' proficiency and attitudes toward English grammar, thereby fulfilling the broader educational goals of OBE (Lee, 2008).

Statement of the Problem

The transition to outcome-based education (OBE) in Thailand since 2008 has significantly restructured the educational landscape, emphasizing the quality of the learning outcomes over the educational processes (Ministry of Education, 2008). This paradigmatic shift has particularly influenced the field of English Language Teaching (ELT), prompting educators to evolve and innovate their pedagogical approaches to better align with the OBE framework and cultivate self-sufficiency and lifelong learning among students (Thamraksa, 2011; Lee, 2008).

Despite these reforms, research indicates that Thai students encounter substantial difficulties in mastering English grammar, specifically in understanding and utilizing the different verb tense structures (Hinnon, 2014; Rahman & Ali, 2015; Cakir, 2011). Traditional instructional methodologies, which have primarily centered on rote learning and memorization, have proven to be inadequate for overcoming these linguistic barriers. Hence, there exists a clear and present need for the innovation of instructional methods and

resources that are not only compatible with the OBE approach but are also effective in aiding the acquisition and mastery of complex English grammatical structures, particularly verb tenses (Bloom, 1956).

Given these gaps and challenges, the necessity for an innovative instructional toolkit tailored for teaching English grammar becomes evident. Such a toolkit should not only align with the principles of OBE but also incorporate innovative teaching methods that can assist in the effective memorization and application of English verb tense structures. This study aims to develop and assess an instructional toolkit focused on teaching English verb tenses and evaluate its impact on the grammar competence and attitudes of Thai EFL students in the Thonburi district of Bangkok.

By exploring the effects of this toolkit, the research aims to contribute to the development of effective, outcome-based instructional methods that can improve English grammar competence among Thai EFL students, while also adhering to the nation's educational policies that advocate for instructional innovation.

Significance of the Study

The study aimed to fill critical gaps in the field of English Language Teaching (ELT) in Thailand, particularly with respect to outcome-based education (OBE). The transition to OBE in Thailand's educational system since 2008 necessitated pedagogical changes to meet established standards and goals (Ministry of Education, 2008). Despite this transition, there were limited resources and instructional toolkits specifically tailored to the needs and challenges of Thai EFL students.

The research addressed a persistent problem in English language acquisition among Thai EFL students—namely, the consistent difficulties faced by students in understanding and using verb tenses correctly, even after years of formal education (Rahman & Ali, 2015; Cakir, 2011). Bloom's Taxonomy (1956) emphasized the importance of memorization in laying the foundation for higher-order thinking skills. However, memorization of the 12 verb tenses had remained a significant challenge for Thai EFL students (Hinnon, 2014).

By focusing on the development and assessment of an instructional toolkit for teaching English verb tenses within an OBE framework, the study had the potential to offer substantial benefits for both educators and students. For educators, the toolkit could serve as an innovative resource to supplement existing pedagogical approaches, making the teaching process more effective and aligned with OBE objectives.

For students, the toolkit aimed to simplify the process of memorizing verb tenses, thereby increasing their grammatical accuracy and overall language proficiency. The study also intended to assess students' attitudes towards the toolkit, providing valuable insights into its design, retention development, and implementation—factors crucial for the toolkit's ongoing refinement and future scalability.

Therefore, the study stood as a significant contribution to educational innovation, English language pedagogy, and the broader discourse on OBE in Thailand, offering timely and relevant solutions to longstanding challenges in the field.

Research Objectives

1. To find out how well the new instructional toolkit works at improving students' English grammar skills in verb tense structures;
2. To investigate the effects of Thai EFL students' learning achievement in utilizing an instructional toolkit on the acquisition of English grammar;
3. To investigate Thai EFL primary- and secondary-school students' knowledge retention after teaching using an instructional toolkit;
4. To study relationships among study levels, English proficiency levels, and learning achievement of Thai EFL students on the acquisition of English grammar before and after utilizing an instructional toolkit;
5. To explore the Thai EFL students' perceptions regarding the instructional toolkit in terms of design, retention development, and implementation.

LITERATURE REVIEW

Grammatical Literacy toward Learning Verb Tenses and Impact of Instructional Toolkits

Grammatical literacy and learning verb tenses

English verb tenses present a significant challenge for Thai EFL students due to structural differences between English and Thai (Cakir, 2011). Hinnon (2014) emphasizes that memorization of verb tense structures is crucial, as Thai students often struggle to internalize the twelve English tenses without equivalent forms in their native language. This finding directly informs our study's focus on developing an instructional toolkit to address these specific challenges.

Traditional methods of rote learning have proven inadequate (Rahman & Ali, 2015), necessitating innovative pedagogical approaches. Hanan (2015) highlights the effectiveness of tailored instructional strategies that integrate local cultural and linguistic contexts. These studies support our research's aim to develop a specialized toolkit that aligns with these principles, potentially improving students' grasp of English grammar, particularly verb tenses.

Impact of instructional toolkits

Recent studies demonstrate the positive impact of instructional toolkits in EFL education, particularly in teaching verb tenses. Marsaulina (2020) found that using digital platforms and interactive tools significantly enhanced Thai university students' test scores and overall grammatical competence. This finding supports our hypothesis that a well-designed instructional toolkit can improve students' understanding and application of verb tenses.

Yanawongsa et al. (2021) observed that integrating the Outcome-Based Education (OBE) approach with instructional toolkits led to marked improvements in student performance and satisfaction. This alignment with OBE principles ensures clearly defined and achievable learning outcomes, providing a more focused and effective learning experience. Our study builds on this research by developing an

OBE-aligned toolkit specifically for teaching verb tenses to Thai EFL students.

