



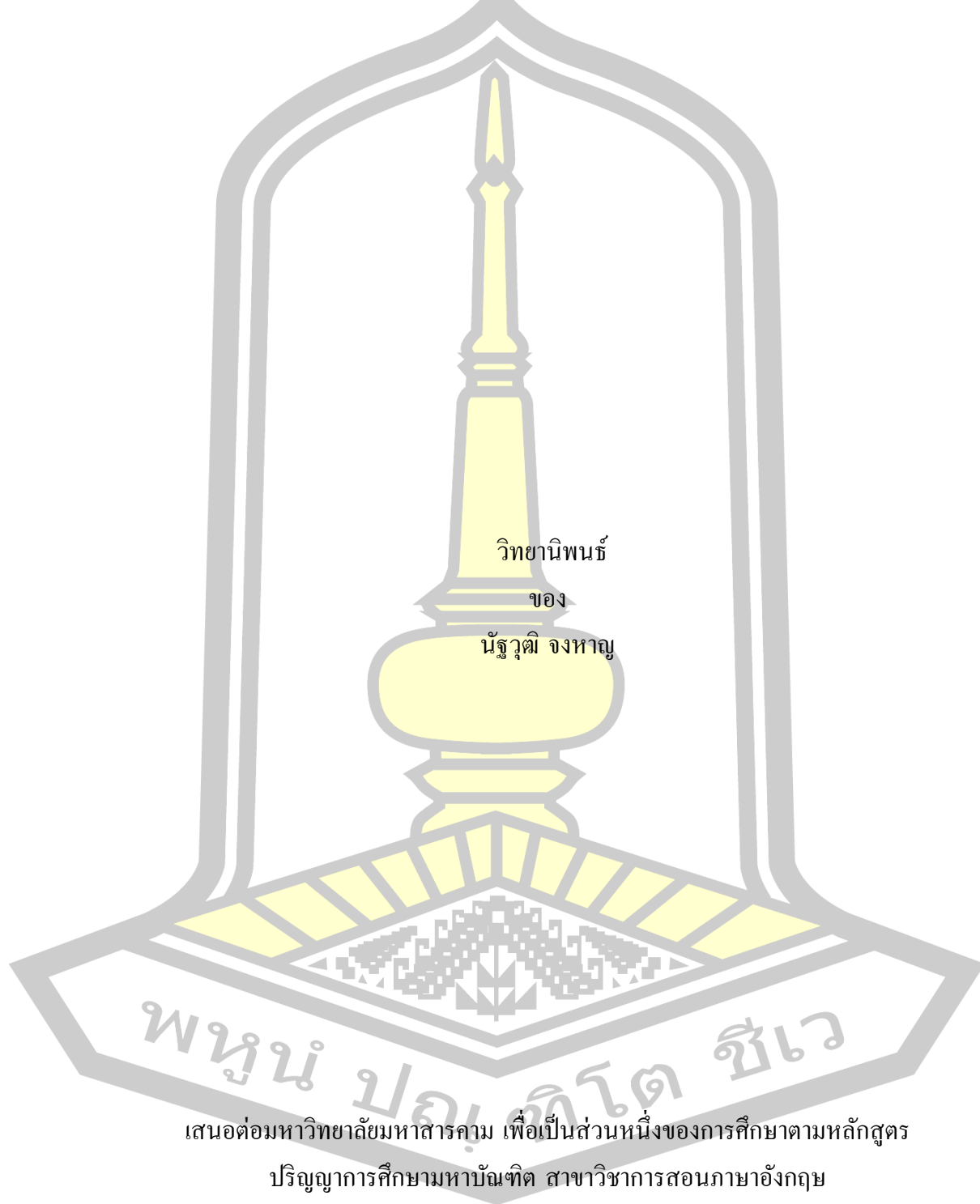
Learner Engagement Through Card Game-Based Vocabulary Acquisition in EFL  
Primary School Students

Nattawut Chonghan

A Thesis Submitted in Partial Fulfillment of Requirements for  
degree of Master of Education in English Language Teaching  
May 2025

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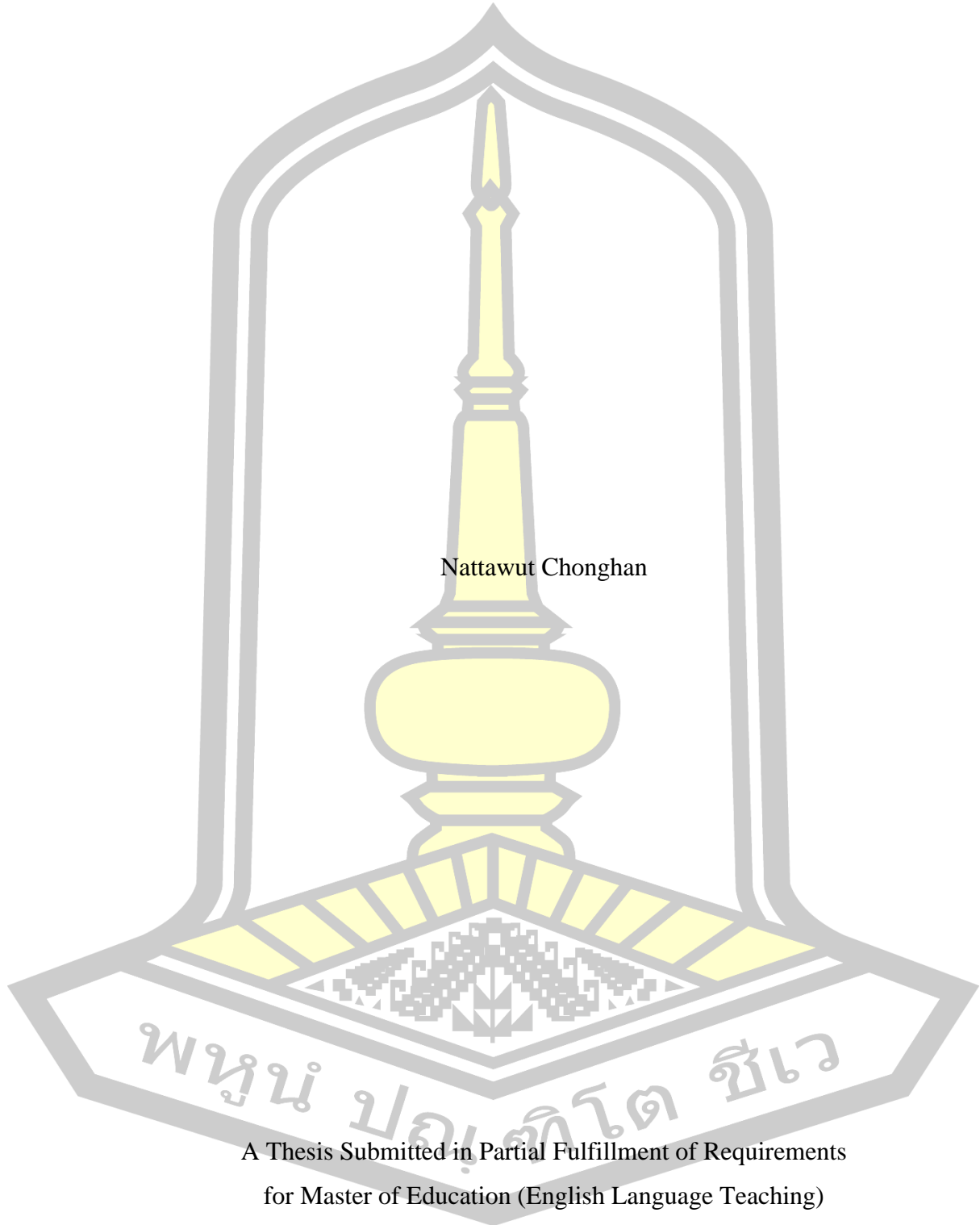


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May 2025

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### ABSTRACT

This study investigates learner engagement and the effects of card game-based instruction on vocabulary acquisition and retention among Thai EFL primary school students. Employing a mixed-methods research design, the study assessed vocabulary learning through pre-test, post-test, and delayed post-test measures, while learner engagement was examined through classroom observations, semi-structured interviews, and questionnaires. A total of 30 fifth-grade students were selected from intact classes and assigned to either an experimental group, which participated in card game-based activities, or a control group, which followed a traditional vocabulary learning approach.

Quantitative data were collected using four test types: form-recognition, form-recall, meaning-recognition, and meaning-recall. *T*-test analyses were conducted to compare pre-test and post-test scores, while repeated measures ANOVA was used to examine differences across all three testing phases. Additionally, qualitative data from classroom observations and interviews were analyzed using content analysis to explore how learners exhibit behavioral and emotional engagement in game-based vocabulary learning activities.

The results revealed that card game-based activities significantly enhanced vocabulary acquisition and retention. Students in the experimental group outperformed those in the control group across all test measures, with significant improvements in form-recognition (+48.3%), form-recall (+34.8%), meaning-recognition (+38.2%), and meaning-recall (+31.4%). Furthermore, delayed post-test results indicated that students in the experimental group retained significantly more vocabulary knowledge over time. Additionally, the study highlights the critical role of behavioral and emotional engagement in vocabulary acquisition. Students in the experimental group actively participated in gameplay, engaged in team discussions, and demonstrated enthusiasm and motivation for the competitive aspects of the learning activity. These results suggest that card game-based vocabulary instruction fosters an engaging and interactive learning environment, enhancing both learning motivation and long-term vocabulary retention.

This study provides valuable pedagogical implications, advocating for integrating game-based learning strategies into EFL instruction to improve vocabulary development. Recommendations for future research include exploring cognitive engagement in game-based learning, investigating long-term effects on vocabulary retention, and examining its impact across diverse learner populations.

Keyword : Vocabulary acquisition, learner engagement, card game-based learning, vocabulary retention, Thai EFL learners



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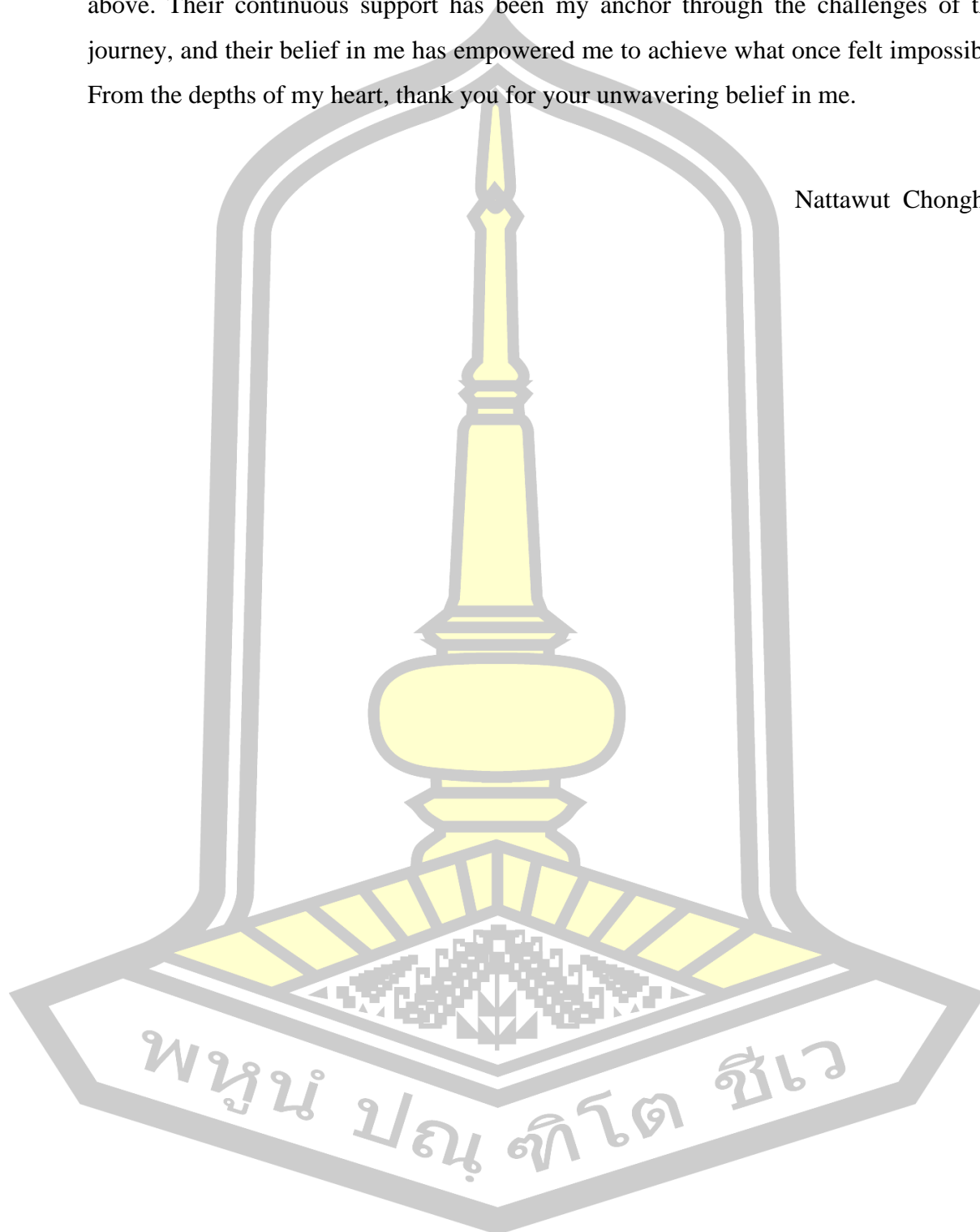
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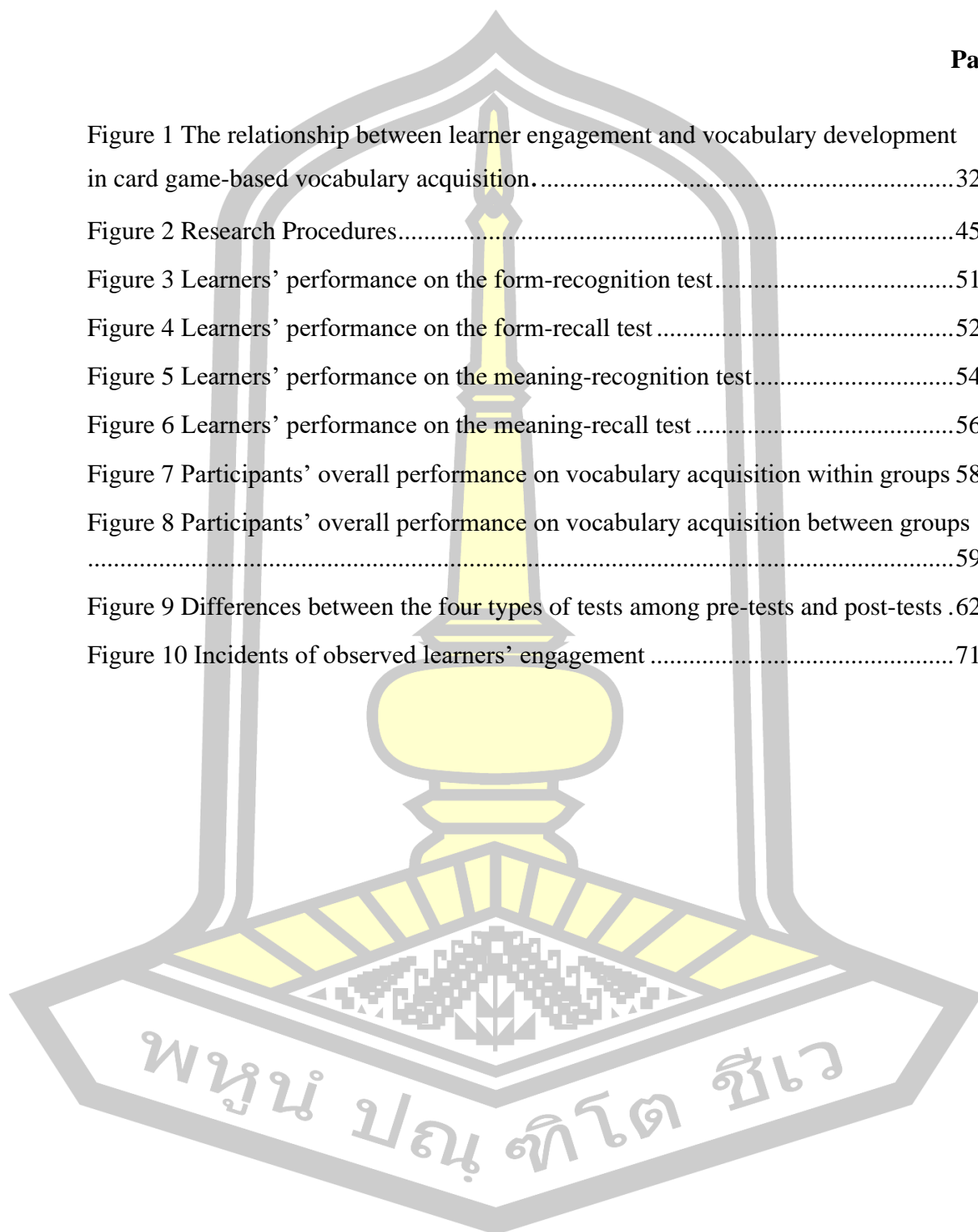
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# CHAPTER I

## INTRODUCTION

This chapter presents the background and rationale of the study. It included six main parts: background of the study, purposes of the study, scope of the study, significance of the study, the definition of terms, and outline of the study. This study aimed to explore learner engagement in card game-based vocabulary acquisition among fifth-graders in the Thai EFL context, focusing on two key dimensions: behavioral and emotional engagement. Additionally, it sought to examine the effect of card game-based teaching on the form-meaning link in English vocabulary acquisition.

### 1.1 Background to the Study

English vocabulary knowledge is a fundamental aspect of language acquisition, essential for effective communication, comprehension, and expression in both spoken and written forms. Despite its critical importance, vocabulary acquisition presents notable challenges, especially in English as a Second Language (ESL) and English as a Foreign Language (EFL) contexts. Akdogan (2017) highlights that vocabulary teaching and learning have long been continuous challenges, primarily due to the minimal focus on vocabulary instruction in ESL classrooms. This situation persisted until the past decade, when a renewed interest in vocabulary teaching emerged, prompting researchers to explore more effective learning strategies (Chowdhury et al., 2024; Dodigovic, 2018). As a result, growing interest has been in identifying and implementing strategies that enhance vocabulary acquisition and retention, especially among young learners.

Traditional methods of vocabulary instruction, such as dictionary use, sentence composition, and rote memorization, often lead to student frustration, disengagement, and poor vocabulary retention (Matwangsang & Sukying, 2023; Sumalee & Sukying, 2024). These approaches typically fail to capture learners' interest, resulting in passive learning experiences that do not support meaningful word use. Khan (2022) noted that students tend to forget newly introduced vocabulary quickly, highlighting a lack of reinforcement and contextual usage. Asgari and Mustapha (2011) argue that limited vocabulary knowledge creates significant barriers for language learners, as conventional techniques offer few opportunities for practical application or

interaction. These issues are particularly evident in young learners, who may find repetitive or decontextualized tasks tedious and demotivating. Consequently, there is increasing demand for innovative, engaging strategies that promote active participation and long-term retention in EFL settings. One such approach is the use of card games, which contrasts sharply with traditional methods by fostering a dynamic, playful environment where vocabulary is reinforced through interaction, repetition, and meaningful use. Alqahtani (2015) stresses the need for a pedagogical shift toward more enjoyable and effective vocabulary teaching methods to better meet learners' needs.

One practical approach that addresses these challenges is the use of educational games in vocabulary instruction. Games offer an engaging, stress-free environment that allows students to acquire the target language in a natural, enjoyable way. Gozcu and Caganaga (2016) stress the importance of a stress-free environment for effective language learning, noting that games can create a more pleasant learning experience and increase student motivation. Game-based learning can create a learner-centered environment, promote socialization, and foster a competitive spirit in an organized setting (Butler, 2017; Wichadee & Pattanapichet, 2018). Educators can teach specific language skills by integrating games into the learning process while keeping students motivated and engaged, helping them achieve their learning goals (Krath et al., 2021).