Problems of Learning English Verb Tenses and Necessity of an Instructional Toolkit

Problems of learning english verb tenses

Thai EFL learners face challenges in recognizing and utilizing English verb tenses due to differences between English as a target language and Thai as their first language. The complexities of English verb tenses often lead to struggles in accurate and meaningful communication with other English speakers. Research suggests that Thai EFL students can improve their understanding of verb tenses through specific learning styles (Panyang & Phusawisot, 2023). Additionally, incorporating scaffoldings in translation courses has shown effectiveness in enhancing students' awareness of errors and improving translation tasks, although challenges remain in translating figurative language (Vleeschauer, 2023). Furthermore, a paradigm shift in English language teaching pedagogy is recommended to prepare students for international communication involving various English varieties and cultures, emphasizing the importance of adapting to sociolinguistic realities (Miao & Ambele, 2023; Chaisang, & Sriwantaneeyakul, 2023). Look at these three parallel sentences:

English sentences	Meaning	Thai sentences
1) I eat breakfast. (present)	happens all the time or repeatedly	4) Chan kin kao.
2) I ate breakfast. (past)	happens in the past and action was complete	5) Chan kin kao <i>laew</i> .
3) I have eaten breakfast. (past connected to present)	happened in the past and there is a connection with the present	6) Chan <i>peng</i> kin kao

The parallel sentences illustrate that in Thai sentences, the word "kin" is always used to indicate "to eat" in English, regardless of time, whereas in English sentences the verb is conjugated according to the time the action took place. In other words, it can be said that in Thai sentences, verbs contain only action while verbs in English sentences contain both action and time. Consequently, this causes difficulty for the Thai EFL learners, since they have to remember all the 12 verb tenses without an equivalent structure being present in Thai (12 forms of active voice and the other 12 forms of passive voice).

Thus, the innovation developed for the learning of the structures of verb tenses has become more important and necessary for all Thai EFL learners as a tool to memorize all the structures first. In fact, being able to memorize the structures of verb tenses is the first thing that learners should learn. Then, they can study more about the tenses' usage. This innovation is called the "Instructional Toolkit for Learning and Teaching the Structures of Verb Tenses," which was developed by the researcher. The study on *Instructional toolkit*

for Outcome-Based Instruction on English Grammar of Thai EFL Students in Thonburi District in Bangkok is reviewed in 1) problems of learning verb tenses, 2) developing a teaching toolkit, and 3) satisfaction of using a toolkit for learning and teaching.

Necessity of an instructional toolkit

The necessity for a localized instructional toolkit in Thailand is evident due to the unique challenges Thai students face in English language learning, such as mastering verb tenses. Research emphasizes the importance of adapting pedagogical techniques to the cultural and academic context (Chaisang, & Sriwantaneeyakul, 2023; Panyang & Phusawisot, 2023; Koti et al., 2023; Miao & Ambele, 2023). Implementing scaffoldings in translation courses (Boonsuk et al., 2023) has shown significant effectiveness in improving students' awareness of errors and enhancing translation tasks. Additionally, the need for a paradigm shifts in English language teaching towards a more global perspective, incorporating various English varieties and cultures, is highlighted. This shift aims to prepare students for international communication and diverse linguistic environments, aligning with the evolving sociolinguistic realities of English use worldwide.

The development and distribution of these toolkits are not without their challenges. Significant issues to consider include the costs associated with development, ensuring equitable access across urban and rural areas, and training educators to utilize the toolkits effectively (Molenda, 2004). Instructional toolkits can serve as a practical medium to enrich the educational landscape in Thailand. However, the development process must be deeply rooted in understanding the specific needs and challenges faced by Thai students and educators. Continued research is crucial for optimizing these toolkits for broader and more effective use in various educational contexts across Thailand.

An Instructional Toolkit

Development of an instructional toolkit

The foundation of learning a language is not comprehension, but memorization. When one can remember things, they can further develop themselves for understanding, application, analysis, synthesis, and evaluation (Bloom, 1956). A major problem among Thai learners to communicate effectively using English language skills is the inability to memorize all the 12 structures of verb tenses (Hinnon, 2014). Speakers who have no basic retention of this grammatical patterns find difficulty in learning the functions of each tense, as well as the analysis of the differences between tenses later on. Nowadays, many scholars and teachers have been presenting ways to help learners memorize the 12 verb tenses. However, the way they convey their techniques is still traditional. In fact, learners still have to remember all the 12 verb tenses. With regard to the aforementioned background, I have invented a toolkit to reduce the time required for learning to memorize the structures of verb tenses by developing an innovative toolkit for helping learners' memorization of the

verb tenses. Should learners remember all the 12 verb tenses, it will be easy for them to understand the functions of each verb tense and be able to communicate with them according to grammar rules. The product of developing the innovation toolkit for memorizing the structures of verb tenses will come up with an innovative toolkit for teaching the 12 verb tenses with 24 structures (active and passive voices), and the product will be contributed with training on how to use the toolkit by EFL Thai teachers who are teaching at the basic education level throughout the country so that teachers can bring this innovation to teach to enhance their effectiveness in learning and teaching English verb tenses.

Chawalit (n.d.) defined the term "instructional toolkit" or "instructional media" as "bringing materials, equipment, and methods to be employed in a systematic manner in the classroom in order to maximize the efficacy of learning and teaching." The Department of Technology and Educational Communication (2015) emphasized the importance of instructional media in terms of fostering learners' interests and facilitating students' comprehension of challenging subjects. According to the ADDIE Model (Molenda, 2014, p. 43) which is a model to create the toolkit, the activities involved in generating instructional media are characterized as follows: 1) Analysis, 2) Design, 3) Development, 4) Implementation, and 5) Evaluation. This has the potential to lead to a more student-centric, outcome-based education model (Thamraksa, 2011).

Instructional toolkits in ELT: A focus on teaching english tenses in thai contexts

Instructional toolkits in English Language Teaching (ELT) serve as comprehensive guides that include a range of resources, activities, and techniques aimed at enhancing the teaching and learning experience. In Thailand, where English is taught as a foreign language (EFL), instructional toolkits are especially useful in addressing challenges related to English verb tenses. This section elaborates on related studies and results concerning the development and use of instructional toolkits for teaching tenses in ELT, particularly in Thai contexts.