In addition to games, flashcards or word cards have long been used as a tool for vocabulary acquisition. Traditionally, flashcards involve paper or cardboard cards displaying text or images to help learners memorize new words. Flashcards stimulate cognitive and memory strategies and can support productive and receptive vocabulary knowledge, depending on their use (Yowaboot & Sukying, 2022). Receptive knowledge involves recognizing a word and recalling its meaning, while productive knowledge requires learners to recall the word based on its meaning or L1 cognate (Matwangsang & Sukying, 2023; Sumalee & Sukying, 2024). Flashcards offer a simple yet effective method for memorizing vocabulary in a structured manner, though they are most effective when used alongside contextual practice.

Among game-based strategies, card games have emerged in language classrooms as a particularly effective means of enhancing L2 vocabulary knowledge among young

EFL learners. Traditional vocabulary teaching methods, which often rely on rote memorization, are limited in engaging learners and fostering long-term retention. In contrast, card games provide an interactive, engaging learning experience that encourages learners to actively participate with their peers and instructors. These games facilitate word memorization, foster communication skills, and provide a meaningful context for vocabulary learning (Derakhshan & Khatir, 2015). Moreover, educational games are praised for their ability to meet individual learners' needs by offering adjustable content that aligns with their preferences, goals, and abilities (Kickmeier-Rust et al., 2011).

Card games offer a dynamic and effective way to enhance primary school students' engagement in vocabulary learning, particularly in EFL settings. Traditional methods such as rote memorization and dictionary use often lead to frustration and poor retention, as they lack interactive, contextual, and enjoyable learning experiences (Asgari & Mustapha, 2011; Khan, 2022). In contrast, card games create a learner-centered environment that encourages active participation, enjoyment, and spontaneous language use. They are highly adaptable, easy to implement in classroom settings, and require minimal resources, making them a convenient option for teachers. Additionally, the structured yet playful nature of card games allows for repeated exposure to target vocabulary in different situations, helping students remember new words more easily and for a longer time. By incorporating elements of competition, collaboration, and communication, card games stimulate learners' intrinsic motivation and provide meaningful opportunities to use new words in context (Butler, 2017; Dongsanniwas & Sukying, 2024; Gozcu & Caganaga, 2016; Ponsamak & Sukying, 2023). These features not only make learning more enjoyable but also improve vocabulary retention and overall language proficiency more effectively than traditional methods.

Card games also support both receptive and productive vocabulary knowledge, helping learners recognize and recall words while applying them in practical contexts (Yowaboot & Sukying, 2023). Research shows that interactive learning experiences like card games not only enhance vocabulary memorization but also boost creativity, self-confidence, and long-term retention (Derakhshan & Khatir, 2015; Ponsamak &

Sukyong, 2023). Furthermore, card games can be tailored to meet students' individual needs, making them highly adaptable to diverse classroom environments (Kickmeier-Rust et al., 2011). In addition to this, there has been a growing interest in more interactive and learner-centered approaches to vocabulary instruction. Educational games, particularly card games, have gained attention for their ability to engage students in meaningful and enjoyable learning experiences. Card games provide a dynamic environment where learners can actively participate, practice vocabulary in context, and collaborate with peers while reducing the stress often associated with traditional language learning methods (Gozcu & Caganaga, 2016). As such, incorporating fun, competition, and interaction elements, game-based learning will foster a deeper level of engagement, making learning enjoyable and effective.

Integrating card games into vocabulary instruction can significantly improve learning outcomes by increasing motivation, encouraging active participation, and creating an enjoyable learning experience. This study explores how young Thai EFL learners engage with card game-based vocabulary learning and how this engagement impacts their vocabulary acquisition. By doing so, it seeks to offer valuable insights into the use of interactive and engaging methods for effective vocabulary instruction in EFL contexts.

## **1.2 Purposes of the Research**

Despite increasing attention to innovative vocabulary teaching strategies, limited research has explored how game-based learning, particularly card games, can support vocabulary acquisition in young EFL learners. Most existing studies have focused on the effectiveness of digital games or general game-based instruction, often neglecting the specific role of traditional, low-tech tools like card games in classroom practice. Moreover, while vocabulary retention has been widely studied, learner engagement, especially among primary school students, remains under-researched, particularly in terms of behavioral and emotional dimensions. In the Thai EFL context, few studies have investigated how interactive activities like card games influence both engagement and vocabulary learning outcomes. This gap highlights the need to explore how such activities can foster more meaningful and lasting vocabulary acquisition among young learners.

This research focused on learners' engagement in vocabulary instruction using card game activities and its effects on EFL vocabulary acquisition. Specifically, it aimed to investigate learner engagement in card game-based vocabulary learning among fifth-graders in the Thai EFL context. The researcher would like to discover two aspects of engagement: behavioral and emotional. It also sought to examine the effect of card game-based on the form-meaning link in English vocabulary acquisition and retention. This study consists of two research questions.

1. How does card game-based teaching affect Thai primary school students' vocabulary acquisition and retention?
2. How do Thai primary school learners exhibit behavioral and emotional engagement in card game-based vocabulary learning?

### **1.3 Justifications for the Study**

This study is justified on both theoretical and practical grounds, as it seeks to investigate the effectiveness of card game-based teaching on vocabulary acquisition and retention among Thai primary school students and to explore how learners exhibit behavioral and emotional engagement in this learning approach. Given the well-documented challenges of vocabulary learning in EFL contexts, the study aims to address pedagogical gaps and contribute to the advancement of language learning methodologies.

Vocabulary acquisition is a fundamental component of language learning, as it directly impacts reading comprehension, speaking fluency, and overall communicative competence (Nation, 2022; Schmitt, 2019). However, traditional vocabulary instruction in Thai EFL classrooms primarily relies on rote memorization, translation-based learning, and mechanical drills, which often fail to facilitate deep processing and long-term retention (Lu et al., 2023; Riahipour & Saba, 2012). Many Thai learners struggle with recalling and actively using vocabulary in meaningful contexts, highlighting the need for more engaging, interactive teaching approaches.

Game-based learning has been recognized as an effective instructional strategy that fosters active engagement, repeated exposure, and deeper cognitive processing (Hwang et al., 2016; Plass et al., 2015). Card games, in particular, create a low-pressure, motivating environment where learners can interact with words

dynamically, negotiate meaning, and reinforce vocabulary retention through meaningful repetition and peer collaboration. The Depth of Processing Hypothesis (Craik & Lockhart, 1972) and Nation's (2022) principles of vocabulary learning suggest that learners retain words better when they process them actively through contextualized, interactive experiences rather than passive memorization.

By examining the impact of card game-based teaching on vocabulary acquisition and retention, this study provides empirical evidence on whether such methods can enhance students' ability to recognize, recall, and retain vocabulary over time. Moreover, investigating different vocabulary knowledge dimensions—such as form-recognition, meaning-recognition, form-recall, and meaning-recall—offers insights into how well learners retain and apply new words beyond initial exposure. Given the promising results of previous studies on game-based learning in second language acquisition (Derakhshan & Khatir, 2015; Vahdat & Behbahani, 2013), this study contributes context-specific evidence on its applicability to Thai primary school learners.

Learner engagement is a crucial factor in effective vocabulary learning, influencing motivation, participation, and learning outcomes (Fredricks et al., 2004; Finn & Zimmer, 2012). Engagement is often categorized into behavioral, emotional, and cognitive dimensions, with behavioral and emotional engagement playing a particularly significant role in young learners' motivation and learning persistence (Han & Hyland, 2015; Stroud, 2017).

Behavioral engagement refers to students' active participation, effort, and willingness to learn, while emotional engagement captures their enjoyment, motivation, and attitudes toward the learning experience (Fredricks et al., 2004). Traditional vocabulary learning often lacks sufficient opportunities for interaction and engagement, resulting in disinterest, low motivation, and limited vocabulary retention (Alqahtani, 2015; Matwangsang & Sukying, 2023). Card game-based learning, however, is designed to increase student engagement by introducing interactive, competitive, and cooperative elements, allowing learners to negotiate meaning, collaborate, and reinforce word knowledge through repetition in a fun and meaningful way (Ge & Ifenthaler, 2017; Young & Wang, 2014).

By exploring how Thai primary school learners exhibit behavioral and emotional engagement in card-game-based vocabulary learning, this study provides practical insights into student participation, motivation, and learning behaviors in interactive classroom settings. Understanding these engagement patterns can help educators refine game-based instructional designs to maximize learning benefits while ensuring that students remain motivated and actively involved in the process. Furthermore, by analyzing classroom observations, interview responses, and questionnaire data, this study contributes to a broader understanding of engagement in game-based learning environments, reinforcing theories related to second language acquisition (SLA), socio-cultural learning (Vygotsky, 1978), and motivation in language learning (Deci & Ryan, 1985).

This study is justified by the pressing need to improve vocabulary instruction and engagement in Thai EFL classrooms. Since vocabulary knowledge is a fundamental component of language proficiency, investigating game-based teaching methods is crucial for enhancing students' ability to effectively acquire, retain, and apply new words. Moreover, exploring behavioral and emotional engagement provides valuable insights into how interactive learning methods influence student participation, motivation, and overall learning outcomes. The study's findings have practical significance for improving vocabulary instruction and contribute to the growing body of research on game-based learning in second language acquisition.

#### **1.4 Scope of the Research**

The present study was carried out using a mixed-method design. It aimed to investigate learner engagement in card game-based vocabulary acquisition and its effects on English vocabulary acquisition in the fifth grade at a primary school in a remote area of Surin Province, Thailand. The participants were 30 Thai EFL fifth-graders from two enacted groups. The researcher used convenience sampling to choose two groups: one group as a control group and another as an experimental group. The instruction was about card game-based activities, and the researcher decided on vocabulary from the 'Happy Campers 5' textbook that matches the New General Service List (NGSL). The New General Service List (NGSL) equips learners with essential high-frequency English words (Browne et al., 2013) and serves as a

valuable resource for English language learners (Nation, 2022; Schmitt, 2010; Webb, 2008).

The experimental group received 16 additional hours as an implementation of designed card game activities on English vocabulary acquisition in the course. In contrast, the control group was taught using the traditional method. The intervention with card game-based vocabulary involved students experiencing a more dynamic and engaging learning environment through card game-based activities. This study anticipated that this method would enhance the enjoyment of learning and aid students in better vocabulary retention by connecting words with their images, thereby improving their recall and recognition skills.

Thus, the form-recognition test and the form-recall test were designed to measure the aspect of 'form', and the meaning-recognition test and the meaning-recall test measured 'meaning'. A questionnaire based on the ARCS model (1987) measured behavioral and emotional engagement in card game-based vocabulary acquisition. Moreover, the involvement of card game-based vocabulary learning from a video recording further measured learners' engagement. The researcher also used a semi-structured interview to support the interpretations and conclusions in the qualitative study.

### **1.5 Significance of the Study**

This study was designed to examine learner engagement in card game-based vocabulary learning and its effects on English vocabulary acquisition within the Thai EFL context. By integrating card game-based activities into the vocabulary learning process, this research aimed to explore the impact of this interactive approach on students' engagement, vocabulary acquisition, and retention. The study also sought to raise awareness among educators and other stakeholders about the importance of learner engagement in vocabulary learning and its influence on teaching practices.

The primary goal of this research was to validate the effectiveness of card games as instructional tools for improving vocabulary acquisition among Thai EFL students. This validation was achieved through systematic pre-tests, immediate post-tests, and delayed post-tests, which assessed students' improvements in vocabulary knowledge, particularly their understanding of the form-meaning link. The results provide

empirical evidence supporting the use of interactive, game-based learning strategies to enhance vocabulary retention and recall, thereby offering an alternative to traditional rote-learning methods that may not effectively engage learners.

Beyond its explicit instructional implications, this study also aimed to raise awareness among educational stakeholders, including educators, curriculum developers, and policymakers, about the benefits of card game-based vocabulary acquisition. The findings encourage innovative, student-centred approaches in EFL instruction by demonstrating that greater engagement in vocabulary learning leads to improved vocabulary knowledge and retention. It is anticipated that the use of card games as a vocabulary-learning intervention will be promoted in language classrooms, ultimately fostering a more engaging, interactive, and productive learning environment.

Additionally, this research contributes to L2 vocabulary teaching methodologies by providing empirical data that can be applied to various language learning contexts and informing future curriculum development. As a foundational study on game-based learning in language education, the findings highlight the effectiveness of interactive vocabulary instruction and support the integration of such methodologies into language teaching practices. The study adds to the academic literature on learner engagement and vocabulary acquisition, offering insights that may shape future research and pedagogical innovations.

Through classroom observations, testing, and analysis, this study assessed how learner engagement influences vocabulary acquisition in the Thai EFL context and advocated for a shift toward participatory, student-centered teaching methods. By bridging educational theory and classroom practice, this research aspired to pave the way for innovative, evidence-based teaching strategies that enhance both the effectiveness and enjoyment of language learning. In summary, this study emphasized the importance of engaging and interactive vocabulary learning approaches, encouraging educators, curriculum designers, and policymakers to integrate card game-based instruction into EFL classrooms to promote greater student engagement, motivation, and long-term vocabulary retention.

## 1.6 Definitions of Terms

**Young EFL learners** refers to 30 students in the fifth grade (around 11 years old) from a primary school under a government administration in a remote area of Surin province, Thailand.

**Emotional engagement** refers to the positive emotions students experience during card game-based vocabulary learning, including enjoyment of the activity, excitement from gameplay, motivation to participate, and increased confidence in using new words. These emotional responses contribute to a more meaningful and enjoyable learning experience in the EFL classroom.

**Behavioral engagement** refers to the degree to which learners actively participate in card game activities, follow game rules, and use target vocabulary during gameplay. It includes observable actions such as repeating new words, interacting with peers, and consistently applying learned vocabulary to reinforce understanding and retention.

**The card game-based method** is the teaching method and strategy to encourage learners to experience a more active and engaging learning environment through card game-based activities. Through card games, students will not only learn vocabulary but will also interact with it dynamically, matching, recalling, and using words in context.

**Traditional teaching method** emphasizes focused repetition, with the teacher assigning worksheets for spelling practice and reinforcing understanding through drills, textbook reviews, and self-study

**Receptive word knowledge** refers to the ability to remember and recognize the form-meaning connections of target words.

**Productive word knowledge** refers to the ability to retrieve and recall the form-meaning connections of target words.

**Vocabulary acquisition** refers to the process by which learners understand and internalize the form and meaning of new English words through exposure and interaction during card game-based activities. In this study, it involves students'

ability to recognize, understand, and begin using target vocabulary introduced during gameplay.

*Vocabulary retention* refers to learners' ability to remember and recall the vocabulary learned through card game activities over time. In this study, it reflects how well students can retain and retrieve previously learned English words after the instructional period.

### **1.7 Thesis Outlines**

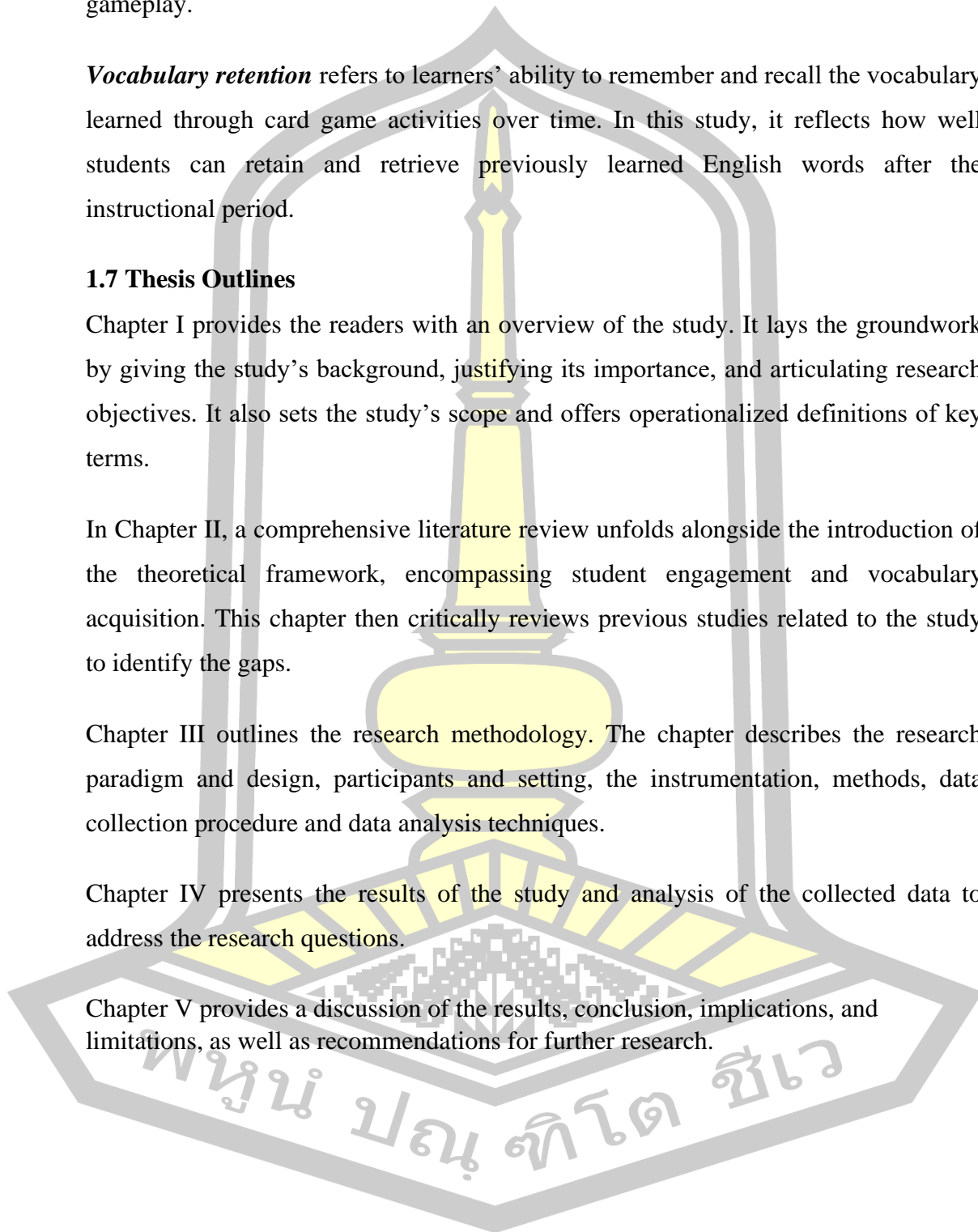
Chapter I provides the readers with an overview of the study. It lays the groundwork by giving the study's background, justifying its importance, and articulating research objectives. It also sets the study's scope and offers operationalized definitions of key terms.

In Chapter II, a comprehensive literature review unfolds alongside the introduction of the theoretical framework, encompassing student engagement and vocabulary acquisition. This chapter then critically reviews previous studies related to the study to identify the gaps.

Chapter III outlines the research methodology. The chapter describes the research paradigm and design, participants and setting, the instrumentation, methods, data collection procedure and data analysis techniques.

Chapter IV presents the results of the study and analysis of the collected data to address the research questions.

Chapter V provides a discussion of the results, conclusion, implications, and limitations, as well as recommendations for further research.



## **CHAPTER II**

### **LITERATURE REVIEW**

This chapter provides a comprehensive review of the literature on vocabulary knowledge, focusing on various teaching and learning approaches, with a particular emphasis on using card game-based learning to improve vocabulary acquisition and engagement among primary school students. It explores key concepts related to vocabulary measurement. It examines relevant studies on game-based vocabulary learning, specifically highlighting the role of card games in fostering active participation and enhancing vocabulary retention. The chapter concludes by summarizing the key insights and findings from the literature, reinforcing the potential of card game-based learning as an effective strategy for vocabulary development in young learners.

#### **2.1 Concept of Vocabulary Knowledge**

Scholars have defined vocabulary knowledge in various ways, highlighting its complex and multifaceted nature. Traditionally, it has been referred to as “word knowledge” (Laufer, 1997; Nation & Coxhead, 2013) or “lexical knowledge” (Laufer & Goldstein, 2004; Schmitt, 2014). This encompasses not only individual words but phrases or chunks of language conveying specific meanings. Vocabulary knowledge is not limited to mere word recognition; it involves understanding and using words effectively, requiring knowledge of both concrete and abstract meanings (Nation & Coxhead, 2013).