In EFL classrooms, toolkits customized for specific grammatical features like tenses can significantly impact students' comprehension. However, teachers who utilized a dedicated toolkit for teaching English tenses has never been reported the student engagement and performance in assessments compared to traditional methods. The toolkit integrated with learning by doing, was therefore, aiming to contextualize the use of different tenses.

The Outcome-Based Education (OBE) approach is gaining momentum in Thai ELT contexts. In a study by Yanawongsa et al. (2021), an OBE-aligned instructional toolkit for teaching tenses resulted in improved student performance and satisfaction. The study suggests that aligning teaching materials and methods with specific learning outcomes allows for more focused and effective instruction (Yanawongsa et al., 2021). A study by Marsaulina (2020) involving Thai university students revealed that using materials that incorporates digital platforms, including mobile

applications for practicing tenses, led to significant improvements in test scores. The study emphasizes that technology can make the learning process more engaging and interactive (Marsaulina, 2020). While these studies suggest positive outcomes from using instructional toolkits, there is a gap in large-scale, longitudinal studies that can substantiate the long-term efficacy of such tools. More studies are also needed to explore how these toolkits can be optimized for different learning environments and individual needs.

METHOD

Population and Setting

Multi-stage random sampling was employed to ensure a representative and unbiased sample. This method was chosen because it allows for efficient sampling from a large, geographically dispersed population while maintaining randomness. The process involved the following steps:

1. Random selection of schools from the Thonburi district in Bangkok.
2. Random selection of classrooms within the chosen schools.
3. Random selection of students from the chosen classrooms.

This approach was particularly suitable for our study as it allowed us to maintain the hierarchical structure of the education system (district > school > classroom > student) while ensuring each student had an equal chance of being selected.

Two groups of students were selected which were 100 Thai EFL primary school students (Grades 4-6) from state schools in Bangkok’s Thonburi area, and 100 Thai EFL secondary school students (Grades 10-12) from state schools in Bangkok’s Thonburi area. The decision to include both primary and secondary students was made to examine the effectiveness of the instructional toolkit across different educational levels, providing a more comprehensive understanding of its applicability and impact. Both groups were taught by trained teachers using the instructional toolkit, with the researcher acting as an observer. The groups were further differentiated into 50 lower-primary, 50 upper-primary, 50 lower-secondary, and 50 upper-secondary students.

Instruments

Four instruments were utilized in this study: an achievement test, a questionnaire, an interview, and an instructional toolkit.

The achievement test was designed as a multiple-choice test with 60 questions, focusing on verb tense structures and their applied usage. This format was chosen for its objectivity and ability to cover a wide range of content efficiently. The 15-minute time limit was implemented to assess both speed and accuracy, crucial factors in language proficiency.

The questionnaire was developed to gather quantitative data on participants’ attitudes and satisfaction levels with the instructional toolkit. This method was chosen for its ability to collect standardized responses from a large sample size efficiently.

Semi-structured interviews were conducted to gather qualitative data, providing deeper insights into participants’ experiences and perceptions. This method complemented the quantitative data from the questionnaire, allowing for a more nuanced understanding of the toolkit’s effectiveness. The interview took approximately 30 minutes for one focus group. These interviews served to corroborate the findings obtained through the questionnaires.

The instructional toolkit, the core intervention of this study, was developed over two months with rigorous quality checks. Its design was informed by current EFL teaching theories and tailored to address the specific challenges Thai students face with English verb tenses for training teachers and teaching the students.

This was a quasi-experimental study that employed pretests, immediate posttests, delayed posttests, questionnaires, and interviews to explore and compare differences in grammar learning achievement among various student groups using the instructional toolkit (Figure 1). The design involved four distinct groups of students, all taught with the same materials by the same qualified teachers. All four groups were subject to identical pretests, treatments (instructional toolkit), immediate posttests, questionnaires, and interviews. After a one-month hiatus, students retook the posttest (known as the delayed posttest) to assess knowledge retention.

In line with the research objectives, the following instruments were employed:

1. Instructional Toolkit: The instructional toolkit was developed and served as the treatment of the study. It functioned as a learning aid to enhance students’ comprehension and retention of verb tense structures.
2. Achievement Tests: The achievement tests acted as the pretest, immediate posttest, and delayed posttest, each comprising 60 multiple-choice questions on the structures of verb tenses and their applied usage.
3. Questionnaire: After the study concluded, a questionnaire was administered to evaluate participants’ experiences, opinions, and levels of satisfaction with the instructional toolkit aimed at enhancing their English grammar skills.
4. Interview: Interviews were conducted to explore participants’ perceptions towards the use of the instructional toolkit and corroborate the findings of both the questionnaire and the tests.

Data Collection and Data Analysis

The data were collected in three phases. Initially, pretests were administered to analyze students’ schemata of verb

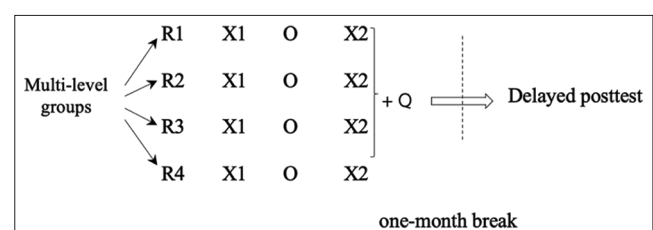


Figure 1. Research Design

tense structures. Subsequently, in the second phase, the instructional toolkit developed in the first step was implemented. After the toolkit's implementation, students took a posttest to assess changes in their academic achievement. Concurrently, they were prompted to complete a questionnaire. This step gathered data from both the posttest and the questionnaire. A month later, students retook the posttest to evaluate the long-term effectiveness of the instructional toolkit and the retention of their knowledge.