Understanding vocabulary is inherently multidimensional and complex, involving a range of linguistic features such as pronunciation, spelling, morphology, and syntactic and semantic relationships, including synonyms, antonyms, hyponyms, and collocations (Laufer, 1998). Richards (1976) proposed eight dimensions of word knowledge to illustrate this complexity: (1) spoken form, (2) written form, (3) grammatical behavior, (4) collocation behavior, (5) frequency, (6) stylistic register constraints, (7) conceptual meaning, and (8) associations with other words. Expanding on this, Nation (2022) categorized word knowledge into three broad areas: form, meaning, and use.

To master a language, learners need both receptive and productive knowledge, as outlined by Nation (2022), who identified nine components of vocabulary knowledge within these three categories. First, understanding a word's form involves recognizing its pronunciation, spelling, writing, and part of speech. Second, grasping the meaning of a word requires knowledge of its form and meaning, concepts and references, and word associations. Finally, effective use of a word involves understanding its grammatical functions, appropriate collocations, and constraints on use. The learner's mental lexicon also plays a crucial role in determining form and meaning across various subcategories (Milton, 2009).

Mastery of a word's form demonstrates a learner's ability to recognize phonological and morphological elements in both spoken and written contexts. Additionally, knowledge of a word's meaning reflects the learner's ability to comprehend its concept and the lexical networks that inform and interpret those words. Finally, knowing how to use a word suggests that learners can apply terms appropriately in different contexts and settings. However, this process is challenging; research indicates that learners may need up to 16 exposures to fully grasp a word's meaning, context, and morphology. Morphological knowledge, which includes understanding word parts such as affixes, prefixes, and suffixes, is essential but often implicit for learners and is rarely explicitly taught. Understanding these components and their role in expressing specific meanings is critical (Nation, 2022; Thornbury, 2002).

Nation (2022) further defines a word's meaning as the connection between its form, meaning, concepts, referents, and associations with other words. Both form and meaning can be learned independently; for example, a student might recall a word's meaning when encountering it in reading or listening contexts. Richards (1976) emphasized that understanding a word involves comprehending its associations with other words—some similar, some opposite—an aspect that naturally comes to mind for proficient language users.

Nation (2008) also considers factors such as register, frequency, and cultural differences, which are crucial for understanding how words are used appropriately in different contexts. Register refers to the stylistic constraints that determine the suitability of words for particular language settings and purposes (Schmitt, 2020).

Word frequency, which indicates how often words are encountered in spoken and written contexts, significantly affects how easily words are learned and recalled. High-frequency words are more easily recognized and remembered, making their appropriate use in communication a priority (Schmitt, 2020).

Nation (2022) categorizes vocabulary knowledge into receptive and productive knowledge, as illustrated in Table 1. Receptive knowledge refers to the ability to understand words when reading or listening, requiring less cognitive effort than productive knowledge, which involves using words correctly in speaking or writing. Productive knowledge is more demanding, requiring recalling words and appropriately applying them grammatically and contextually.

**Table 1** Aspects of word knowledge (Nation, 2022, p. 54)

<b>Form</b>	Spoken	R	What does the word sound like?
		P	How is the word pronounced?
	Written	R	What does the word look like?
		P	How is the word written and spelled?
Word parts	R	What parts are recognizable in this word?	
	P	What word parts are needed to express meaning?	
<b>Meaning</b>	Form and meaning	R	What meaning does this word form signal?
		P	What word form can be used to express this meaning?
	Concepts and references	R	What is included in the concept?
		P	What items can the concept refer to?
	Associations	R	What other words does this word make us think of?
		P	What other word could we use instead of this one?
<b>Use</b>	Grammatical functions	R	In what patterns does the word occur?
		P	In what patterns we must use this word?
	Collocations	R	What words or types of words occur with this one?
		P	What words or types of words must we use with this one?

Receptive vocabulary knowledge typically develops more rapidly, especially when learners are frequently exposed to new words through listening and reading. Thornbury (2002) observed that learners generally find it easier to acquire vocabulary for listening and speaking than for reading and writing. He defined receptive vocabulary knowledge as the ability to understand words in listening and reading contexts. In contrast, productive vocabulary knowledge involves recalling and accurately using words in speaking and writing. This distinction underscores the

greater depth and complexity involved in productive knowledge, which requires recognizing a word's pronunciation and spelling and understanding its pragmatic use.

Nation (2006) argued that for students to enjoy and fully comprehend reading material, they must be familiar with 97-98% of the vocabulary used in the text. Independent comprehension, particularly for L2 learners, requires a vocabulary of 8,000 to 9,000 word families for written texts like newspapers and novels and 6,000 to 7,000 for spoken texts like lectures and movies.

In conclusion, vocabulary knowledge is a complex and crucial component of language proficiency. It encompasses recognizing words, understanding their meanings, and using them effectively in various contexts. The distinction between receptive and productive knowledge is critical: receptive knowledge refers to the ability to comprehend and recognize words, while productive knowledge involves the ability to recall and use words in communication (Nontasee & Sukying, 2023). Nation (2021) emphasizes that a strong vocabulary is vital for comprehension, as it requires familiarity with thousands of word families to effectively engage in reading and listening. Mastery of both receptive and productive vocabulary enables learners to interact more deeply with the language, promoting better comprehension and more effective communication.

## **2.2 Approaches to Explicit Vocabulary Teaching**

A noted linguist, David Wilkins, once stated, “Without grammar, very little can be conveyed; without vocabulary, nothing can be conveyed.” This highlights the critical importance of vocabulary in language learning. Young learners typically begin by labeling objects and then progress to categorizing them (Thornbury, 2002). As they develop, they start building a network of words, gradually understanding the relationships between them, such as synonyms and antonyms.

Several approaches and methods can be employed to effectively teach young learners English vocabulary. One effective method is the use of *realia*—physical objects that children can visualize and associate with words. This approach allows them to hear the word in context and repeat it, reinforcing their understanding. Another method is the Direct Method, which emphasizes the exclusive use of the target language in the

classroom, with no translation or use of the mother tongue. This method immerses students in the language, promoting quick adaptation and comprehension.

Total Physical Response (TPR) is another widely used method, especially effective with young learners who are naturally energetic and have shorter attention spans. TPR involves physical movement, games, and activities that make learning vocabulary both engaging and effective. The Communicative Language Teaching (CLT) approach also encourages students to use language in context, focusing on meaningful communication rather than rote memorization.

According to Nation (2007, 2013b), vocabulary learning should be balanced across four key areas: meaning-focused input, meaning-focused output, language-focused learning, and fluency development. He emphasizes that teaching vocabulary is only a part of a teacher's broader responsibilities, which include planning, organizing, strategy training, and testing (Nation, 2021). Vocabulary teaching plays a role in a language course, but it is limited; much of vocabulary acquisition occurs through other means, such as exposure and practice.

In contexts where English is taught as a second language, vocabulary instruction should prioritize words and phrases that are immediately useful to learners. For instance, recent immigrants with low proficiency levels need to learn a survival list of essential words and phrases. On the other hand, students in a school setting who already know high-frequency words should focus on vocabulary related to specific topics or subjects. Learning academic and technical vocabulary is crucial for those preparing for academic study. In foreign language contexts, the initial focus should be on high-frequency vocabulary, with learners being encouraged to take control of their learning regarding mid-frequency vocabulary, which is too large a category to be effectively taught in the classroom.

The process of acquiring new vocabulary involves several steps. First, learners encounter the word either by seeing or hearing it. They then recognize its spelling or sound—this is known as receptive vocabulary knowledge. As they progress, learners improve their speaking and writing skills, and when they can accurately pronounce or write the word, they achieve productive vocabulary knowledge. Teaching vocabulary

requires careful consideration of which words to focus on and how to integrate vocabulary learning across the four strands mentioned earlier.

When introducing new vocabulary, teachers should decide whether a word is worth teaching based on its usefulness to the learners. Visual aids, such as pictures, can help clarify meanings, and students need to experience new words in context to understand how to use them. One effective method of introducing new words is through reading texts or listening to audio tracks, allowing students to see or hear words in action (Harmer, 2015).

Practicing vocabulary is equally essential. The goal is to prompt students to use somewhat familiar words or deepen their understanding of word meanings, particularly in context. According to Harmer (2015), a significant reason for reading texts in class is to provide students with new language input. Teachers can then have students do exercises such as matching words with definitions or identifying antonyms within the text. Specific vocabulary exercises also help reinforce learning in targeted areas.

Research consistently highlights the benefits of explicit instruction in vocabulary learning and development within EFL contexts. For instance, Bubchaiya and Sukying (2022) explored the impact of word part instruction on the vocabulary knowledge of Thai primary school learners. Their findings revealed that students who received explicit instruction in word part strategies outperformed those taught using traditional, textbook-based methods. Furthermore, students exposed to these explicit strategies expressed a positive perception of this method of instruction. A more recent study by Sumalee and Sukying (2024) showed that explicit instruction in derivational suffixes significantly improved vocabulary knowledge among Thai high school students. These results are consistent with similar findings in other EFL contexts that explicating instruction not only facilitates vocabulary learning but also engages their learning (Dongsanniwas & Sukying, 2024; Lampai & Sukying, 2023).

In addition to explicit instruction, games play a crucial role in vocabulary learning. Games not only make learning enjoyable, but they also motivate students to communicate and offer structured patterns of language use (Bakhsh, 2016). However, the effective use of games in vocabulary instruction requires trained teachers who can

balance the fun aspect of play with mastery of linguistic elements. Rixon (1981) emphasized that teachers must understand the principles of explicit instruction and be skilled in using tools such as flashcards and games. This enables them to create or adapt activities that support language acquisition in a dynamic, enjoyable, and effective way.

### **2.2.1 Game-Based Vocabulary Learning**

In education, game-based learning (GBL) involves the integration of games into the learning process, strengthening the learning acquisition process among students (Chen & Hsu, 2020; Supian et al., 2019; Qian & Clark, 2016). When an instructor decides to incorporate GBL into the learning process, the selection of games must be handled with care as it must be tailored to the learning objectives and suitable as a pedagogical tool to learn the contents delivered (Chen & Hsu, 2020; Qian & Clark, 2016). Regarding language learning, GBL itself can also enhance an individual's metacognitive awareness. Plass et al. (2015) and Prensky (2003) have mentioned that individuals who engage in GBL would be trained in making sound decisions, solving problems, and synthesising information from games. Supian et al. (2019) have also mentioned that when an individual engages in learning through GBL, it teaches them to reflect on their learning by evaluating the experience obtained.

Game-based learning is usually based on a storyline embedded into instructional content and academic tasks (DiNardo & Broussard, 2019) and a space where learners move and explore as the main characters (Annetta, 2010). To proceed with the game, learners usually have to overcome various challenges about knowledge and skills (Mayer, 2011; Zou et al., 2021) and win rewards, such as scores and badges, for their performance and progress in academic tasks (Plass et al., 2015). Game-based learning also allows learners to interact with their peers and learning materials, which may provide encouragement and scaffolding (Annetta, 2010).

In recent years, game-based learning has been extensively investigated and utilized for vocabulary knowledge development, indicating its overall effectiveness. Zou et al (2021) systematically reviewed 21 SSCI publications, identifying the overall effectiveness of this learning approach for short-term and long-term vocabulary development. Chen et al. (2018) conducted a meta-analysis of 2003–2014 papers.

They identified statistically significant positive effects of this learning approach on vocabulary development regardless of learners' age and linguistic backgrounds.

### **2.2.2 Card Game-Based Vocabulary Learning**

According to Nation (2022), using word cards or flashcard programs typically leads to nearly 100% learning due to the focused nature of the procedure. This approach requires minimal instruction beyond teaching the strategy of using word cards. While some argue that flashcards promote decontextualized learning and are unsuitable for communicative purposes (Judd, 1978), Nation (2022) emphasizes that flashcards are a highly effective method for deliberate, decontextualized learning. In fact, learning with flashcards can lead to substantial gains—up to 100 words per hour—with retention rates as high as 60% after 42 days, and the method often requires minimal repetition for most words (Nation, 2013a). Additionally, after studying vocabulary lists, 50% word accuracy remains, indicating the long-term effectiveness of flashcard learning in acquiring word knowledge over extended periods (up to 10 years).

Since flashcards typically focus on high-frequency words, Nation (2022) notes that they can rapidly expand vocabulary for second language learners and increase awareness of specific words in reading and listening contexts. Direct learning methods like flashcards are more beneficial than indirect learning through context because they allow learners to focus on specific word knowledge. Nation identifies four key advantages of flashcard use: (1) efficiency in terms of time and effort, (2) greater focus on word knowledge compared to learning from context or using a dictionary, (3) the opportunity for spaced repetition to ensure retention, and (4) the development of implicit knowledge for fluent language use. Moreover, research has demonstrated that learning from flashcards can result in explicit knowledge, which is crucial for vocabulary development and language use (Elgort, 2011; Yowaboot & Sukying, 2022).

Card game-based learning (CGBL) integrates the interactive and competitive elements of card games with educational content to facilitate learning and engagement. In language learning, for example, CGBL can reinforce vocabulary acquisition by using word cards that learners must match, categorize, or incorporate

into sentences. The tactile and visual elements of the cards, along with the dynamic interaction among players, make this approach particularly effective in enhancing learner engagement and retention. Research has shown that CGBL can significantly boost motivation and focus, offering a more enjoyable and immersive experience than traditional methods (Hwang et al., 2016; Vos et al., 2011).

CGBL also caters to diverse learning styles and paces, as the flexibility of card games allows educators to tailor content and rules to meet the specific needs of their students. This versatility makes CGBL a valuable tool in the classroom. Additionally, CGBL promotes social interaction and collaboration, enhancing communication skills and fostering a sense of community. The competitive aspect can stimulate a healthy learning environment where students are motivated to engage with the material and each other (Derakhshan & Khatir, 2015; Goerss et al., 1999; Lukas et al., 2020).

In the context of vocabulary acquisition, CGBL is particularly effective. Card games typically involve tasks such as word recognition, categorization, or usage, which require learners to actively engage with new vocabulary (Laufer & Hulstijn, 2001). The tactile nature of handling cards, combined with visual reinforcement, aids memory retention. The repetitive nature of card games, where words are revisited in different contexts, helps to solidify learners' understanding (Sheridan & Markslag, 2017). Studies have shown that learners who use CGBL for vocabulary acquisition tend to achieve better recall and a deeper understanding of words compared to those who use traditional study methods (Fountain, 1979; Webb, 2007).

Moreover, CGBL supports the development of both receptive and productive vocabulary knowledge. Games can be designed to challenge students to recognize and recall words and use them in sentences, promoting practical vocabulary application. The playful nature of CGBL reduces anxiety, allowing students to experiment with new words and phrases without fear of making mistakes. This relaxed environment fosters a positive attitude toward learning and increases motivation, both critical for successful language acquisition (Hadfield, 2007).

In conclusion, card game-based learning (CGBL) is a dynamic educational approach that leverages the engaging and interactive nature of card games to enhance learning across various subjects, particularly vocabulary acquisition in language learning. By combining cognitive challenges with the fun of gameplay, CGBL improves memory retention, encourages active participation, and fosters a positive learning environment. Research, such as that by Chen et al., has found that card game activities not only motivate students to engage with vocabulary learning but also improve learning outcomes. The adaptability of card games makes them suitable for a range of educational contexts, providing tailored learning experiences that can significantly boost student motivation and academic performance.

### **2.3 Measuring Vocabulary Knowledge**

Vocabulary knowledge is a crucial component of language proficiency, and accurately measuring it is essential for assessing learners' first and second language acquisition progress. Over time, researchers have developed various tests to evaluate different aspects of vocabulary knowledge. This study focuses on two primary dimensions: form and meaning. Specifically, it examines vocabulary knowledge through tests that assess form recognition, form recall, meaning recognition, and meaning recall, each designed to evaluate distinct facets of how well learners know and can use words.

Form recognition tests measure a learner's ability to identify the correct spelling or appearance of a word. These exams are beneficial for testing receptive knowledge since they give learners a word in written or spoken form and ask them to identify whether they recognize it. According to Schmitt (2019), form identification is critical for assessing the early stages of vocabulary acquisition, particularly in reading comprehension. Learners usually identify words before they can actively recall or use them. These assessments frequently use multiple-choice or matching tasks, which require learners to discern between familiar and new terms (Gyllstad et al., 2015).

On the other hand, form recall tests ask students to remember a word's form based on clues such as pictures or meanings. This helpful activity gives a better picture of how well a student can use words when talking or writing (Schmitt, 2014). According to research, form memory tasks like unscrambling letters, filling in blanks, or short-

answer questions are good ways to find out how much you know about words at a deeper level. For instance, Fitzpatrick and Clenton (2017) discovered that repeated form recall tasks aid in word recall, indicating their importance in assessing effective vocabulary skills.

Meaning recognition tests assess how well a student can choose the correct meaning for a word from a list of possible meanings. We often use these tests to assess students' comprehension of word meanings, particularly during reading or hearing (Schmitt, 2019). Meaning recognition tasks, in which students pick the correct meaning from a group of false ones, are frequently part of standardized language tests. Stoeckel et al.'s (2020) research shows that meaning recognition tests are important for measuring vocabulary size because they show how many words a student can recognize and understand.

On the other hand, meaning recall tests ask students to actively come up with a word's meaning without being told. This is referred to as productive knowledge. Learners have to use more of their brains because they have to remember the form of a word and what it means. People often complete sentences, write definitions or use the word in a phrase to test meaning recall (Nation, 2022). Laufer and Goldstein's (2004) research shows that meaning recall tasks effectively predict long-term vocabulary retention. This is because they require students to remember a word's form and meaning, which makes them essential for testing how much someone knows about words.

Research has examined the difference between receptive knowledge (recognition) and productive knowledge (recall). Numerous studies have shown that while students can usually spot a word early on in their learning process, it takes more time and practice to be able to use it correctly when speaking or writing (Read, 2019). This difference emphasizes the importance of using both recognition and memory tests to measure vocabulary knowledge. Stoeckel et al. (2021) found that although receptive knowledge is crucial for reading and listening, it may not always result in effective vocabulary use unless it receives reinforcement through recall-based tasks.

Measuring vocabulary knowledge through form recognition, form recall, meaning recognition, and meaning recall tests provides comprehensive insights into a learner's

language proficiency. While recognition tasks measure receptive knowledge, recall tasks are better indicators of productive vocabulary usage. Both dimensions are essential for language acquisition.

#### **2.4 Student Engagement**

Student engagement has become a central focus in language learning, particularly in second language acquisition (SLA), as it plays a critical role in shaping learning outcomes. The term “engage” originates from the French verb *engager*, meaning “to pledge or involve,” and over time, has come to reflect a learner’s attention, curiosity, interest, and willingness to apply learning strategies (Moser, 2020; Soanes & Stevenson, 2003; Zhang & Hyland, 2018). In educational contexts, student engagement refers to the psychological investment and effort learners put into mastering new knowledge and skills (Newmann, 1992). This concept is crucial for enhancing the learning experience and addressing broader educational challenges, such as improving academic performance, reducing dropout rates, and preventing burnout among students, especially those who struggle academically (Finn & Zimmer, 2012; Rumberger, 1983).

In the context of SLA, student engagement is indispensable for facilitating effective classroom interactions and driving language acquisition. It encompasses how learners participate in tasks, respond to feedback, and interact with their learning material. According to Ellis (2010), student engagement in language learning can be categorized into three core dimensions: affective, cognitive, and behavioral engagement. Affective engagement refers to the emotional responses students experience during learning tasks or when receiving feedback. Positive emotions such as enthusiasm and satisfaction often enhance engagement, whereas negative feelings like frustration or anxiety can inhibit progress (Han & Hyland, 2015). Maintaining high affective engagement is crucial for vocabulary learning, as a positive attitude towards learning new words encourages learners to stay motivated and persevere.

Cognitive engagement involves learners’ mental processes to absorb new language input and feedback. This dimension requires students to actively process information, employ learning strategies, and reflect on their understanding of vocabulary. For example, students who engage cognitively in vocabulary learning may keep

vocabulary logs to track their progress or ask teachers for clarification on challenging words (Hyland, 2003; Han & Hyland, 2015). By taking ownership of their learning, students develop a deeper understanding of the vocabulary, promoting long-term retention and meaningful use.