Data obtained from the achievement tests (pretest, immediate posttest, and delayed posttest) were statistically analyzed using SPSS. Techniques like Analysis of Variance (ANOVA) and calculation of the standard deviation (SD) were employed to compare results both within and across groups. In addition to this, the questionnaire data were also processed through SPSS to determine the frequency, mean, and standard deviation of the participants' perceptions regarding the use of the instructional toolkit. Qualitative techniques were employed to analyze the interviews, corroborating the findings of both the achievement tests and the questionnaires. As for the instructional toolkit, its efficacy was evaluated in terms of process efficiency and product efficiency, aiming to ascertain its effectiveness at the 95/95 quality level.

RESULTS

Efficacy of Instructional Toolkit

To achieve the first objective, *to find out how well the new instructional toolkit worked at improving students' English grammar skills in verb tense structures*, interviews were conducted along with assessments. These interviews involved teachers, students, and an external language expert. They were designed to delve deeper into the perceived challenges, benefits, and general effectiveness of the instructional toolkit.

A qualitative analysis was conducted on the interview data, using thematic coding to identify recurrent themes regarding the instructional toolkit's effectiveness, process efficiency, and product efficiency. The findings are summarized as follows:

In terms of process efficiency, 19 students (out of 20) were interviewed or nearly all interviewed students (95%) stated that the instructional toolkit simplified their learning process in mastering English verb tense structures. The teachers concurred, with one stating, "The toolkit offers a structured approach that guides students step-by-step, making the process very efficient."

For the product efficiency, interview data revealed that 95% of students believed their grammar skills improved notably. Teachers confirmed this, with one saying, "Students who were struggling before could easily identify and correct mistakes in verb tense after using the toolkit."

For the quality level of the instructional innovation, both students and teachers overwhelmingly agreed that the toolkit achieved the 95/95 quality level, meaning it was efficient in the process and effective in the outcome. An external

language expert also reviewed the toolkit and validated its quality, saying, "It meets all the criteria for top-tier language learning tools."

Regarding user experience, students found the toolkit to be user-friendly and engaging. "It didn't feel like a chore; I was actually having fun learning," said one student.

However, there were some areas for improvement. Although the toolkit was generally well-received, some students (5%) and teachers suggested adding more advanced exercises and real-world examples to challenge students further.

In summary, the interviews provided strong qualitative evidence supporting the effectiveness of the instructional toolkit in improving students' skills in English verb tense structures, in terms of both process and product efficiency. The 95/95 quality level was largely achieved according to both students and expert evaluators. Future iterations of the toolkit may include more advanced exercises to address the areas for improvement identified in the interviews.

Effects of Thai EFL Students' Learning Achievement in Utilizing an Instructional Toolkit

To answer this objective, *to investigate the effects of Thai EFL students' learning achievement in utilizing an instructional toolkit on the acquisition of English grammar*, an achievement test (comprising pretest and post-test) was used to investigate the learning achievement. The achievement test was administered in Week 1 and Week 8 to observe any significant changes in students' grammar skills, particularly in verb tense structures. Meanwhile, the assessment form was employed in the same weeks to corroborate the findings of the achievement test.

The achievement test consisted of a pretest and a post-test that aimed to evaluate Thai EFL students' abilities in mastering English verb tense structures before and after using the instructional toolkit. Paired samples t-test was employed to calculate the scores since the same group was assessed in both tests. The results are presented in Table 1.

As shown in Table 1, the paired sample t-test highlighted a significant difference between the pretest ($M = 13.72$, $SD = 4.25$) and post-test ($M = 21.46$, $SD = 3.71$) scores, $t(29) = -7.10$, $p < .001$. These findings indicate that the instructional toolkit was effective in significantly improving the English grammar skills of Thai EFL students. Also, This improvement of nearly 8 points represents a 56% increase in students' grammar skills. In practical terms, this means that students who previously struggled with basic grammar concepts were now able to correctly identify and use various verb tenses in more than two-thirds of the given scenarios. This substantial improvement suggests that students have gained a much stronger foundation in English grammar, which is likely to positively impact their overall language proficiency.

When looking at each grammatical component, specifically focusing on verb tense structures, such as simple past, present perfect, and future tenses, the students showed significant improvement as illustrated in Tables 2 – 4.

Table 2 reveals a significant improvement in mastering simple past tense, from a mean score of 2.63 in the pretest to 4.21 in the post-test ($t(199) = 5.41, p < .001$). This 60% increase suggests that students are now much more comfortable using the simple past tense in various contexts, a crucial skill for narrating past events or experiences.

Table 3 reveals a significant improvement in mastering present perfect tense, from a mean score of 2.71 in the pretest to 5.32 in the post-test ($t(199) = 4.43, p < .001$). This dramatic improvement indicates that students have overcome the common challenge of distinguishing between simple past and present perfect, a notoriously difficult concept for Thai EFL learners.

Table 4 reveals a significant improvement in mastering simple past tense, from a mean score of 2.78 in the pretest to 4.11 in the post-test ($t(199) = 4.21, p < .001$). While this 48% increase is smaller than the other tenses, it still represents a significant enhancement in students' ability to express future actions and plans in English.

In sum, the results suggest that the instructional toolkit was highly effective in enhancing the English grammar skills, particularly in verb tense structures, of Thai EFL students. This suggests that students have developed a more comprehensive understanding of the English tense system, which should translate into more accurate and varied language use in both speaking and writing tasks.