Behavioral engagement, meanwhile, focuses on the actions learners take during the learning process. This includes participation in activities, interactions with peers and teachers, and efforts to apply feedback in practical tasks. In vocabulary learning, students who actively participate in word games, vocabulary exercises, or discussions demonstrate high behavioral engagement. Behavioral engagement also involves avoiding repeating errors, such as reviewing commonly misused words or practicing correct usage in context (Han & Hyland, 2015). Consistent behavioral engagement helps learners solidify their vocabulary knowledge and apply it effectively in both written and spoken communication.

Recent frameworks, such as the one developed by Zheng et al. (2020), build upon these dimensions by incorporating additional elements like emotional reactions and personal judgments toward feedback. These frameworks offer a deeper understanding of students' engagement with language learning tasks and feedback. For example, students who are emotionally invested in vocabulary learning and actively seek opportunities to practice and apply new words are considered highly engaged. Such students tend to make steady progress in acquiring new vocabulary and are more likely to retain and use it in real-world contexts.

Student engagement in language learning, especially in vocabulary acquisition, is a multifaceted construct beyond mere participation. It encompasses emotional, cognitive, and behavioral dimensions, all contributing to a learner's overall success in acquiring a second language. In this study, only behavioral and emotional engagement were investigated because these dimensions are directly observable and measurable through classroom observations, questionnaires, and interviews. Cognitive engagement, although important, involves internal mental processes that are less visible and more difficult to assess reliably in a primary school context. Therefore, the study focused on behavioral and emotional engagement to obtain more concrete and practical insights into how learners interact with vocabulary instruction through card

game-based activities. Fostering high levels of engagement is essential for language teachers, as it enhances learners' ability to process feedback, apply effective learning strategies, and participate actively in vocabulary learning activities. Promoting student engagement leads to better language acquisition outcomes, enabling learners to build stronger language proficiency and more effectively navigate language learning challenges.

### **2.5 The Role of Student Engagement in Vocabulary Learning**

Engagement has been recognized as a fundamental driver of language development in language learning. Research by Schmitt (2019) and Ellis (2019) suggests that conscious attention and engagement are critical for language learners to notice, comprehend, and retain vocabulary. This is supported by empirical studies on task-based vocabulary learning, which show that highly engaged learners are more likely to maintain and use newly acquired words effectively (Stroud, 2017). Vocabulary acquisition, therefore, benefits significantly from deeper levels of engagement, which facilitates learners' ability to process language input and build long-term language knowledge.

Learner engagement in language learning is typically analyzed through three dimensions: behavioral, emotional, and cognitive engagement (Fredricks et al., 2004). Behavioral engagement refers to students' active participation in academic tasks, such as putting in effort, maintaining focus, contributing to discussions, and persisting in learning activities (Doherty, 2022). In vocabulary learning, behavioral engagement could involve activities like repeating new words, practicing through vocabulary games, and consistently reviewing learned materials (Nazemi & Rezvani, 2019). Emotional engagement encompasses the learner's affective responses to the learning process, such as motivation, enjoyment, and positive attitudes toward learning (Ge & Ifenthaler, 2017). For vocabulary learning, emotional engagement can be seen when learners enjoy vocabulary-building activities, perceive value in their language progress, and feel connected to the language-learning process. Cognitive engagement refers to learners' mental effort to understand, process, and integrate new information. Vocabulary learning includes using learning strategies like mnemonics, associating

new words with prior knowledge, and employing self-regulation techniques to enhance retention (Hiver et al., 2020).

A growing body of research highlights the relationship between high learner engagement and improved vocabulary acquisition. For instance, game-based learning (GBL) has significantly increased engagement and vocabulary retention in L2 learners. Studies by Hwang and Wang (2016) and Young and Wang (2014) found that students involved in game-based vocabulary learning demonstrated high levels of behavioral, emotional, and cognitive engagement. Game elements, such as competition, rewards, and interactive feedback, maintain learners' interest and facilitate deeper vocabulary processing, leading to better academic performance (Abdul Jabbar & Felicia, 2015).

Plass et al. (2015) proposed a three-level model of learner engagement in game-based learning, emphasizing that well-designed game features can enhance engagement across behavioral, cognitive, and emotional dimensions. At the highest level, engagement in GBL allows learners to build mental models and integrate vocabulary knowledge into long-term memory, supporting long-lasting vocabulary retention and effective language use. Their model suggests that deeper engagement in learning activities leads to more robust vocabulary acquisition.

In conclusion, learner engagement is essential for effective vocabulary learning. The behavioral, emotional, and cognitive dimensions of engagement work together to facilitate deeper learning, enhance retention, and promote the active use of vocabulary in language tasks. Strategies that foster high engagement, such as task-based learning and game-based activities, can significantly improve vocabulary acquisition in L2 learners, underscoring the importance of designing learning experiences that actively involve students at all levels.

## **2.6 Related Previous Studies**

Zhang et al. (2023) demonstrated that learner engagement in digital game-based vocabulary learning positively influences EFL vocabulary development by targeting behavioural, cognitive, and emotional dimensions. This finding aligns with Zhang (2022), who showed that learner engagement significantly impacts educational outcomes. This connection naturally extends to vocabulary learning due to its crucial

role in language acquisition. These insights are valuable for L2 educators, as they highlight the importance of fostering supportive and interactive learning environments that promote engagement.

Further supporting this, Firliantama and Rokhayani (2023) emphasize the role of games and learning applications in enhancing young learners' engagement with vocabulary learning. Their study found that these interactive tools improve vocabulary mastery and increase overall classroom activity compared to traditional teaching methods. These findings underscore the importance of integrating engaging, game-based tools into language instruction to promote deeper learner engagement and better vocabulary acquisition outcomes.

In contrast, there is a noticeable gap in research on learner engagement in English vocabulary learning within the Thai context. Few studies have focused on this area, particularly in the EFL (English as a Foreign Language) setting. For example, Namsaeng (2023) explored the effects of blended gamification on elementary students' engagement in English language learning. The study revealed that student engagement regarding initiative and effort was significantly high, while disruptive and inattentive behaviors were notably low. This heightened engagement was attributed to the increased enjoyment, excitement, and involvement of blended gamification activities, which motivated students to win, learn, and think critically. Another study by Thongsongsee (2022) examined the role of EFL teachers in promoting student engagement in both traditional and online classrooms. The findings indicated that most teachers viewed their primary role as facilitators rather than actively boosting student engagement. These studies underscore the limited exploration of learner engagement in vocabulary learning, suggesting a need for further investigation in this area, especially in Thailand.

In addition, Jabbar and Felicia (2015) illustrated that game-based approaches for primary education have been applied across a wide range of subjects, including science, mathematics, and language learning. Game-based learning (GBL) helps students develop skills and knowledge while enhancing their ability to handle learning experiences. Bakhsh (2016) emphasized that games are effective tools for teaching vocabulary, as they make it easier for students to remember meanings. Games sustain

effort and interest, create an engaging atmosphere for communication, and reduce nervousness and shyness, especially in small group settings.

Allen (1983) also emphasized the importance of games in vocabulary teaching, arguing that they help learners focus on necessary words to achieve game objectives. Huyen and Nga (2003) and Uberman (1998) agree that games create a fun and relaxed environment where learners can quickly absorb and retain vocabulary. Vernon (2012) further argued that games help young learners focus, participate actively, and enjoy the learning process, making repetition less tedious and more enjoyable.

Flashcards have consistently proven to be an effective tool for vocabulary acquisition, regardless of their format (Dizon & Tang, 2017; Yuksel et al., 2020). They support learners by helping them focus on both the form and meaning of words, encouraging frequent vocabulary retrieval and improving retention. Komachli (2012) demonstrated that Iranian pre-university students who used flashcards achieved greater vocabulary knowledge than those taught through traditional methods, reinforcing the benefits of this technique. More recently, Yowaboot and Sukying (2022) explored the impact of digital flashcards on enhancing English vocabulary knowledge, particularly the form-meaning link, among Thai primary school students in an EFL context. In their study, 120 students were divided into two groups: the experimental group used digital flashcards, while the control group received traditional instruction. Vocabulary knowledge was assessed through four measures targeting both receptive and productive learning, and students' attitudes toward digital flashcards were evaluated using a five-point Likert scale. The findings revealed that although both groups showed improvement, the experimental group significantly outperformed the control group, highlighting the effectiveness of digital flashcards in boosting vocabulary acquisition. Additionally, students expressed positive attitudes toward the use of digital flashcards, showcasing their potential as a valuable tool for vocabulary learning in EFL contexts. These results suggest that incorporating digital flashcards into explicit language instruction can significantly enhance learning outcomes and improve student engagement

Similarly, Sulistiyani (2018) explored the difference in vocabulary learning between students taught through card games and those taught conventionally. The results

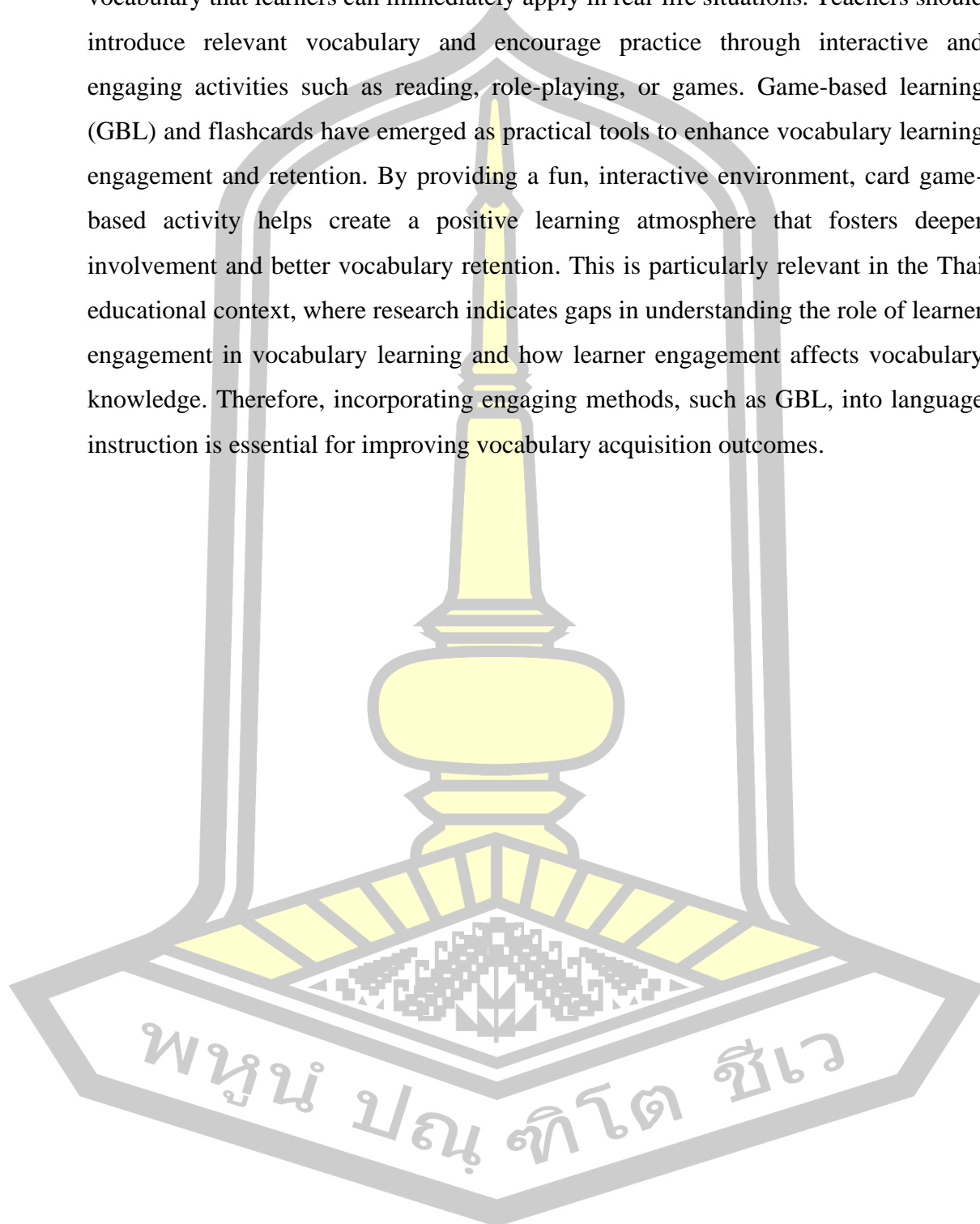
showed that card games made it easier for teachers to introduce new vocabulary and increased student engagement and motivation. The study concluded that card games positively impact vocabulary mastery, with students in the experimental group performing better on vocabulary tests after playing card games than those taught without them.

In addition, Depari et al. (2017) investigated the effect of the picture card games technique on students' vocabulary mastery. The students were divided into two groups: the experimental and the control groups. The experimental group received treatment using card game techniques, while the control group was taught using conventional techniques. It found no significant difference between the two groups in vocabulary mastery before giving the treatment. However, a post-test was given after giving the treatment, and it found a significant difference between the two groups. It can be concluded that the card game technique positively affected the students' English vocabulary mastery.

## **2.7 Summary of the chapter**

Vocabulary knowledge is a complex and essential component of language proficiency, involving not only individual words but phrases, their meanings, and their contextual use. Scholars often refer to it as “word knowledge” or “lexical knowledge,” highlighting its multifaceted nature, which includes pronunciation, spelling, morphology, and an understanding of semantic relationships such as synonyms and antonyms. Nation (2022) categorizes vocabulary knowledge into three dimensions: form, meaning, and use, each with both receptive (recognizing words) and productive (using words) aspects. To achieve language mastery, learners must recognize a word's form, understand its meaning, and know how to use it appropriately in various contexts. Research shows that vocabulary acquisition requires repeated exposure, with learners needing multiple encounters with a word to fully grasp its nuances. Typically, learners develop receptive knowledge faster than productive knowledge, which demands deeper cognitive engagement. Nation (2007, 2013b) suggests a balanced approach integrating meaning-focused input and output, language-focused learning, and fluency development.

In second language (L2) learning contexts, it is essential to prioritize practical vocabulary that learners can immediately apply in real-life situations. Teachers should introduce relevant vocabulary and encourage practice through interactive and engaging activities such as reading, role-playing, or games. Game-based learning (GBL) and flashcards have emerged as practical tools to enhance vocabulary learning engagement and retention. By providing a fun, interactive environment, card game-based activity helps create a positive learning atmosphere that fosters deeper involvement and better vocabulary retention. This is particularly relevant in the Thai educational context, where research indicates gaps in understanding the role of learner engagement in vocabulary learning and how learner engagement affects vocabulary knowledge. Therefore, incorporating engaging methods, such as GBL, into language instruction is essential for improving vocabulary acquisition outcomes.



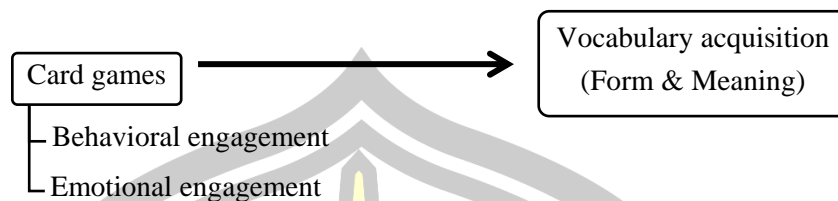
## **CHAPTER III**

### **RESEARCH METHODS**

This chapter presents the methodology of the current study, which investigates learners' engagement in card game-based vocabulary acquisition and its effects on EFL vocabulary knowledge. The study focused mainly on how learners engage in designed card game-based vocabulary acquisition and the effect of card game-based on the form-meaning link in English vocabulary acquisition and retention. First, the research design and paradigm adopted in the study were discussed. This is followed by a description of the participants involved in the study. Next, the research instruments, data collection procedures, and data analysis were discussed. Finally, the chapter ended with a summary of the current chapter.

#### **3.1 Research Paradigm and Design**

This research conducted a mixed-method research design to explore fifth-grade students' engagement in designed card game activities and their effects on vocabulary acquisition and retention. Considering the significance of learner engagement in task-based EFL vocabulary learning (Schmidt, 1990), one may argue that card game-based vocabulary learning can elicit high learner engagement from behavioural and emotional dimensions and that higher engagement in card game vocabulary learning may result in better vocabulary knowledge. Both behavioural and emotional engagement are measured by observing learners' behaviour of card game-based vocabulary acquisition and an engagement questionnaire based on the ARCS model (1987), with active participation, attention, collaboration, enjoyment, confidence and satisfaction in card game-based vocabulary learning as indicators. Vocabulary knowledge from card game-based vocabulary learning was analyzed from short-term vocabulary learning and long-term vocabulary retention, measured via the score differences from the pre-test to the immediate and delayed post-test. Figure 1 illustrates my model concerning the relationship between learner engagement in card game-based vocabulary learning and vocabulary knowledge.



**Figure 1** The relationship between learner engagement and vocabulary development in card game-based vocabulary acquisition.

### 3.2 Participants and Setting

This study was conducted in a public primary school in a remote area of Surin province, Thailand, where English is taught as a foreign language. The school is located in a low-income area where students have limited access to English language input beyond the classroom environment. Most learners come from farming families, and English exposure through media or native speakers is minimal. The participants comprised 30 Thai EFL fifth-grade students, who were intact-class learners, meaning they were already assigned to their respective classes before the study commenced. These students were randomly divided into two groups: the experimental group ( $n = 15$ ) and the control group ( $n = 15$ ). The study aimed to investigate the effects of card game-based vocabulary learning on vocabulary acquisition and retention and the learners' engagement in the learning process.

The experimental group received 16 additional hours of instruction, incorporating designed card game activities into their English vocabulary learning. These activities were intended to enhance vocabulary knowledge and engagement by providing an interactive and meaningful approach to vocabulary acquisition. In contrast, the control group followed a traditional vocabulary learning approach, which primarily relied on rote memorization, vocabulary lists, and teacher-led explanations. Although the instructional strategies differed, both groups were taught the same A1-level vocabulary lessons, following the Common European Framework of Reference for Languages (CEFR) standards to ensure consistency in content delivery.

The participants were Thai EFL young learners, averaging 11 years of age, and had been learning English for five years as part of their regular school curriculum. Despite

this, their proficiency remained limited, with many struggling to recall or use basic vocabulary accurately. According to informal assessments and teacher observations prior to the study, students' vocabulary knowledge was often surface-level and lacked retention, especially when learning was conducted through teacher-fronted instruction without interactive reinforcement. Given the limited exposure to English outside the classroom, the study provided a valuable opportunity to explore the potential benefits of interactive, game-based learning methods in a Thai EFL context.

Prior to the intervention, all participants and their guardians were informed about the study's purpose, and informed consent forms were distributed. Participants voluntarily signed the consent form, which guaranteed the following ethical considerations. First, all personal information and responses would remain anonymous. Second, participation and performance in the study would not impact students' academic grades. Finally, students were free to withdraw from the study at any stage without facing any negative consequences. By ensuring ethical research practices and voluntary participation, the study created a structured yet engaging learning environment to examine the role of card game-based teaching in vocabulary acquisition, retention, and learner engagement.

### **3.3 Research Instruments**

The instruments included observation, semi-structured interviews, a questionnaire and four tests. The four tests are the form-recognition test, the form-recall test, the meaning-recognition test, and the meaning-recall test. According to the theoretical framework of Nation (2022), Vocabulary knowledge comprises three aspects: form, meaning, and use. Thus, the form-recognition test and the form-recall test were designed to measure the aspect of 'form', and the meaning-recognition test and the meaning-recall test measured 'meaning'. An engagement questionnaire based on the ARCS model (1987) and video recording measured both learners' behavioural and emotional engagement in card game-based vocabulary acquisition. A semi-structured interview was also used to support the interpretations and conclusions in the qualitative study.

### 3.3.1 The Form-Recognition Test

The form-recognition test is designed to assess participants' ability to recognize and identify correct spellings of words. This test comprises 15 items, each presented in a multiple-choice format. Participants were given four options for selecting the correctly spelled word for each item.