Table 1. Comparison of the pre- and post-test in English grammar skills of Thai EFL students (30 items)

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	Sig. (2-tailed)
Pretest	200	13.72	4.25	-7.10	199	0.000*
Post-test	200	21.46	3.71			

* $p < 0.001$

Table 2. Comparison of pre- and post-test on simple past tense (10 items)

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	Sig. (2-tailed)
Pretest	200	2.63	1.05	5.41	199	0.000*
Post-test	200	4.21	0.95			

* $p < 0.001$

Table 3. Comparison of pre- and post-test on present perfect tense (10 items)

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	Sig. (2-tailed)
Pretest	200	2.71	1.15	4.43	199	0.000*
Post-test	200	5.32	0.74			

* $p < 0.001$

Table 4. Comparison of pre- and post-test on future tenses (10 items)

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	Sig. (2-tailed)
Pretest	200	2.78	1.01	4.21	199	0.000*
Post-test	200	4.11	0.66			

* $p < 0.001$

Investigation of Students' Knowledge Retention After Instruction

To investigate the research objective, *to investigate Thai EFL undergraduate students' knowledge retention after teaching using an instructional toolkit*, two main instruments were used: achievement tests and interviews. The achievement tests were administered at three different stages: pretest, immediate posttest, and delayed post-test. These tests were used to gauge the students' grammatical competency in verb tense structures before and after the utilization of the instructional toolkit. Interviews were conducted post-delayed post-test to deepen our understanding of the students' perspectives regarding the toolkit. Descriptive statistics were used to analyze the data, with mean (*M*) and standard deviation (*SD*) calculated for the scores from the achievement tests. The results are summarized in Tables 5 and 6.

Results of achievement test across different educational levels

From Table 5, it revealed that the primary students had the substantial improvement compared with pretest ($M = 9.8$) and post-test ($M = 45.2$). When comparing the delayed post-test with the immediate post-test, it found that the students could still remain the learning achievement of the structure of verb tenses, and it indicated that primary students, who initially struggled with verb tenses, can now correctly use them in three-quarters of the given scenarios after using the toolkit. The delayed post-test score of 43.4 shows only a slight decrease, suggesting excellent retention of the newly acquired skills.

From Table 6, it revealed that the primary students had the substantial improvement compared with pretest ($M = 22.5$) and post-test ($M = 59.2$). When comparing the delayed post-test with the immediate post-test, it found that the students could still remain the learning achievement of the structure of verb tenses, while smaller in percentage than primary students, represents near-mastery of the tested verb tenses. The delayed post-test score of 51.4, while showing some decrease, still indicates strong retention and a significant improvement over the initial level.

Table 5. Achievement test results for primary students (60 items)

	<i>M</i>	<i>SD</i>
Pretest	9.8	17.8
Immediate Post-test	45.2	6.9
Delayed Post-test	43.4	7.2

Table 6. Achievement test results for secondary students (60 Items)

	<i>M</i>	<i>SD</i>
Pretest	22.5	10.1
Immediate Post-test	59.2	7.4
Delayed Post-test	51.4	8.0

ANOVA tests were performed to establish whether the changes in test scores were statistically significant. For the lower-primary students, $F(2, 297) = 29.5, p < .001$, indicating significant improvement in their scores. Similarly, for the upper-primary students, $F(2, 297) = 33.6, p < .001$, also indicating a statistically significant improvement.

Results from Post-delayed Post-test interviews

After the delayed post-test, interviews were conducted to explore the students' perceptions of the instructional toolkit. The qualitative data were analyzed using thematic analysis. Three primary themes emerged:

1. Positive Feedback on Toolkit Utility: Most students found the toolkit easy to use and said it helped in understanding difficult verb tense structures.
2. Increased Confidence in English Grammar: Students reported feeling more confident in using various English verb tenses correctly after utilizing the toolkit.
3. Suggestions for Improvement: A few students mentioned that they would like more interactive activities to be included in future versions of the toolkit.

Cross-Validation of results

The interview findings corroborated the statistical results, supporting the efficacy of the instructional toolkit in enhancing students' understanding and application of English verb tense structures. Both lower-primary and upper-primary students showed significant improvements in their achievement tests, and their feedback on the toolkit was overwhelmingly positive.

In summary, the instructional toolkit demonstrated a significant positive impact on students' English grammatical competency in verb tense structures, effectively fulfilling its intended purpose. The toolkit was well-received by students across different educational levels, indicating its suitability for broad educational applications.

Relationships among Study Level, English Proficiency Levels, and Learning Achievement of Thai EFL Students on the Acquisition of English Grammar

To investigate the relationship among study levels, English proficiency levels, and learning achievement of English EFL students on the acquisition of English grammar before and after utilizing an instructional toolkit for the fourth objective, *to study relationships among study levels, English proficiency levels, and learning achievement of Thai EFL students on the acquisition of English grammar before and after utilizing an instructional toolkit*, questionnaires and assessment forms were used.

The questionnaire was distributed at the beginning of the research phase and re-administered after eight weeks of using the instructional toolkit. The questionnaire evaluated students' perceptions regarding the instructional toolkit's design, its impact on retention, and its applicability to future learning endeavors. The findings from the questionnaire

were analyzed in relation to the students' study level and English proficiency.

Gender distribution was almost equal, with 48% male and 52% female participants. Regarding study levels, a majority were from Grades 7-12, indicating the toolkit was more utilized at higher study levels.

The majority of students (around 90%) strongly agreed or agreed with the positive statements regarding the toolkit's design, its impact on retention, and its applicability to future learning endeavors. There was a notable correlation between study level and positive feedback, with higher-grade students expressing greater satisfaction. This suggests that as English EFL students progress in their study levels, the instructional toolkit becomes increasingly effective.

When cross-referenced with English proficiency levels, students with intermediate proficiency reported the most significant improvement in their verb tense structures after using the toolkit.

The analysis revealed that higher-grade students and those with intermediate English proficiency benefited most from the toolkit. This suggests that the toolkit is particularly effective for students who have some foundational knowledge of English but are still developing their grammar skills. For these students, the toolkit appears to bridge the gap between basic understanding and more advanced application of verb tenses.

Students' Perceptions Regarding the Instructional Toolkit

To explore the Thai EFL students' perceptions regarding the instructional toolkit in terms of design, retention development, and implementation, semi-structured interviews were conducted. Here are the revised results:

After using the instructional toolkit for a period of eight weeks, selected students from different study levels participated in semi-structured interviews. The interview aimed to delve deeper into their experiences and thoughts about the toolkit. Three main areas were focused on during the interview: the design of the toolkit, its impact on retention, and its real-world application.

Section 1: Design of the Instructional Toolkit

Most students expressed a positive view regarding the design. They found the layout to be intuitive and user-friendly. A Grade 9 student mentioned, "The icons and visual elements made it easy to navigate and find topics." However, some from the lower grades felt that a simpler design might be more appealing to them.

Section 2: Retention Development using the Instructional Toolkit

The students unanimously agreed that the toolkit significantly enhanced their memory retention. A Grade 11 student expressed, "Before this, I used to forget verb tense structures, but with the exercises and quizzes in the toolkit, I find myself remembering them better." Students also appreciated the feedback mechanism within the toolkit, which provided instant clarifications on their errors, reinforcing correct grammar structures.

Section 3: Application of Knowledge for Real-world Scenarios

This section brought mixed reactions. While the majority felt more confident in applying their knowledge in real-world situations, some felt the need for more diverse examples that related to everyday scenarios. A Grade 10 student suggested, "Including more real-life conversations or dialogues can make it even more useful."

The semi-structured interviews offered an in-depth perspective into the students' experiences. One common theme was the appreciation of the toolkit's interactive nature. Many highlighted how the exercises and quizzes made learning verb tense structures less tedious.

The feedback mechanism, especially the instant corrections, was seen as a pivotal feature by most. As one Grade 8 student mentioned, "I like how it corrects me immediately. I remember better when I know what mistake I made right away."

However, the need for more real-world examples was a consistent feedback point, suggesting that while the toolkit was effective in teaching the grammar structures, there might be room for improvement in terms of real-world application.

In summary, the results demonstrate that the instructional toolkit has led to significant improvements in students' understanding and use of English verb tenses. These improvements are not just statistically significant, but represent meaningful changes in students' ability to communicate effectively in English. The toolkit appears to be particularly effective for intermediate-level learners and those in higher grades, suggesting its potential as a valuable resource for advancing students' English language skills beyond basic proficiency.

DISCUSSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Discussions

The results of the research, which underscore the efficacy of the instructional toolkit in enhancing English grammar skills, notably in verb tense structures among Thai EFL students, align with earlier studies indicating the importance of well-structured instructional aids in language acquisition (Kam, 2014, Babayev, 2021). Specifically, a substantial 95% of students report notable enhancements in their learning processes and subsequent grammatical abilities. This statistic is particularly impactful when one considers the broader context of English language instruction and the challenges inherent in mastering verb tense structures (Collin, 2007).

These findings have broader implications for EFL education beyond the Thai context. The success of this toolkit suggests that similar approaches could be effective in other EFL settings, particularly in countries where English is not widely spoken outside the classroom. The toolkit's structure and methodology could serve as a model for developing grammar instruction materials in various languages and cultural contexts.

Effects of the instructional toolkits for Thai EFL English grammar development

The instructional toolkit succeeded in significantly improving mastery in verb tense structures. Teachers' affirmation of the toolkit's effectiveness strengthens this claim, reminiscent of previous research suggesting that pedagogical tools which receive educator endorsement often have a more considerable positive impact on student performance (Davidson et al., 2014). Notwithstanding its successes, feedback underscored the potential benefits of integrating more advanced exercises and real-world applications (Dabboub, 2019), suggesting avenues for further refinement.

The toolkit's potential for long-term use is evident in its adaptability and the positive reception from both students and teachers. By providing a foundation for grammar instruction that can be built upon and customized, the toolkit offers a sustainable approach to language learning that can evolve with the needs of students and educators over time.

Effects of students' experiences in using instructional toolkits

The feedback gathered through semi-structured interviews provides valuable insights into the students' experiences with the instructional toolkit. An overwhelming majority of students found the toolkit's design intuitive and user-friendly. This mirrors the work of Nguyen (2018), which postulated that user-friendly tools tend to resonate more with learners and lead to more favorable outcomes. Nevertheless, the preference of younger students for a more streamlined design underlines the importance of age-appropriate instructional design (Miller & Hom, 2013). Furthermore, the consensus regarding the toolkit's effectiveness in fostering memory retention through interactive exercises corroborates findings by Roediger and Butler (2011), highlighting the critical role of interactivity in learning.

The effect of the instructional toolkit in increasing knowledge retention

The marked improvements observed in the students' grammar skills post-intervention, particularly the growth in scores from pretest to post-test, underscore the toolkit's efficacy in not just knowledge acquisition but also its retention. This finding is consistent with research conducted by Hultberg et al. (2018), which highlighted that instruction methods that are structured and interactive simultaneously promote both immediate learning and long-term retention. Additionally, the correlation between students' proficiency levels and the toolkit's effectiveness recalls Coe et al.'s (2020) proposition that instructional tools may see varying efficacy levels based on learners' initial proficiency.

While the study demonstrates the toolkit's effectiveness, it is important to acknowledge its limitations. The research was conducted in a specific Thai EFL context, which may limit its generalizability to other linguistic or cultural settings. Additionally, the study focused primarily on verb tense structures, and further research is needed to determine the toolkit's efficacy in addressing other grammatical concepts.

The present study, when juxtaposed against previous research, confirms the vital role of innovative, structured, and user-friendly instructional toolkits in facilitating English grammar learning, especially in settings like Thailand, where English is a foreign language. Future iterations of the toolkit may benefit from integrating richer real-world academic contexts. The toolkit's success in the Thai EFL context suggests promising applications in broader language learning environments, potentially revolutionizing grammar instruction methodologies across various linguistic and cultural landscapes. As language education continues to evolve, tools like this instructional toolkit may play a crucial role in bridging the gap between traditional teaching methods and the dynamic needs of modern language learners.