Participants earned one point for each correctly identified spelling, contributing to a maximum possible score of 15 points. No points were deducted for incorrect answers, ensuring that participants' scores reflect only their correct responses without penalty for errors. This scoring method encouraged participants to attempt every item without fear of losing points for incorrect guesses.

During the test, participants were instructed to read each item carefully and select the option they believe is spelled correctly. The test measures their ability to recognize correct spelling, a crucial language proficiency skill. The multiple-choice format ensures that the test is accessible and straightforward, allowing for efficient assessment of spelling recognition skills.

By evaluating participants' ability to discern correct spellings from incorrect ones, the form-recognition test provides valuable insights into their spelling abilities, which are essential for effective written communication. This structured approach to spelling assessment helps identify areas where participants may need further practice or instruction, ultimately contributing to their overall language proficiency.

**Example:**



1. cell phone
2. wallet
3. necklace
4. watch

### 3.3.2 The Form-Recall Test

The form-recall test was designed to enhance participants' attention to the form and structure of words. In this test, participants were presented with scrambled words and tasked with unscrambling them to form the correct word. Each scrambled word consisted of the exact letters needed to spell the target word, and participants needed to use these given letters to correctly spell the word.

Participants were awarded two points for each correctly spelled word. One point was given to acknowledge partial accuracy in cases where one or two minor misspellings occur. However, zero points were awarded if the word was significantly misspelled. This scoring system encourages accuracy while recognizing partial correctness in the participants' efforts.

The Form-Recall Test comprises 15 items, comprehensively assessing the participant's ability to recall and accurately spell words from scrambled letters. Below are examples to illustrate the format of the test:

#### Example:

1. d r i o r t c e \_\_\_\_\_ (director)
2. c e a m a r a m n \_\_\_\_\_ (camera man)

This format tested the participants' spelling skills and ability to recognize and reorganize letters to form meaningful words. The task required knowledge of word forms and cognitive processing to unscramble the letters correctly. By engaging in this activity, participants could improve their spelling proficiency and attention to detail in word formation.

### 3.3.3 The Meaning-Recognition Test

The Meaning-Recognition Test was designed to assess participants' ability to accurately identify the meanings of target words. This test consists of 15 items, each presented in a multiple-choice format. Participants were given a target word and four possible definitions for each item of their first language. Their task was to select the best meaning corresponding to the target word.

Participants were awarded one point for each correct answer, with no points given for incorrect answers. This straightforward scoring system ensures that only an accurate understanding of word meanings is rewarded. The test challenges and evaluates the participants' vocabulary knowledge and comprehension skills. To illustrate the format of the Meaning-Recognition Test, consider the following example:

**Example:**

1. **Target Word:** “amusement park”

- a) สนามเด็กเล่น
- b) สวนสนุก
- c) สนามบิน
- d) สถานีรถไฟ

In this example, the correct answer is “b) สวนสนุก”. Participants needed to choose this option to earn one point for the item.

The meaning-recognition test aims to measure participants' ability to distinguish between similar definitions and identify the most accurate one. This skill is essential for effective communication and understanding in any language. The test provided valuable insights into participants' vocabulary knowledge and ability to understand and use words in context by focusing on meaning recognition.

Including multiple-choice questions allows for a broad assessment of word meanings within a limited time frame, making the test both efficient and comprehensive. This approach ensures that participants were tested on a variety of words, enhancing the reliability and validity of the assessment.

### 3.3.4 The Meaning-Recall Test

The meaning-recall test assessed participants' ability to accurately recall and translate the meanings of English words into their native Thai. This test employed an L1-L2 translation format, where participants were presented with an English word and were required to provide its meaning in Thai.

Participants earned one point for each correct translation, with no points awarded for incorrect translations. Minor spelling mistakes in Thai will be overlooked to ensure fairness, as these errors do not necessarily indicate a lack of understanding of the word's meaning. This approach acknowledges that participants may understand the meaning strongly but struggle with the precise spelling in Thai.

The test consists of 15 items, comprehensively evaluating the participant's ability to recall and accurately translate a range of English words. Below is an example to illustrate the format of the test:

**Example:**

1. **English word:** "Intelligent"

**Thai Translation:** ฉลาด

In this example, participants need to provide the correct Thai translation of the English word "Intelligent" to earn one point.

The Meaning-Recall Test served several essential purposes. Firstly, it evaluated participants' ability to recall the meanings of English words and translate them accurately into Thai, a skill necessary for effective bilingual communication and comprehension. Secondly, requiring translations, the test assessed participants' understanding of how English words map onto their Thai equivalents, highlighting their ability to navigate between two languages and cultures. Lastly, the decision to overlook minor spelling errors in Thai ensured that the assessment focused on the participant's comprehension of the word meanings rather than their spelling proficiency, providing a more accurate measure of their vocabulary knowledge.

Including 15 items ensures a thorough evaluation within a manageable time frame, allowing for a broad assessment of the participants' vocabulary recall abilities. The test's structured format ensures consistency and reliability in the assessment process. In brief, the meaning-recall test will be an alternative tool for assessing bilingual vocabulary proficiency, providing insights into participants' ability to understand and translate English words into Thai accurately. This test contributes significantly to the overall evaluation of language skills, highlighting areas of strength and potential improvement in bilingual language use.

Before the main study began, all the tests were evaluated with a thorough validation and reliability check to ensure they were standardized and reliable assessment instruments. The validation process involved content validation by experts to provide the test items accurately measure spelling recall, construct validation to confirm the test assesses the intended construct, and face validation to ensure clarity and usability for participants. Additionally, pilot tests were conducted to identify any issues and provide initial reliability data. Statistical methods, such as Cronbach's alpha, were used to assess internal consistency and test-retest reliability was checked to ensure stability over time. Ensuring standardization involved providing clear instructions, consistent administration, and objective scoring. This rigorous process guaranteed that the tests yield accurate and consistent data, contributing to the credibility and validity of the research findings.

### **3.3.5 Observation Checklist**

An observation checklist was one of the instruments used to collect data in qualitative research. Fraenkel and Wallen (2009) claim that observation is conducted to get more detailed and accurate information about what the students and the teacher do in the class rather than the interview. Moreover, Hamied & Malik (2014) point out that the behaviour, actions and communication patterns were observed and written in detail during the fieldwork. In addition, Patton (1990) states that observational data can initially display the classroom situation.

In this research, the observation was conducted during the teaching and learning process. Two observers were involved in this research: a teacher-researcher as a participant observer and a colleague as an external observer to support the instrument's validity. According to Klassen et al. (2012), the external researcher must record the information by taking observation notes when the teacher-researcher participates in the activities. Hence, in this study, the non-participant observer observed learners' engagement in card game activities and noted it on the classroom observation checklist. All the class activities were video-recorded to support the data pointed out on the observation checklist. Fraenkel and Wallen (2009) also claim that videotaping can be replayed several times for checking and correcting the data. The

classroom observation was conducted in a total of three meetings. Each meeting took approximately 50 minutes.

### 3.3.6 Engagement Questionnaire

This survey regards the participants' behavioural and emotional engagement in card game activities on English vocabulary acquisition with their active participation, attention, collaboration, enjoyment, confidence and satisfaction as indicators. Wu's (2018) questionnaire was adopted based on the ARCS modal. Based on a 5-point Likert scale (1 = no feeling; 5 = very strong feeling), the questionnaire included two items for each indicator, with an example term as "I enjoyed card game activities."

### 3.3.7 Semi-Structured Interviews

To elicit sufficient information to address the study inquiries, semi-structured interviews were utilized as supplemental research instruments to stimulate recall (Han & Hyland, 2015). This research instrument investigated the second research question related to learners' emotional and behavioural engagement in card game-based vocabulary learning. Semi-structured interviews gathered qualitative and open-ended data, allowing learners to explore personal and often delicate subjects while expressing their ideas, feelings, and beliefs about a subject. (Burns, 2009). The interview was conducted immediately after the post-test, within 50 minutes of the card game activities experience. The semi-structured interviews center on the participants' prior engagement experience with designed card game activities on English vocabulary acquisition.

#### Example:

"How did you feel when playing the vocabulary card games?"

"What did you like or dislike about learning vocabulary through these games?"

"Can you tell me what you did during the game to try to remember the new words?"

"Did you find it easier or harder to learn vocabulary using games compared to your usual lessons? Why?"

"What did you do when your group lost or made mistakes during the game?"

### 3.4 Research Procedures

#### 3.4.1 Traditional Teaching Method versus Card Game-Based Method

This study explored two teaching approaches to enhance vocabulary acquisition and retention among Thai primary school learners using the English textbook *Happy Campers 5*. The control group followed a traditional, teacher-centered approach, while the experimental group engaged in a dynamic, interactive learning experience through card game-based activities. Both methods aimed to improve students' vocabulary knowledge but differed significantly in their instructional strategies and engagement levels.

The control group received instruction through a traditional, teacher-led method, which is a widely used approach in Thai EFL classrooms. This method focused on rote memorization and direct instruction, where students relied on textbooks, note-taking, and written exercises to learn vocabulary. The teacher played a central role in guiding students through structured lessons, including (1) presenting key vocabulary on the board and providing Thai translations, (2) pronouncing words aloud, with students repeating after the teacher, (3) having students copy words into their notebooks, memorize meanings, and complete spelling drills and textbook exercises, and (4) assigning worksheets and matching exercises to reinforce vocabulary retention.

The traditional method followed a structured sequence, progressing through the warm-up, presentation, practice, production, and wrap-up stages. While this method ensured consistency and repetition, it lacked interactive elements and primarily relied on passive learning strategies, which can lead to reduced engagement and motivation.

In contrast, the experimental group engaged in card game-based vocabulary learning, transforming vocabulary acquisition into an interactive and engaging process. Instead of memorizing word lists, students actively interacted with vocabulary by matching, recalling, and using words in meaningful contexts. This student-centered approach encouraged participation and made learning more memorable and enjoyable. Key features of the card game-based approach included: (1) using visual aids (flashcards, picture cards, and PowerPoint slides) to introduce vocabulary in meaningful contexts, (2) encouraging students to describe and discuss target words in groups, fostering

collaboration and peer interaction, (3) integrating structured card games, such as matching games, word association activities, and sentence-building challenges, to reinforce word recognition, recall, and comprehension, and (4) balancing individual and group activities, incorporating elements of competition and teamwork to sustain motivation and engagement.

The card game-based method provided a flexible and dynamic learning environment, allowing students to actively use vocabulary instead of passively memorizing it. The interactive nature of the games enhanced retention, motivation, and overall vocabulary comprehension.

The following tables present a structured comparison of traditional and card game-based lesson formats, demonstrating how each method structured vocabulary instruction.

**Table 2** Sample of a Traditional Teaching Lesson

<b>Stage</b>	<b>Activity</b>	<b>Material</b>
Warm-up (5 mins)	The teacher introduces the lesson topic and asks students to predict related vocabulary.	None
Presentation (15 mins)	1. The teacher provides target words and their Thai meanings. 2. Students repeat the words aloud after the teacher. 3. The teacher asks students to explain the words in Thai.	Happy Campers 5 textbook
Practice (20 mins)	1. The teacher writes the words on the board, and students repeat them twice. 2. Students copy words into their notebooks. 3. The teacher assigns workbook exercises.	Textbook, notebook, workbook
Production (15 mins)	Students complete a vocabulary matching worksheet.	Worksheet
Wrap-up (5 mins)	The teacher reviews word meanings and pronunciation.	None

**Table 3** Sample of a Card Game-based Vocabulary Learning Lesson

<b>Stage</b>	<b>Activity</b>	<b>Material</b>
Warm-up (5 min)	The teacher introduces the lesson topic and prompts students to predict related vocabulary.	Flashcards
Presentation (15 mins)	1. The teacher presents words using pictures or real-life scenarios. 2. Students describe or explain the words in their own words.	PowerPoint Presentation/Picture cards Textbook
Practice (20 mins)	1. Students read words aloud after the teacher. 2. The teacher explains word meanings and forms.	Flashcards, Textbook

	3. The teacher introduces a card game and provides instructions.	
	4. Students play the card game to practice vocabulary.	
Production (15 mins)	Students complete a written vocabulary activity to reinforce learning	Worksheet
Wrap-up (5 mins)	1. The teacher reviews words through discussion. 2. Students write as many words as they remember from the game.	Flashcards

Although both teaching methods followed structured lesson plans using the same textbook, their instructional strategies and engagement levels differed significantly. The traditional method focused on rote learning, repetition, and memorization, while the card game-based approach promoted active engagement, contextual learning, and peer interaction.

The game-based method encouraged students to actively participate, use vocabulary in meaningful ways, and retain words more effectively. It also enhanced motivation and reduced learning anxiety, making vocabulary learning more enjoyable. In contrast, the traditional approach provided consistency and structure but lacked interactive and engaging elements, which could limit long-term retention.

### 3.4.2 Selecting the Prompt Words for the Study

In this study, selecting the appropriate vocabulary words was crucial to ensure the participants were adequately challenged while engaging meaningfully with the material. To achieve this, 107 target words were selected from the textbook “Happy Campers 5.” These words will then be cross-referenced with the New General Service List (NGSL) to ensure they align with the English proficiency levels of the participants. The NGSL is a reliable resource for determining the frequency and relevance of vocabulary in language learning. It is an ideal tool for ensuring the selected words are appropriate for the participants’ current language skills.

To further refine the selection of target words, a vocabulary checklist test was administered to both the control and experimental groups. This checklist contained the 107 words selected from the textbook, and participants were asked to identify which words they already knew and which were unfamiliar to them. Each participant was given 50 minutes to complete the checklist, allowing sufficient time to consider each word carefully. This step is essential in distinguishing between known and unknown

words, ensuring that the treatment focuses on vocabulary that will provide the most significant learning opportunity.

The results of the vocabulary checklist test were analyzed to identify the top 80 words that are least familiar or completely unknown to the participants. These 80 words were then used as the target vocabulary during the treatment phase of the study. By focusing on words that the participants did not know, the study aimed to maximize the learning impact of the treatment, whether through traditional methods or card game-based activities.

Table 4 provides an example of how the vocabulary checklist test was organized. Participants were asked to mark whether they knew each word and, if known, to give its meaning. This process helps select the most relevant words for the study and offers insights into the participants' existing vocabulary knowledge.

**Table 4** Examples of an English Vocabulary Checklist Test

Words	Known word	Unknown word	Meaning
necklace			
photographer			
elevator			
comedian			
amusement park			

This methodical approach to selecting prompt words ensures that the study is tailored to the participants' current proficiency levels and that the vocabulary instruction provided during the treatment is both challenging and achievable. The study aimed to effectively enhance the participants' vocabulary acquisition by focusing on unknown words.

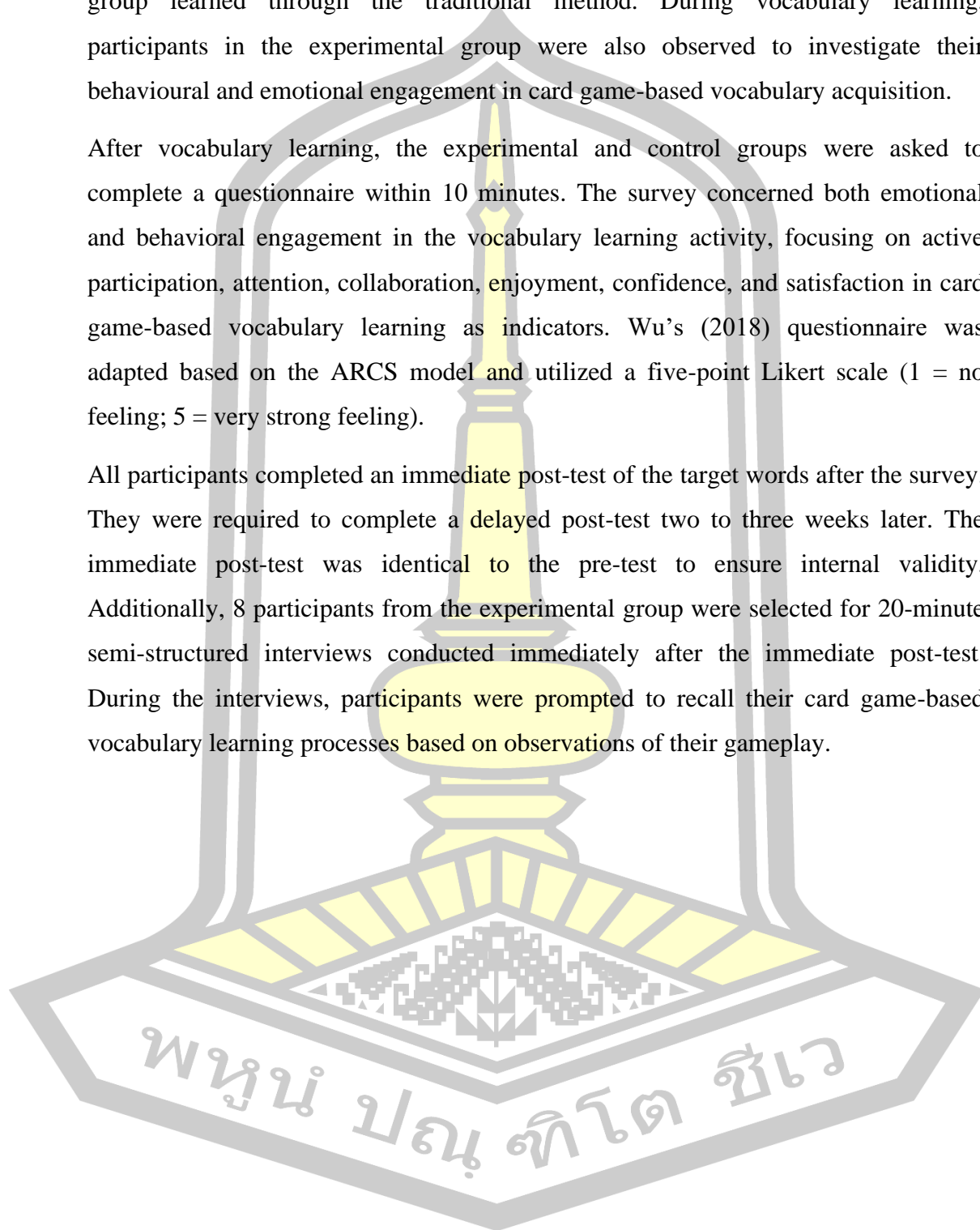
### 3.4.3 Data Collection Procedure

The researcher provided a 20-minute orientation of card game-based vocabulary learning and the two dimensions of learner engagement. This aimed to equip my experimental group with background knowledge of the study and control the novelty effects. Before both control and experimental groups learned the target words, a vocabulary checklist test was given to them. Then, I asked participants to complete a pre-test of target words within 60 minutes. After the pre-test, the experimental group

learned the target words through designed card game activities, while the control group learned through the traditional method. During vocabulary learning, participants in the experimental group were also observed to investigate their behavioural and emotional engagement in card game-based vocabulary acquisition.

After vocabulary learning, the experimental and control groups were asked to complete a questionnaire within 10 minutes. The survey concerned both emotional and behavioral engagement in the vocabulary learning activity, focusing on active participation, attention, collaboration, enjoyment, confidence, and satisfaction in card game-based vocabulary learning as indicators. Wu's (2018) questionnaire was adapted based on the ARCS model and utilized a five-point Likert scale (1 = no feeling; 5 = very strong feeling).

All participants completed an immediate post-test of the target words after the survey. They were required to complete a delayed post-test two to three weeks later. The immediate post-test was identical to the pre-test to ensure internal validity. Additionally, 8 participants from the experimental group were selected for 20-minute semi-structured interviews conducted immediately after the immediate post-test. During the interviews, participants were prompted to recall their card game-based vocabulary learning processes based on observations of their gameplay.



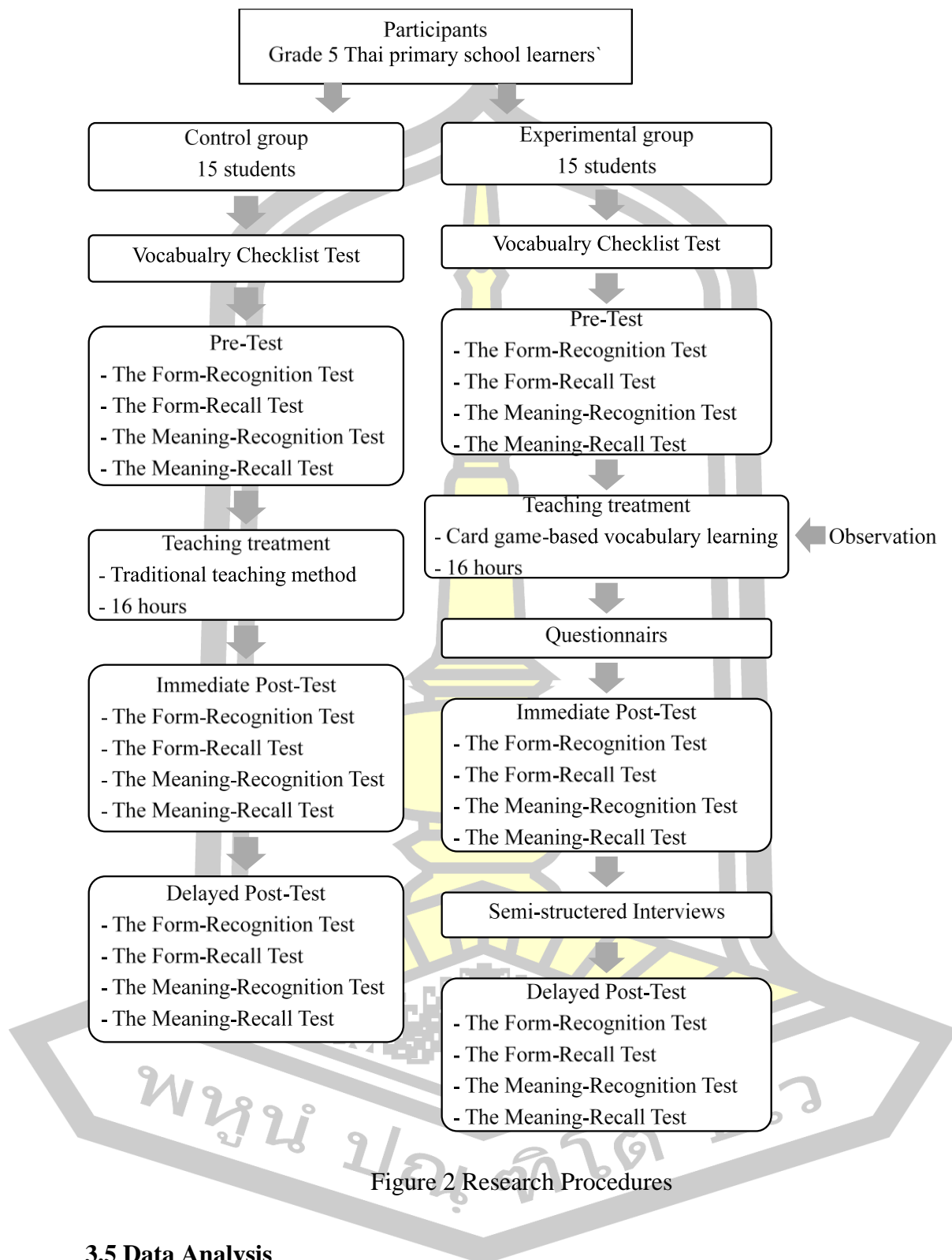


Figure 2 Research Procedures

### 3.5 Data Analysis

This study employed both quantitative and qualitative data analysis methods to comprehensively assess the effects of card game-based vocabulary learning on students' vocabulary acquisition, retention, and engagement. The data analysis was

conducted using SPSS software for statistical computations and thematic content analysis for qualitative data interpretation, ensuring a well-rounded understanding of the research findings.

### **3.5.1 Quantitative Data Analysis**

Four vocabulary tests, passive recognition, active recognition, passive recall, and active recall, were administered to assess students' vocabulary acquisition and retention. The test scores were analyzed using descriptive and inferential statistics to determine learning gains and retention rates.

Descriptive statistics, including means, standard deviations, and percentages, were calculated to summarize students' performance at the pre-test, post-test, and delayed post-test stages. T-tests (paired and independent samples *t*-tests) were conducted to examine differences within and between groups. The paired samples *t*-test compared students' performance before and after the intervention. In contrast, the independent samples *t*-test analyzed differences between the experimental group (card game-based learning) and the control group (traditional instruction).

To assess the effects of time and test type on vocabulary performance, Repeated Measures ANOVA was conducted, comparing students' scores at different time points and across the four vocabulary test types. Post-hoc analyses (Bonferroni adjustment) were performed to identify where significant differences occurred among test types, providing deeper insights into students' learning progress. Before conducting these analyses, assumptions of normality and homogeneity of variance were tested using the Shapiro-Wilk normality test and Levene's test. The results confirmed that the data met the necessary assumptions for parametric testing.

Data from the five-point Likert scale questionnaire measuring students' perceptions and engagement were also analyzed using descriptive statistics, including means, percentages, and standard deviations. This analysis helped evaluate students' attitudes toward the intervention and their overall engagement in vocabulary learning through card games.

### **3.5.2 Qualitative Data Analysis**

Qualitative data were collected through classroom observations and semi-structured interviews to address Research Question 2, which explored how Thai primary school learners exhibit behavioral and emotional engagement in card game-based vocabulary learning. These data were analyzed to gain deeper insights into students' interactions, participation, and emotional responses during the intervention.

The classroom observation data were examined using both observation notes and recorded video footage of in-class activities. The video recordings provided a detailed perspective on student engagement, allowing the researcher to analyze non-verbal behaviors, interactions, and participation patterns. Observational data were cross-referenced with structured observation checklists to ensure accuracy and consistency. Findings were then elaborated descriptively, incorporating specific classroom examples to illustrate key engagement behaviors.

Data were transcribed and analysed for the focus group interviews using Braun and Clarke's (2006) thematic analysis framework. A systematic coding process was implemented, involving initial open coding, pattern identification, and thematic categorization. To enhance the reliability of the qualitative findings, two independent coders—the researcher and an experienced ELT teacher—reviewed the transcripts and resolved any discrepancies through discussion. The finalized themes were then validated through member checking, where participants reviewed preliminary findings to ensure that their experiences were accurately represented.

The final thematic analysis identified three major themes related to engagement, which included behavioral engagement and emotional engagement. Behavioral engagement refers to students' willingness to participate, collaborate, and interact with peers during gameplay. In contrast, emotional engagement relates to the student's motivation, enjoyment, and confidence in using newly learned vocabulary.

### **3.5.3 Triangulation for Trustworthiness and Validity**

To ensure the credibility, validity, and reliability of the findings, data triangulation was employed by integrating multiple data sources and analytical methods. Methodological triangulation was achieved by combining quantitative statistical analyses with qualitative content analysis, providing a comprehensive evaluation of

vocabulary acquisition and engagement. Additionally, data source triangulation was implemented by cross-checking findings from test results, classroom observations, and interviews, which allowed for a multi-dimensional interpretation of student engagement.

Furthermore, investigator triangulation was employed to reduce bias, involving multiple researchers in the coding and interpretation process. Inter-coder reliability was assessed, yielding a Cohen's Kappa score of 0.85, indicating a high level of agreement between coders. This strengthened the reliability of the thematic findings, ensuring that the interpretations were objective and reproducible.

### **3.6 Chapter Summary**

This research used mixed methods to investigate how primary school learners engage in card game-based vocabulary learning behaviourally and emotionally. 30 Thai EFL fifth-graders were asked to participate in 16 additional hours as an implement of designed card game activities on English vocabulary acquisition. Before the treatment, the researcher asked participants to complete a pre-test of target words within 20 minutes. During the treatment period, participants were also observed to investigate their engagement. After card game-based vocabulary learning, the participants were asked to complete an engagement questionnaire with their active participation, attention, collaboration, enjoyment, confidence and satisfaction indicators. After the survey, the researcher asked the participants to complete an immediate post-test of the target words. Two to three weeks later, the researcher required them to complete a delayed post-test. Additionally, the semi-structured interview was conducted immediately after the immediate post-test.

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## CHAPTER IV

### RESULTS

This chapter described the statistical analyses used to address the research questions. The first section presented the quantitative analyses of vocabulary test results and the questionnaire scores. The second section presented the studies related to learners' engagement in card game-based vocabulary learning from the observation notes during the activities in the classroom and the semi-structured interview.

#### **4.1 The Effects of Card Game-Based Activities on Vocabulary Knowledge of Form-Meaning Links of Thai EFL Learners**

This section provides details of the effects of the intervention on students' vocabulary knowledge of form-meaning connections. Four types of vocabulary tests were conducted to examine the effects of card game activities on vocabulary knowledge: form-recognition, form-recall, meaning-recognition, and meaning-recall. These tests were administered at the pre-test and post-test, delayed post-test stages to all 30 participants. The scores from the three stages of tests for each type of vocabulary test were analyzed using Repeated Measures ANOVA in SPSS. Repeated Measures ANOVA is appropriate for this study as the same group of participants was tested multiple times and is used to compare the mean scores across these different time points.

##### **4.1.1 The Form-Recognition Test Results**

The form-recognition test assessed primary school participants' ability to recognize and identify the correct spelling of the words. Table 5 shows the summary of Thai primary school learners' performance on the form-recognition test. The analysis indicates that the experimental group performed better than the control group. Specifically, the experimental group achieved an average performance of 22.67% (S.D. = 0.83) on the pre-test and 58.22% (S.D. = 1.75) on the post-test. By contrast, the control group scored an average of 20.44% (S.D. = 0.96) on the pre-test and 41.78% (S.D. = 2.09) on the post-test.

A dependent-sample t-test was also conducted to detect differences between pre-and post-test scores within each group. Post-test scores were significantly higher than pre-test in both the experimental group ( $t = 12.02, p < 0.00$ ) and the control group ( $t$

= 5.97,  $p < 0.000$ ). These findings indicate a significant increase in the ability to recognize and identify the correct spelling of the target words.

**Table 5** The form-recognition test results within groups

Groups	N	Pre-test			Post-test			<i>t</i> -test	<i>p</i> -value
		Mean	%	S.D.	Mean	%	S.D.		
Experimental	15	3.40	22.67	0.83	8.73	58.22	1.75	12.02	0.05*
Control	15	3.07	20.44	0.96	6.27	41.78	2.09	5.97	0.05*

Note: the total score = 15

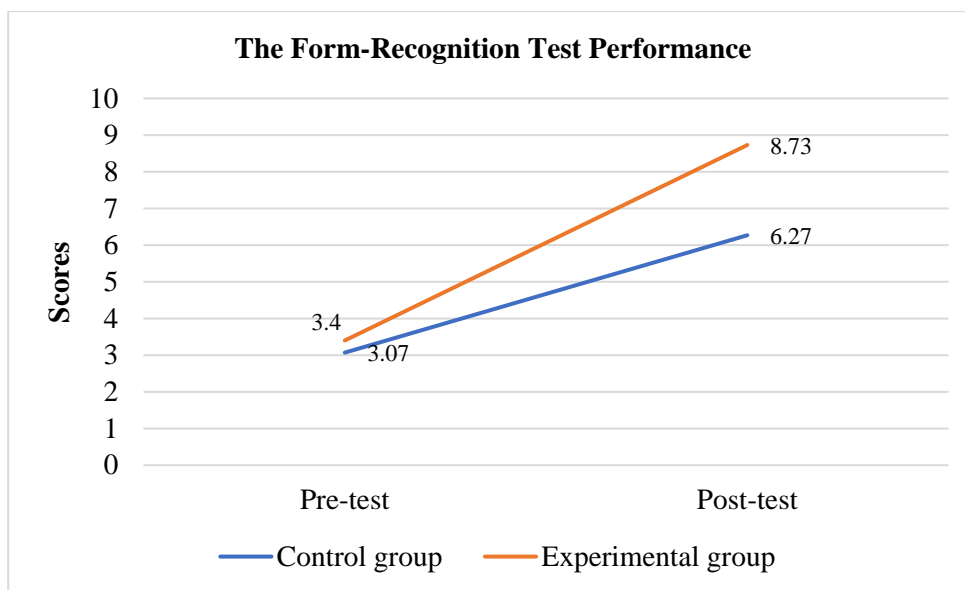
Table 6 presents a comparison of form-recognition test scores between the experimental and control groups. The results indicate no statistically significant differences between the two groups in the pre-test ( $p = 0.32$ ). However, both groups had a significant difference in the post-test ( $p = 0.05^*$ ). This suggests that while both groups improved in recognizing word forms, the experimental group benefited more from the intervention, reinforcing the positive impact of card game-based activities on vocabulary learning.

**Table 6** The form-recognition test results between groups

Tests	Groups	Mean	%	S.D.	<i>t</i> -test	<i>p</i> -value
Pre-test	Experimental	3.40	22.67	0.83	1.02	0.32
	Control	3.07	20.44	0.96		
Post-test	Experimental	8.73	58.22	1.75	3.51	0.05*
	Control	6.27	41.78	2.09		

Note: the total score = 15

Figure 3 shows fifth graders' performance on the form-recognition test. The graph reveals that pre-test scores from both groups were slightly different. In contrast, there was a significant difference in the post-test scores between the experimental group ( $\bar{x} = 8.73$ ) and the control group ( $\bar{x} = 6.27$ ). The experimental group outperformed the control group significantly. It can be concluded that the current study provides evidence that card game-based vocabulary learning improves learners' ability to recognize word forms.



**Figure 3** Learners' performance on the form-recognition test

#### 4.1.2 The Form-Recall Test Results

The form-recall test was designed to enhance participants' attention to the form and structure of the target words. Table 7 shows the summary of learners' performance on the form-recall test. The analysis shows that the experimental group performed better than the control group. Specifically, the experimental group scored an average performance of 0.89% (S.D. = 0.35) on the pre-test and 28.89% (S.D. = 2.16) on the post-test. In contrast, the control group performed an average of 0.00% (S.D. = 0.00) on the pre-test and 20.89% (S.D.=1.64) on the post-test. A dependent-sample t-test was also implemented to detect differences between pre-and post-test scores within each group. Post-test scores were higher than post-test in both the experimental group ( $t = 7.96, p < 0.00$ ) and the control group ( $t = 7.39, p < 0.00$ ). These findings indicate a considerable increase in the participants' attention to the form and structure of words.

**Table 7** The form-recall test results within groups

Groups	N	Pre-test			Post-test			t-test	p-value
		Mean	%	S.D.	Mean	%	S.D.		
Experimental	15	0.13	0.89	0.35	4.33	28.89	2.16	7.96	0.05*
Control	15	0.00	0.00	0.00	3.13	20.89	1.64	7.39	0.05*

Note: the total score = 15

Table 8 compares the form-recall test results between the experimental and control groups. The findings indicate no statistically significant differences between the

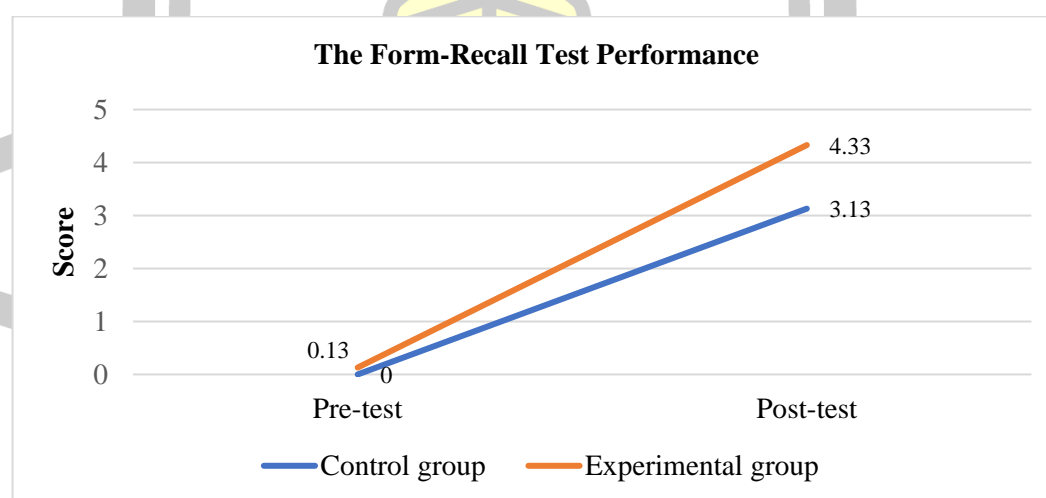
groups in the pre-test ( $p = 0.16$ ) or post-test ( $p = 0.10$ ) scores. However, within-group comparisons (as shown in Table 3) demonstrate that both groups improved significantly from the pre-test to the post-test. The experimental group showed a greater increase in form-recall performance, with their mean score rising from 0.89% to 28.89%, while the control group improved from 0.00% to 20.89%. Although the differences between the groups were not statistically significant, the experimental group's larger improvement suggests that card game-based activities may have positively impacted learners' ability to recall word forms.

**Table 8** The form-recall test results between groups

Tests	Groups	Mean	%	S.D.	<i>t</i> -test	<i>p</i> -value
Pre-test	Experimental	0.13	0.89	0.35	1.47	0.16
	Control	0.00	0.00	0.00		
Post-test	Experimental	4.33	28.89	2.16	1.71	0.10
	Control	3.13	20.89	1.64		

**Note:** the total score = 15

Figure 4 shows fifth graders' scores on the form-recall test. The graph revealed that pre-test scores from both groups were rarely different, while there was a considerable difference in the post-test scores between the experimental group ( $\bar{x} = 4.33$ ) and the control group ( $\bar{x} = 3.13$ ). The experimental group performed significantly better than the control group. This further supports the positive effect of card game-based vocabulary learning on learners' ability to recall the form and structure of the words.



**Figure 4** Learners' performance on the form-recall test

### 4.1.3 The Meaning-Recognition Test Results

Participants' ability to accurately identify the meanings of the target words is measured through the meaning-recognition test. Table 9 summarizes learners' performance in terms of their ability to identify the meaning of the words. Statistical analyses reveal that the experimental group students performed better than the control group counterparts. Specifically, the experimental group achieved an average score of 19.56% (S.D. = 0.80) on the pre-test and 63.56% (S.D. = 2.10) on the post-test. Control group learners scored an average of 18.67% (S.D. = 0.77) on the pre-test and 49.78% (S.D. = 2.20) on the post-test. A dependent-samples *t*-test indicated that both the experimental group ( $t = 10.59, p < 0.00$ ) and the control group ( $t=6.79, p < 0.00$ ) performed better on the post-test than the pre-test. These findings indicate a significant increase in participants' ability to identify the meaning of the words.

**Table 9** The meaning-recognition test results within groups

Groups	N	Pre-test			Post-test			<i>t</i> -test	<i>p</i> -value
		Mean	%	S.D.	Mean	%	S.D.		
Experimental	15	2.93	19.56	0.80	9.53	63.56	2.10	10.59	0.05*
Control	15	2.80	18.67	0.77	7.47	49.78	2.20	6.79	0.05*

Note: the total score = 15

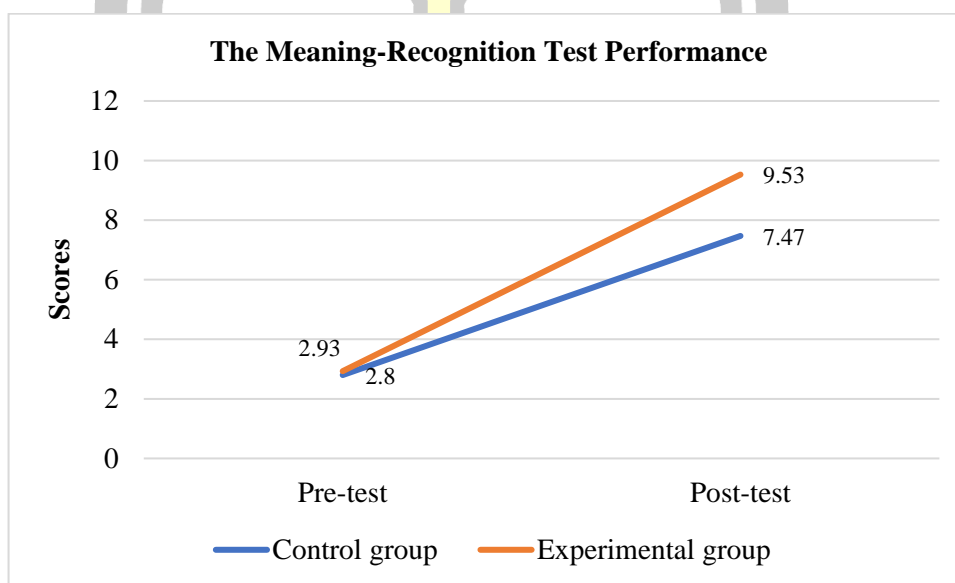
Table 10 compares the meaning-recognition test performance between the experimental and control groups. The pre-test results indicate no significant difference between the two groups ( $p = 0.65$ ), suggesting they had similar initial abilities in recognizing word meanings. However, the post-test results show a notable difference ( $p = 0.05^*$ ), with the experimental group scoring an average of 63.56%, outperforming the control group, which scored 49.78%. These findings indicate that although both groups improved, the experimental group showed greater progress, highlighting the effectiveness of card game-based activities in enhancing vocabulary learning.