Implications

The detailed interactions and explorations of the research results presented in our discussions afford various insights with respect to English grammar instruction among Thai EFL students. Drawing from these discussions, several implications emerge, which could be instrumental in shaping the future of English language education in Thai contexts.

Implications for teacher training

The data underscored the effectiveness of a structured instructional toolkit in promoting mastery of verb tense structures among Thai EFL students. Thus, teacher training programs must consider incorporating modules that familiarize educators with such innovative instructional tools (Babayev, 2021). Given that not just the use, but also the proper implementation of the toolkit impacts student outcomes (Kam, 2014), teacher training should emphasize both theoretical and hands-on sessions with such toolkits. Moreover, teachers should be equipped to provide constructive feedback, drawing from the toolkit's immediate correction features, which were lauded by students (Roediger & Butler, 2011). Training programs could also benefit from sessions highlighting the importance of real-world application in grammar instruction (Dabboub, 2019), thereby ensuring that teachers are prepared to address the gaps identified in the research.

Implications for school policies

Schools in the Thonburi District, and potentially beyond, must recognize the significance of integrating instructional toolkits into their English curricula. Given that traditional pedagogical strategies were found to be less effective, especially concerning tense instruction (Rahman & Ali, 2015), school policies should be revisited. Policymakers could consider mandating the use of such instructional tools, especially since they align well with Thailand's Outcome-Based Education (OBE) framework (Ministry of Education, 2008). Furthermore, recognizing the different preferences based on student grade levels, schools might consider adopting different versions or modules of the toolkit tailored to age-appropriate designs (Nguyen, 2018). Additionally, feedback loops

should be established, collecting input from both educators and students to ensure continuous refinement of the toolkit and its methodologies.

Implications for Thai EFL students

For Thai EFL students, the instructional toolkit offers an avenue to transform their English grammar learning experience. Given the documented improvements in verb tense structure understanding, students should be encouraged to proactively engage with such tools (Collin, 2007). Beyond classroom settings, Thai EFL students could also utilize the toolkit for self-paced learning, reinforcing their grammar skills and addressing areas of difficulty. As the research highlighted a particularly positive reception of the toolkit's interactive features, students should be educated on the value of interactive learning and its potential to enhance retention (Roediger & Butler, 2011). Moreover, after the students are familiar with the toolkit, teachers can encourage them to actively participate in online writing communities which will help improve their writing skills (Karanjakwut, 2018) and their learning of vocabulary (Tiang-uan, 2023). Lastly, students' feedback, especially regarding the integration of real-world scenarios, signals an inherent motivation to apply their language skills practically. This aspiration should be fostered, ensuring that EFL students see the value in and reap the rewards of their English language endeavors.

Recommendations for Further Studies

Based on our detailed discussions and analyses, several areas emerge that would benefit from more in-depth investigation in future studies. Here are some recommendations:

Diverse age groups

While this study focused on primary and secondary school students in the Thonburi district, future research could examine the applicability and efficacy of the instructional toolkit for other age groups. This includes younger students in pre-primary education and older students in higher education. Understanding how different age groups interact with and benefit from such toolkits could provide broader insights into their overall effectiveness.

Toolkit design variations

Feedback from the students indicated varying preferences for toolkit design based on age groups. Further studies could investigate the development of age-specific or proficiency-specific modules within the toolkit. Such research would aim to create more tailored learning experiences for students at different stages of their learning journey.

Focus on other linguistic elements

While the present study emphasized verb tense structures, further research might explore the toolkit's adaptability for teaching other complex linguistic elements, such as modal

verbs, phrasal verbs, or idiomatic expressions. This would provide a more comprehensive view of its potential as an all-encompassing EFL resource.

CONCLUSION

This study demonstrates the significant positive impact of an innovative instructional toolkit designed to enhance Thai EFL students' acquisition of English verb tense structures. The findings underscore the toolkit's effectiveness in improving grammar skills, learning achievement, and knowledge retention across educational levels. While contributing to the growing literature on instructional innovations in EFL contexts, the research highlights the potential of tailored toolkits to address specific linguistic challenges and align with educational reforms like Outcome-Based Education in Thailand. The implications span teacher training on leveraging such tools, school policies mandating their use, and opportunities for self-paced, practical language application among students. Future research could explore the toolkit's adaptability across age groups, design variations, and applicability to other complex linguistic elements through large-scale, longitudinal studies. Ultimately, this study marks a significant step forward in our understanding of effective EFL instruction. By developing contextualized, learner-centered resources that cater to the unique challenges and cultural nuances of specific learning environments, we can dramatically improve language acquisition outcomes. The success of this toolkit serves as a call to action for educators and researchers worldwide to rethink traditional approaches to grammar instruction and embrace innovative, targeted solutions.