**Table 10** The meaning-recognition test results between groups

Tests	Groups	Mean	%	S.D.	<i>t</i> -test	<i>p</i> -value
Pre-test	Experimental	2.93	19.56	0.80	0.46	0.65
	Control	2.80	18.67	0.77		
Post-test	Experimental	9.53	63.56	2.10	2.63	0.05*
	Control	7.47	49.78	2.20		

Note: the total score = 15

Figure 5 shows grade five students' performance on the meaning-recognition test. The graph reveals a slight difference between the groups' pre-test scores (experimental group's  $\bar{x} = 2.93$ , control group's  $\bar{x} = 2.80$ ). In contrast, there is a significant difference in the post-test performance between the experimental group ( $\bar{x} = 9.53$ ) and the control group ( $\bar{x} = 7.47$ ). This further supports the positive effect of card game-based vocabulary learning on learners' ability to identify the meanings of words.



**Figure 5** Learners' performance on the meaning-recognition test

#### 4.1.4 The Meaning-Recall Test Results

The meaning-recall test measures participants' ability to distinguish between similar definitions and identify the most accurate one. Table 11 summarizes participants' performance on the meaning-recall test. The result shows that the experimental group scored higher than the control group counterparts. Specifically, the experimental group achieved an average performance of 0.00% on the pre-test, whereas the control group scored an average of 0.07% (S.D. = 0.44). On the post-test, the experimental group performed an average of 48.00% (S.D. = 2.18), while the control group scored 36.44% (S.D. = 2.39). A dependent-samples t-test indicates that post-test performance is higher than pre-test performance for both experimental ( $t = 12.80, p < 0.00$ ) and control groups ( $t = 9.12, p < 9.12$ ). These findings indicate a significant increase in participants' ability to distinguish between similar definitions and identify the most accurate meaning.

**Table 11** The meaning-recall test results within groups

Groups	N	Pre-test			Post-test			<i>t</i> -test	<i>p</i> -value
		Mean	%	S.D.	Mean	%	S.D.		
Experimental	15	0.00	0.00	0.00	7.20	48.00	2.18	12.80	0.05*
Control	15	0.07	0.44	0.00	5.47	36.44	2.39	9.12	0.05*

Note: the total score = 15

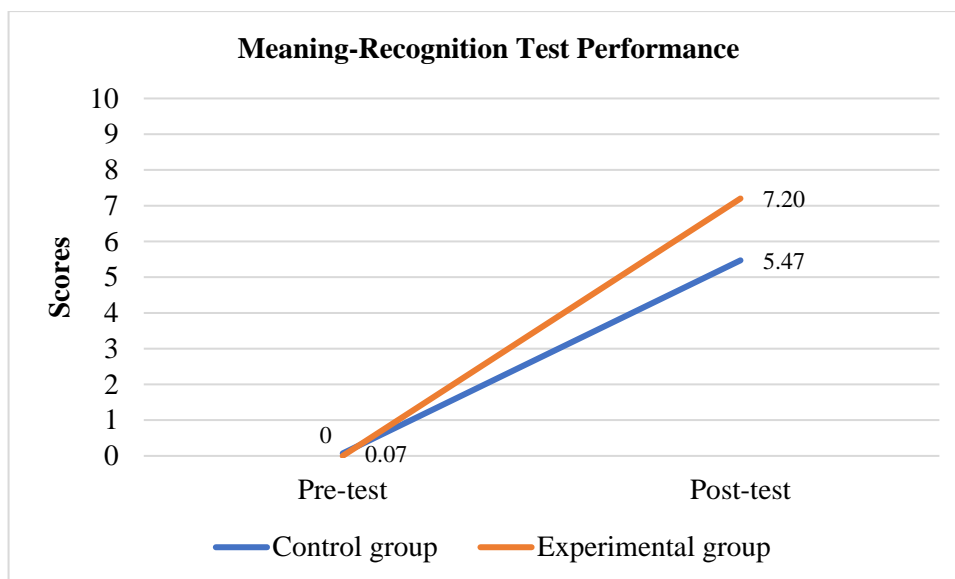
Table 12 compares the meaning-recall test results between the experimental and control groups. The pre-test scores showed no significant difference between the groups ( $p = 0.33$ ), indicating that both groups started with a similar ability to recall word meanings. However, the post-test results revealed a significant difference ( $p = 0.05^*$ ), with the experimental group achieving a higher mean score of 48.00% compared to 36.44% in the control group. This suggests that while both groups improved in recalling word meanings, the experimental group demonstrated greater progress, further supporting the effectiveness of card game-based activities in enhancing vocabulary retention and recall.

**Table 12** The meaning-recall test results between groups

Tests	Groups	Mean	%	S.D.	<i>t</i> -test	<i>p</i> -value
Pre-test	Experimental	0.00	0.00	0.00	-1.00	0.33
	Control	0.07	0.44	0.26		
Post-test	Experimental	7.20	48.00	2.18	2.08	0.05*
	Control	5.47	36.44	2.39		

Note: the total score = 15

Figure 6 shows the learners' performance on the meaning-recall test. Both control and experimental groups' scores are not different in their pre-test score ( $\bar{x} = 0.00$ ). In contrast, there is a significant difference in the post-test performance between experimental ( $\bar{x} = 7.20$ ) and control groups ( $\bar{x} = 5.47$ ). Both groups improved their meaning-recall skill at a significant level. It can be concluded that the current study provided evidence that card game-based vocabulary learning enhanced participants' ability to distinguish similar definitions of words.



**Figure 6** Learners' performance on the meaning-recall test

#### 4.1.5 The Overall Performance

Table 13 presents learners' overall performance within the experimental and control groups across three testing stages: pre-test, post-test, and delayed post-test. In the experimental group, the mean score increased substantially from the pre-test ( $\bar{x} = 6.47$ , S.D. = 10.78) to the post-test ( $\bar{x} = 29.80$ , S.D. = 7.86) and decreased slightly by the delayed post-test ( $\bar{x} = 22.60$ , S.D. = 7.79). The repeated measures ANOVA showed an f-value of 108.40, with a p-value less than 0.05, indicating that scores across the three time points were statistically significant. Post-hoc analysis revealed that the difference between the pre-test and post-test was statistically significant ( $p < 0.05$ ), as was the difference between the pre-test and delayed post-test ( $p < 0.05$ ). However, the difference between the post-test and delayed post-test also reached a significance level of less than 0.05, indicating a slight decline in scores but still demonstrating retention compared to the pre-test.

**Table 13** The overall learners' performance within groups

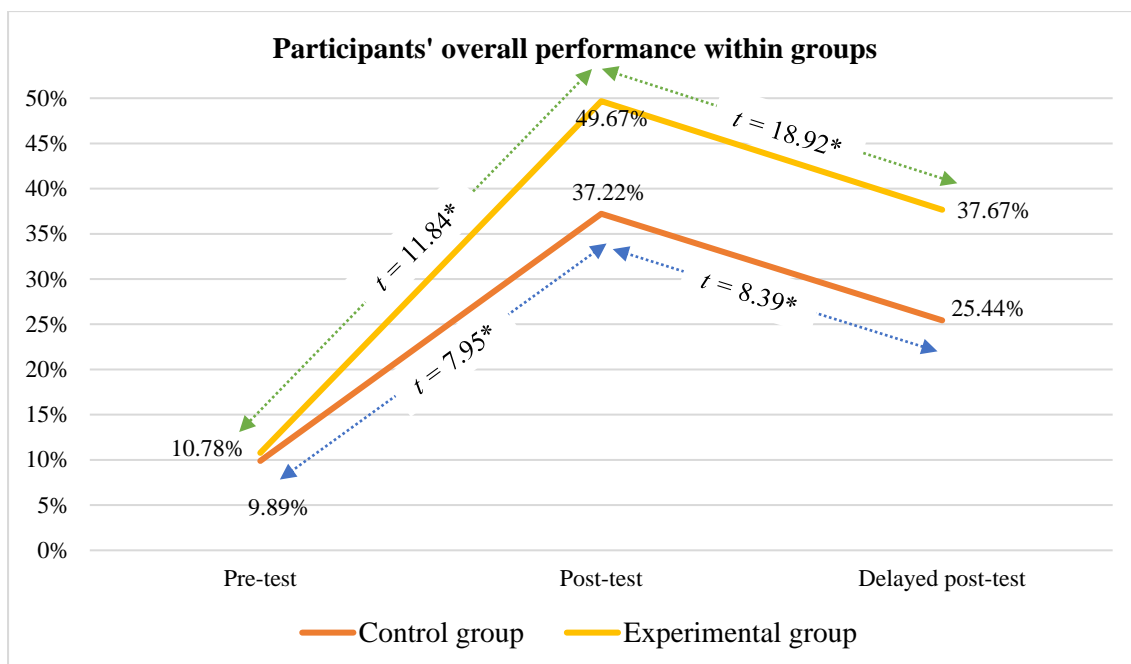
Groups	Tests	Mean	%	S.D.	<i>f</i> -value	<i>p</i> -value
<b>Experimental Group</b> (n = 15)	Pre-test	6.47	10.78	1.13	108.40	0.05*
	Post-test	29.80	49.67	7.86		
	Delayed	22.60	37.67	7.79		
<b>Control Group</b> (n = 15)	Pre-test	5.93	9.89	1.10	56.40	0.05*
	Post-test	22.33	37.22	7.93		
	Delayed	15.27	25.44	5.62		

Note: the total score = 60

For the control group, the mean score improved from the pre-test ( $\bar{x} = 5.93$ , S.D. = 1.10) to the post-test ( $\bar{x} = 22.33$ , S.D. = 7.93), followed by a decrease in the delayed post-test ( $\bar{x} = 15.27$ , S.D. = 5.62). The repeated measures ANOVA for the control group yielded an *f*-value of 56.40, with a *p*-value less than 0.05, suggesting significant differences in scores over time. Post-hoc comparisons (see Figure 5) were also conducted, indicating a statistically significant improvement from the pre-test to the post-test ( $p < 0.05$ ), as the difference between the pre-test and delayed post-test was significant ( $p < 0.05$ ). Moreover, the difference between the post-test and delayed post-test was significant ( $p < 0.05$ ), indicating a decline in scores over time.

These findings demonstrate that the card game-based vocabulary learning method improved vocabulary acquisition and retention for the experimental group. While both groups showed progress, the experimental group's sustained higher scores indicate that interactive learning strategies, such as card games, are more effective than traditional methods in reinforcing long-term vocabulary retention. The significant differences between the post-test and delayed post-test results suggest that engaging and context-based activities play a crucial role in helping learners retain vocabulary knowledge over time.

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**Figure 7** Participants' overall performance on vocabulary acquisition within groups

Table 14 presents a comparative analysis of the overall vocabulary test performance between the experimental and control groups on three tests: pre-test, post-test, and delayed post-test. The pre-test results indicate no significant differences between the groups ( $p = 0.20$ ), suggesting that both groups started with similar vocabulary knowledge. However, in the post-test, the experimental group achieved significantly higher scores (49.67%) compared to the control group (37.22%), with a t-value of 2.59 ( $p < 0.05$ ). This pattern continues in the delayed post-test, where the experimental group maintained a higher mean score (37.67%) than the control group (25.44%), with a t-value of 2.96 ( $p < 0.05$ ). These findings highlight the positive impact of the intervention on vocabulary retention over time.

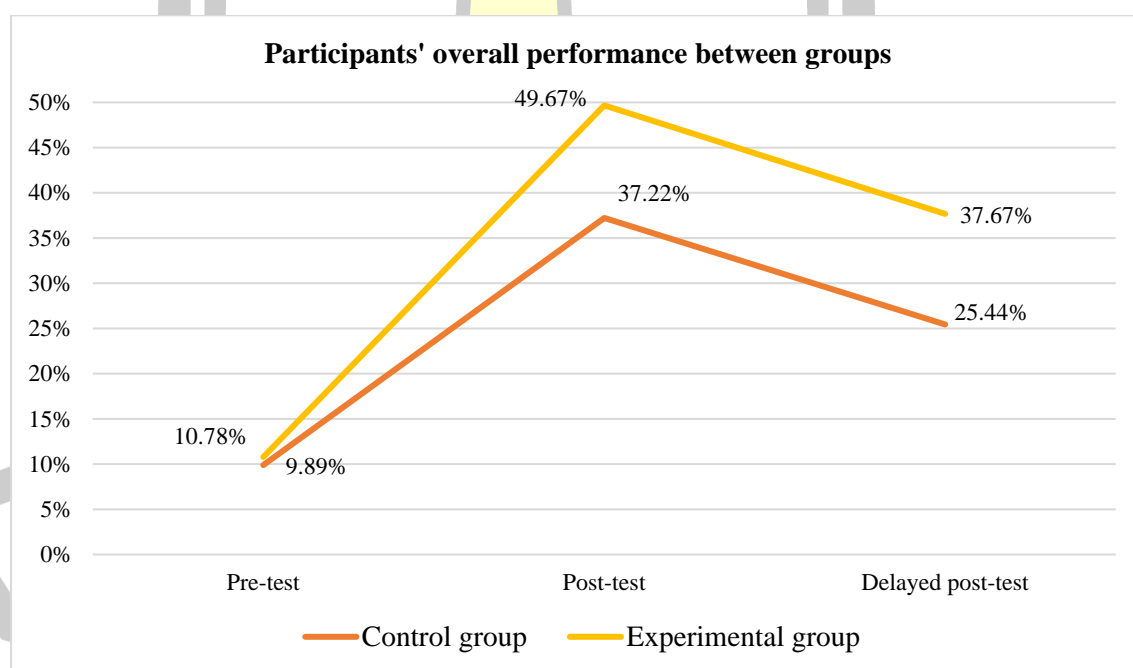
Figure 8 visually represents the overall performance trends for both groups across all test stages. While both groups showed improvement from the pre-test to the post-test, the experimental group consistently outperformed the control group in all test phases. The most notable differences are observed in meaning-recognition and meaning-recall tests, where the experimental group demonstrated higher levels of retention. The results suggest that learners in the experimental group benefited more from the intervention, likely due to the interactive nature of card game-based vocabulary learning, which reinforces word retention through repeated exposure and engagement.

Consequently, Table 14 and Figure 6 prove that card game-based vocabulary learning significantly enhances students' ability to retain and recall words. Unlike traditional learning methods, the experimental group's sustained higher scores in both immediate and delayed post-tests indicate that this instructional method leads to long-term vocabulary retention, where retention rates tend to decline over time. These findings emphasize the importance of interactive learning strategies in vocabulary instruction, as they offer an engaging and practical approach to reinforcing word retention.

**Table 14** The overall learners' performance between groups

Tests	Groups	Mean	%	S.D.	<i>t</i> -value	<i>p</i> -value
Pre-test	Experimental	6.47	10.78	1.13	1.31	0.20
	Control	5.93	9.89	1.10		
Post-test	Experimental	29.80	49.67	7.86	2.59	0.05*
	Control	22.33	37.22	7.93		
Delayed post-test	Experimental	22.60	37.67	7.79	2.96	0.05*
	Control	15.27	25.44	5.62		

Note: the total score = 60



**Figure 8** Participants' overall performance on vocabulary acquisition between groups

#### 4.1.6 Differences between Tests

Table 15 presents the experimental group's performance across four vocabulary tests—form-recognition, form-recall, meaning-recognition, and meaning-recall—at

the pre-test stage. The results indicate that the experimental group had relatively low initial scores in all four test types. The highest pre-test score was in meaning recognition, with a mean of 2.93 (19.56%), followed by form recognition at 3.40 (22.67%). In contrast, meaning-recall and form-recall had the lowest pre-test scores, at 0.00 (0.00%) and 0.13 (0.89%). A significant difference was found among these test types ( $f = 129.02, p < 0.05$ ). The post-hoc analysis further indicated that the difference between meaning-recognition and form-recognition was not statistically significant ( $t = -1.61, p = 0.13$ ), suggesting that students performed similarly on both tasks. However, form recognition was significantly easier than meaning-recall ( $t = 15.90, p < 0.05$ ), and meaning-recall was not significantly different from form-recall ( $t = -1.47, p = 0.16$ ), indicating that learners performed similarly on both tests.

The experimental group demonstrated substantial improvement in all tests at the post-test stage. The most significant increase was in meaning recognition, which rose to a mean score of 9.53 (63.56%), followed by meaning recall at 7.20 (48.00%). Similarly, form recognition improved to 8.73 (58.22%), while form recall increased to 4.33 (28.89%). The  $f$ -value for meaning recognition in the post-test was 163.07, with a statistically significant  $p$ -value ( $p < 0.05$ ), indicating a significant difference among these tests. The post-hoc analysis revealed that meaning-recognition scores were significantly higher than form-recognition ( $t=3.59, p < 0.05$ ). Similarly, form-recognition scores were significantly higher than meaning-recall ( $t = 5.60, p < 0.05$ ), and meaning-recall remained easier than form-recall ( $t = 14.94, p < 0.05$ ).

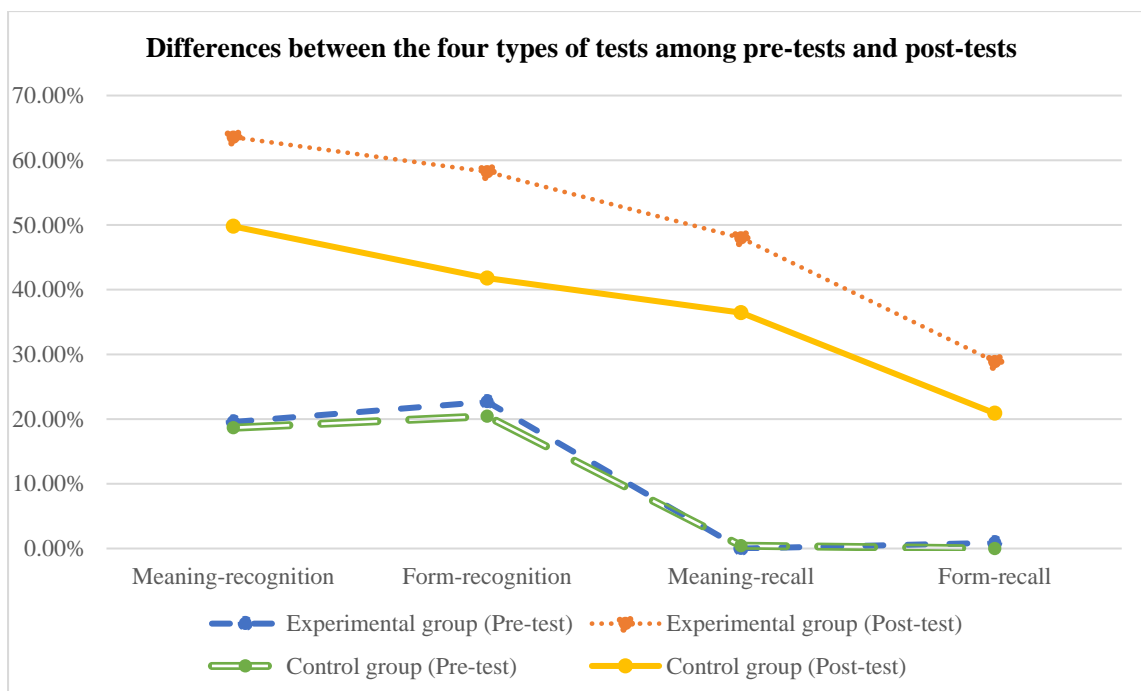
For the control group, pre-test results were similar to those of the experimental group, with relatively low initial scores across all four vocabulary tests. The highest pre-test performance was in meaning recognition, with a mean of 2.80 (18.67%), followed by form recognition at 3.07 (20.44%). However, form-recall and meaning-recall had the lowest pre-test scores, at 0.00 (0.00%) and 0.07 (0.44%). The  $f$ -value in the control group's pre-test was 98.38, with a statistically significant  $p$ -value ( $p < 0.05$ ). Post-hoc analysis showed no significant difference between meaning recognition and form recognition ( $t = -0.77, p = 0.45$ ). Moreover, form recognition was significantly easier than meaning-recall ( $t = 11.62, p < 0.05$ ), and meaning-recall was not significantly

different from the form-recall ( $t = 1.00$ ,  $p = 0.33$ ), indicating that learners performed similarly on both tasks.