REFERENCES

- Babayev, J. S. (2021). *The role of instructional materials in language learning*. Humanitar Elmler Seriyasi.
- Bloom, B. S. (1956). *Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain*. David McKay Co Inc.
- Boonsuk, Y., Wasoh, F., & Ambele, E. A. (2023). Repositioning English and teaching practices in global Englishes: A critical perspective from Thai higher education. *Language Teaching Research*, 136216882311783. <https://doi.org/10.1177/13621688231178364>
- Cakir, I. (2011). Problems in teaching tenses to Turkish learners. *Theory and Practice in Language Studies*, 1(2), 123-127. <https://doi.org/10.4304/tpls.1.2.123-127>
- Chaisang, R., & Sriwantaneeyakul, S. (2023). Scaffoldings, translation errors, and language awareness by Thai university students. *Theory and Practice in Language Studies*, 13(7), 1614-1619. <https://doi.org/10.17507/tpls.1307.02>
- Chawalit, N. (n.d.). *Instructional media in the classroom*. [Manuscript unpublished].
- Coe, R., Rauch, C. J., Kime, S., & Singleton, D. (2020). Great Teaching Toolkit. *Evidence Review*. Cambridge Assessment International Education.
- Collin, L. (2007). L1 differences and L2 similarities: Teaching verb tenses in English. *ELT Journal*, 61(4), 295-303. DOI:10.1093/elt/ccm048
- Dabboub, A. E. (2019). *The Effectiveness of Comprehensive Corrective Feedback-Direct and Indirect- on EFL Learners' Language Accuracy, Structural Complexity and Lexical Diversity* [Doctoral Dissertation]. Nottingham Trent University. <https://core.ac.uk/download/pdf/237387519.pdf>
- Davidson, L. Y. J., Richardson, M., & Jones, D. (2014). Teachers' perspectives on using technology as an instructional tool. *Research in Higher Education Journal*, 24(August), 1-25. <https://files.eric.ed.gov/fulltext/EJ1064110.pdf>
- Department of Technology and Educational Communication, Faculty of Education. (2015). *Educational Innovation and Information Technology*. Sahathammik.
- Hanan, R. E. (2015). *The effectiveness of explicit grammar instruction for the young foreign language learner: a classroom-based experimental study* [Doctoral dissertation]. University of York. CORE. <https://core.ac.uk/reader/30268190>
- Hinnon, A. (2014). Common Errors in English Writing and Suggested Solutions of Thai University Students. *Humanities and Social Sciences*, 31(2), 165-180.
- Hultberg, P., Calonge, D. S., & Lee, E. (2018). Promoting long-lasting learning through instructional design. *Journal of the Scholarship of Teaching and Learning*, 18(3), 26-43. DOI: 10.14434/josotl.v18i3.23179
- Kam, H. W. (2014). English Language Teaching in Southeast Asia: Continuity and Change. *Asian Englishes*, 1(1), 5-30. DOI: 10.1080/13488678.1998.10800992
- Karanjakwut, C. (2018). An investigation of linguistic and localised features of Thai in English Writing on Facebook closed group. *Advances in Language and Literary Studies*, 9(6), 1. <https://doi.org/10.7575/aiac.all.v.9n.6p.1>
- Koti, A., Khare, A., & Khare P. (2023). A digital toolkit designed to assist those with visual impairments. In *Proceedings of 2023 IEEE Sustainable Smart Lighting World Conference & Expo (LS18)*, Mumbai, India, 2023, pp. 1-4. <https://doi.org/10.1109/LS1858153.2023.10170629>
- Lee, Y. J. (2008). A Study of the Influence of Instructional Innovation on Learning Satisfaction and Study Achievement. *The Journal of Human Resource and Adult Learning*, 4(2). <https://www.semanticscholar.org/paper/A-Study-of-the-Influence-of-Instructional-on-and-Lee/1a3a7044f2c7c071dddeb57ed2ba2aa933e32034>
- Marsaulina, R. (2020). Technology-enhanced teaching for English grammar: Is it undeniable? *International Journal of Education, Information Technology and Others*, 3(2), 457-469. <https://doi.org/10.5281/zenodo.4305465>
- Miao, F., & Ambele, E. A. (2023). Thai students' awareness attitudes of global Englishes pedagogy and target interlocutor. *European Journal of English Language Teaching*, 8(3), 66-80. <http://dx.doi.org/10.46827/ejel.v8i3.4877>

- Ministry of Education. (2008). *The Basic Education Core Curriculum B.E. 2551 (A.D. 2008)*. Retrieved February 2017, 2017, from <http://educational-resource.blogspot.com/2013/10/2551-english-version.html>
- Molenda, M. (2004). In search of the elusive ADDIE model. *Performance Improvement, 43*(5), 34-36. DOI: 10.1002/pfi.4930420508
- Molenda, M. (2014). ADDIE Model. In *Education and Technology: An Encyclopedia*. ABC-CLIO.
- Nguyen, C. D. (2018). The construction of age-appropriate pedagogies for young learners of English in primary schools. *Language Learning Journal, 49*(3), 1-14. DOI: 10.1080/09571736.2018.1451912
- Panyang, K., & Phusawisot, P. (2023). Analysis of global Englishes aspects in English textbooks at the lower secondary level in Thai EFL context. *English Language Teaching, 16*(8), 93-111. <https://doi.org/10.5539/elt.v16n8p93>
- Phochanukul, W. (2008). Development of Continuing Motivation via Distance Learning Model in Unrest Southernmost Provinces, Thailand. *Procedia - Social and Behavioral Sciences, 174*. DOI: 10.1016/j.sbspro.2015.01.941
- Rahman, M. S. & Ali, M. M. (2015). Problems in mastering English tense and aspect and the role of the practitioners. Discovery - the University of Dundee Research Portal. *IOSR Journal of Humanities and Social Science (IOSR-JHSS), 20*(4). <https://doi.org/10.9790/0837-2041131135>
- Roediger, H. L., & Butler, A. C. (2011). The critical role of retrieval practice in long-term retention. *Trends in cognitive sciences, 15*(1), 20-27. <https://doi.org/10.1016/j.tics.2010.09.003>
- Thamraksa, C. (2011, August 27). *Student-centered learning: Demystifying the myth*. <http://sclthailand.org/category/articles/page/6>
- Tiang-uan, A. (2023). Effect of Using Quizlet on Thai Students' English Collocation Learning Achievement and Retention: A Study of a University in Thailand. *International Journal of Education and Literacy Studies, 11*(4), 24-30. <http://dx.doi.org/10.7575/aiac.ijels.v.11n.4p.24>
- Vleeschauwer, J. D. (2023). An investigation of the relationships among Thai EFL learners' writing performance, self-efficacy, and anxiety. *European Journal of English Language Studies, 3*(1), 23-36. <https://doi.org/10.12973/ejels.3.1.23>
- Yanawongsa, T., Intasingh, S., Nguenyuang, S., & Intanet, N. (2021). Outcome-based curriculum: New approach for higher education curriculum. *Humanities and Social Sciences Journal of Pibulsongkram Rajabhat University, 15*(2), 279-291. <https://doi.org/10.14456/ps-ruhss.2021.22>