Following the post-test, the control group improved in all test categories, though at a lower rate than the experimental group. The highest post-test performance was in the meaning-recognition link, with a mean of 7.47 (49.78%), followed by meaning-recall at 5.47 (36.44%). The form-recognition link increased to 6.27 (41.78%), while the form-recall improved to 3.13 (20.89%). The  $f$ -value in the post-test was 80.09, with a  $p$ -value of less than 0.05, confirming significant differences. Post-hoc analysis indicated that meaning-recognition scores were significantly higher than the form-recognition connection ( $t = 4.29$ ,  $p < 0.05$ ). Similarly, the form-recognition link was significantly easier than meaning-recall ( $t = 2.45$ ,  $p < 0.05$ ), and meaning-recall remained significantly easier than form-recall ( $t = 6.72$ ,  $p < 0.05$ ). Figure 9 visually illustrates these trends, showing that although the control group progressed, their improvement was less pronounced than the experimental group's. This suggests that while traditional vocabulary learning methods can enhance recognition and recall, interactive strategies like card games may offer greater benefits in long-term vocabulary retention.

**Table 15** Differences between the four types of tests among pre-tests and post-tests

Groups	Tests	Pre-test			Post-test		
		Mean (%)	f	p	Mean (%)	f	p
<b>Experimental</b>	Meaning-recognition	2.93 (19.56)			9.53 (63.56)		
	Form-recognition	3.40 (22.67)			8.73 (58.22)		
	Meaning-recall	0.00 (0.00)	129.02	0.05*	7.20 (48.00)	163.07	0.05*
	Form-recall	0.13 (0.89)			4.33 (28.89)		
<b>Control</b>	Meaning-recognition	2.80 (18.67)			7.47 (49.78)		
	Form-recognition	3.07 (20.44)			6.27 (41.78)		
	Meaning-recall	0.07 (0.44)	98.38	0.05*	5.47 (36.44)	80.09	0.05*
	Form-recall	0.00 (0.00)			3.13 (20.89)		



**Figure 9** Differences between the four types of tests among pre-tests and post-tests

## 4.2 Learners' Engagement in Card Game Activities on Vocabulary Acquisition

### 4.2.1 The Questionnaire Results

Table 16 presents the analysis of learners' engagement in card game activities and provides valuable insights into how students interact with and respond to this learning method. Engagement is categorized into two dimensions: behavioural and emotional. Behavioural engagement refers to the extent to which learners actively participate in the activities, follow the rules, and apply the acquired vocabulary in various contexts. On the other hand, emotional engagement reflects students' feelings, such as enjoyment, confidence, and excitement, which contribute to their motivation and overall learning experience. The results from the questionnaire highlight a high level of engagement in both areas, indicating the effectiveness of card games in promoting vocabulary learning.

The results from the behavioral engagement section indicate a strong level of participation among learners in card game activities. The highest scores ( $\bar{x} = 5.00$ , 100%) were recorded for following game rules and trying to remember words from the games, highlighting a strong sense of discipline and commitment to learning. Learners also showed high attention to words ( $\bar{x} = 4.80$ , 96%) and actively helped

peers ( $\bar{x} = 4.53$ , 90.67%). While all items in this category scored very high, the lowest-rated statement ( $\bar{x} = 4.07$ , 81.33%) was related to using learned words in speaking or writing, suggesting improvement in transferring vocabulary knowledge to real-life communication.

The emotional engagement revealed an overwhelmingly positive response, with most items scoring the highest rating ( $\bar{x} = 5.00$ , 100%). Learners expressed enjoyment, happiness, and excitement when engaging with vocabulary card games. Their confidence ( $\bar{x} = 4.60$ , 92%) and pride ( $\bar{x} = 4.87$ , 97.33%) in newly learned words further reinforced their motivation. The overall score ( $\bar{x} = 4.86$ , 97.11%) indicates that the card games foster an engaging and emotionally rewarding learning experience, supporting the effectiveness of this approach in vocabulary acquisition.

**Table 16** Learners' engagement questionnaires analysis

Statements	$\bar{x}$	%	S.D.	Meaning
<b>Behavioral engagement</b>				
1. I try my best to play card games during vocabulary lessons.	4.47	89.33	0.64	Very high
2. I pay attention to the words in the card games.	4.80	96.00	0.41	Very high
3. I follow the rules of the game while playing.	5.00	100.00	0.00	Very high
4. I help my friends understand words when we play.	4.53	90.67	0.64	Very high
5. I try to remember the words from the card games.	5.00	100.00	0.00	Very high
6. I use the words I learned from the games when I speak or write in English.	4.07	81.33	0.46	High
<b>Total</b>	<b>4.64</b>	<b>92.89</b>	<b>0.36</b>	<b>Very high</b>
<b>Emotional Engagement</b>				
7. I enjoy learning new words by playing card games.	5.00	100.00	0.00	Very high
8. I feel happy when we play vocabulary card games.	5.00	100.00	0.00	Very high
9. I feel more confident about the words I learn after playing the card games.	4.60	92.00	0.51	Very high
10. I feel excited to learn new words with card games.	4.67	93.33	0.49	Very high
11. I feel proud when I use the words I learned from the games.	4.87	97.33	0.35	Very high
12. Playing card games makes learning new words fun for me.	5.00	100.00	0.00	Very high
<b>Total</b>	<b>4.86</b>	<b>97.11</b>	<b>0.18</b>	<b>Very high</b>

#### 4.2.2 The Semi-structured Interview Results

This section presents findings from the semi-structured interviews exploring learners' emotional and behavioral engagement in card game-based vocabulary learning. The interview results provide qualitative insights that complement the classroom observations and questionnaire data, further supporting the quantitative findings from the pre-test, post-test, and delayed post-test. These data sources offer a comprehensive understanding of learners' engagement and its effect on vocabulary acquisition.

Participants were categorized into High-Performing (HP) and Low-Performing (LP) groups based on their overall test scores, with a median score of 31 (out of 45) serving as the cutoff. Four participants from each group were individually interviewed to provide deeper insights into their engagement experiences. A thematic analysis was conducted to identify engagement-related patterns, ensuring trustworthiness and validity through inter-coder reliability and member checking.

To ensure the reliability and validity of the coding process, two independent coders reviewed the data and generated initial codes. The inter-coder agreement was calculated, yielding a Cohen's Kappa score of 0.85, indicating substantial agreement. Discrepancies were resolved through discussion, refining the codes into categories based on similarities and patterns. To further enhance credibility, member checking was employed by presenting the initial findings to participants for verification. Feedback confirmed that the identified themes accurately reflected their experiences.

The final analysis identified two key themes of engagement: behavioral and emotional. These themes were derived from codes reflecting specific actions, feelings, or opinions expressed during the interviews, as illustrated in Table 13.

##### **Behavioral Engagement**

Students' active participation, collaboration, and social interactions during gameplay showed behavioural engagement in card game-based vocabulary learning. It was categorized into three key aspects: participation and involvement, effort and persistence, and collaboration and interaction. These behaviors demonstrated how students actively participated in tasks, collaborated with peers, and immersed themselves in learning.

### ***Participation and Involvement***

Many students actively engaged in the game, appreciating the interactive nature of the activity and the opportunity to work with their peers. S01 noted, *“I love doing group activities. Before card game activities, the teacher rarely asked us to do group activities.”*, highlighting how the game introduced a more dynamic and social learning approach. Similarly, S02 reflected, *“I like that we don’t just sit and study. The teacher lets us do activities.”*

However, some students preferred a more observational role, particularly when uncertain about the vocabulary. S06 shared, *“I sometimes just observe if I’m unsure about the words.”* S05 mentioned, *“I did what my friends assigned me to do.”*, indicating a more passive participation style. While engaged in the process, their involvement largely depended on their teammates’ direction.

**Table 17** The semi-structured interview results

<b>Engagement Aspects</b>	<b>Responses</b>		
<b>Behavioral Engagement</b>	Participation & Involvement	<p>“I love doing group activities. Before card game activities, the teacher rarely asked us to do group activities.” (S01)</p> <p>“I could talk to my friends and also discuss when I have to find out the answers.” (S01)</p> <p>“I did what my friends assigned me to do.” (S05)</p> <p>“I sometimes just observe if I’m unsure about the words.” (S06)</p>	
	Effort & Persistence	<p>“If I couldn’t remember the meaning of words, I would ask my friends.” (S01)</p> <p>“I try to understand my mistakes so I can do better next time.” (S02)</p> <p>“I never put effort into remembering the words from the game outside of class.” (S05)</p> <p>“I ask my teammates or the teacher for help.” (S07)</p>	
	Collaboration & Interaction	<p>“My friends always ask me to explain the meanings of words.” (S03)</p> <p>“Not only do I explain the meanings of words, but I also explain the rules for my teammates.” (S03)</p> <p>“I prefer to be a helper, supporting others when they need it.” (S07)</p> <p>“I listen to my team’s ideas and suggest answers when I can.” (S08)</p>	
	<b>Emotional</b>	Interest & Enjoyment	<p>“It doesn’t even feel like I’m studying, which makes me look forward to the next class.” (S02)</p> <p>“It was fun. And I am so happy to be the winner.” (S02)</p> <p>“It wasn’t boring compared to the traditional method.” (S05)</p> <p>“I sometimes prefer learning on my own.” (S08)</p>
		Sense of Achievement & Confidence	<p>“I feel more confident recalling the words I learned when I do the post-test.” (S01)</p> <p>“I think that when I’m happy while learning, the results turn out better than before.” (S03)</p> <p>“I enjoyed it the most when I learned a new word and used it correctly</p>

	in the game.” (S06)
Frustration, Anxiety & Competition	“I feel more excited when it comes to competition.” (S04)
	“I try to understand my mistakes so I can do better next time.” (S02)
	“I sometimes felt anxious while playing vocabulary card games because I wanted to win.” (S04)
	“I was not frustrated while playing because I see it as just a fun way to learn.” (S08)

### ***Effort and Persistence***

Students exhibited different levels of effort in recalling words and improving their performance. Some learners displayed a strong commitment to understanding and retaining vocabulary, using strategies such as repetition and note-taking. S04 explained, *“I try to remember words by repeating them in my mind or writing them down.”*. S02 shared, *“I try to understand my mistakes so I can do better next time.”*, showing a growth mindset and perseverance in learning.

However, others put minimal effort into reviewing or reinforcing the vocabulary outside the classroom. S05 openly admitted, *“I never put effort into remembering the words from the game outside of class.”*. S04 said, *“After class, I hardly review what I’ve learned, but I can still do the test.”* These responses suggest that while the game itself was engaging, not all students carried their learning beyond the activity.

### ***Collaboration and Interaction***

Collaboration played a significant role in engagement, as many students actively participated in team-based learning. Some students took on leadership or helper roles, explaining and supporting their teammates. S03 shared, *“My friends always ask me to explain the meanings of words.”* S03 added, *“Not only do I explain the meanings of words, but I also explain the rules for my teammates.”*

Other students preferred supportive rather than leadership roles, helping their team more passively. One participant described their role as, *“I prefer to be a helper, supporting others when they need it.”* (S07). Another mentioned, *“I always talked to them and asked what I can assist.”* (S05), suggesting an emphasis on teamwork and social interaction even when not taking on leadership responsibilities.

### **Emotional Engagement**

Emotional engagement in card game-based vocabulary learning refers to the extent to which students experience positive emotions, motivation, and a sense of connection to the learning activity. Participating in vocabulary games encompasses students' interest, enjoyment, confidence, and emotional responses, such as excitement, anxiety, or frustration. Emotional engagement was categorized into three primary codes: interest and enjoyment, sense of achievement and confidence, and frustration, anxiety, and competition, respectively. Analyzing these emotional responses provides insights into the strengths and areas for improvement in the implementation of card game-based vocabulary acquisition.

#### ***Interest and Enjoyment***

Many students expressed enthusiasm and enjoyment in learning vocabulary through card games, emphasizing how the activity made studying more engaging. One student shared, *"It doesn't even feel like I'm studying, which makes me look forward to the next class."* (S02). Another participant stated, *"I enjoyed learning new words through the card game."*(S05), showing a clear preference for interactive learning over traditional methods.

Despite the overall positive reception, some students remained neutral or slightly disengaged. One student (S05) reflected, *"It wasn't boring compared to the traditional method"*, suggesting that while the game was an improvement, it did not fully captivate their interest. Another participant (S08) admitted, *"I do not prefer learning vocabulary through card games because I sometimes prefer learning on my own."*, indicating that learning preferences influenced engagement levels.

#### ***Sense of Achievement and Confidence***

Students felt accomplished and confident when recalling words during the game. One participant shared, *"I feel more confident recalling the words I learned when I do the post-test."* (S01), highlighting how the game supported vocabulary retention. Another student emphasized the connection between enjoyment and performance, stating, *"I think that when I'm happy while learning, the results turn out better than before."* (S03).

While some students primarily focused on the satisfaction of remembering words, such as one who noted, *“I enjoyed it the most when I learned a new word and used it correctly in the game.”* (S06), others expressed greater confidence in applying their knowledge beyond the game. These responses suggest that engagement in the learning process contributed to enjoyment and self-assurance, though individuals’ confidence in using vocabulary outside the game varied.

### ***Frustration, Anxiety, and Competition***

The competitive aspect of the game influenced students’ emotional engagement in various ways. Some students found the challenge motivating, with one stating, *“I feel more excited when it comes to competition.”* (S04). Others viewed mistakes as opportunities for improvement, as one participant explained, *“I try to understand my mistakes so I can do better next time.”* (S02).

However, not all students experienced competition in the same way. Some felt anxious or disappointed when struggling, such as one who admitted, *“I sometimes felt anxious while playing vocabulary card games because I wanted to win.”* (S04). Another shared, *“I feel a little disappointed, but I focus on improving in the next round.”* (S07), demonstrating resilience in overcoming setbacks. Meanwhile, others approached the game with a more relaxed mindset, emphasizing enjoyment over performance, with one student remarking, *“I was not frustrated while playing because I see it as just a fun way to learn.”* (S08).

### **4.2.3 Classroom Observation**

Classroom observations examined learners’ engagement during card game-based vocabulary learning activities. Two observers participated: the teacher-researcher as a participant observer and an external observer to ensure validity. Observations were carried out over three sessions, each lasting approximately 50 minutes. Engagement was assessed using a classroom observation checklist derived from video recordings.

Table 18 presents the frequency of observed engagement incidents based on ten criteria across three observation sessions. The highest observed engagement was *students communicating with peers during the game* (36 incidents, 20.93%), followed by *students demonstrating enthusiasm while playing* (27 incidents, 15.70%).

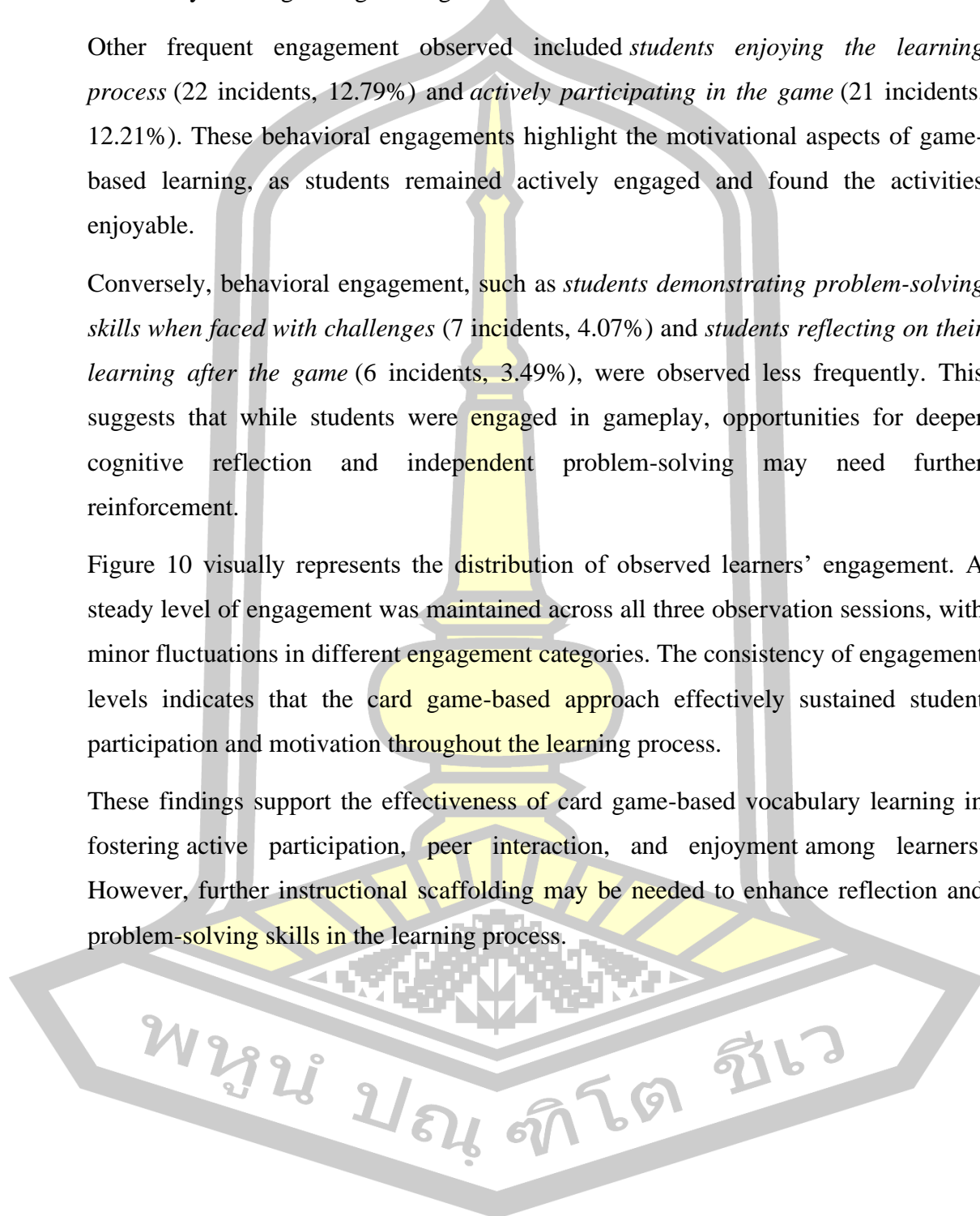
These findings indicate that social interaction was key in fostering engagement in vocabulary learning through card games.

Other frequent engagement observed included *students enjoying the learning process* (22 incidents, 12.79%) and *actively participating in the game* (21 incidents, 12.21%). These behavioral engagements highlight the motivational aspects of game-based learning, as students remained actively engaged and found the activities enjoyable.

Conversely, behavioral engagement, such as *students demonstrating problem-solving skills when faced with challenges* (7 incidents, 4.07%) and *students reflecting on their learning after the game* (6 incidents, 3.49%), were observed less frequently. This suggests that while students were engaged in gameplay, opportunities for deeper cognitive reflection and independent problem-solving may need further reinforcement.

Figure 10 visually represents the distribution of observed learners' engagement. A steady level of engagement was maintained across all three observation sessions, with minor fluctuations in different engagement categories. The consistency of engagement levels indicates that the card game-based approach effectively sustained student participation and motivation throughout the learning process.

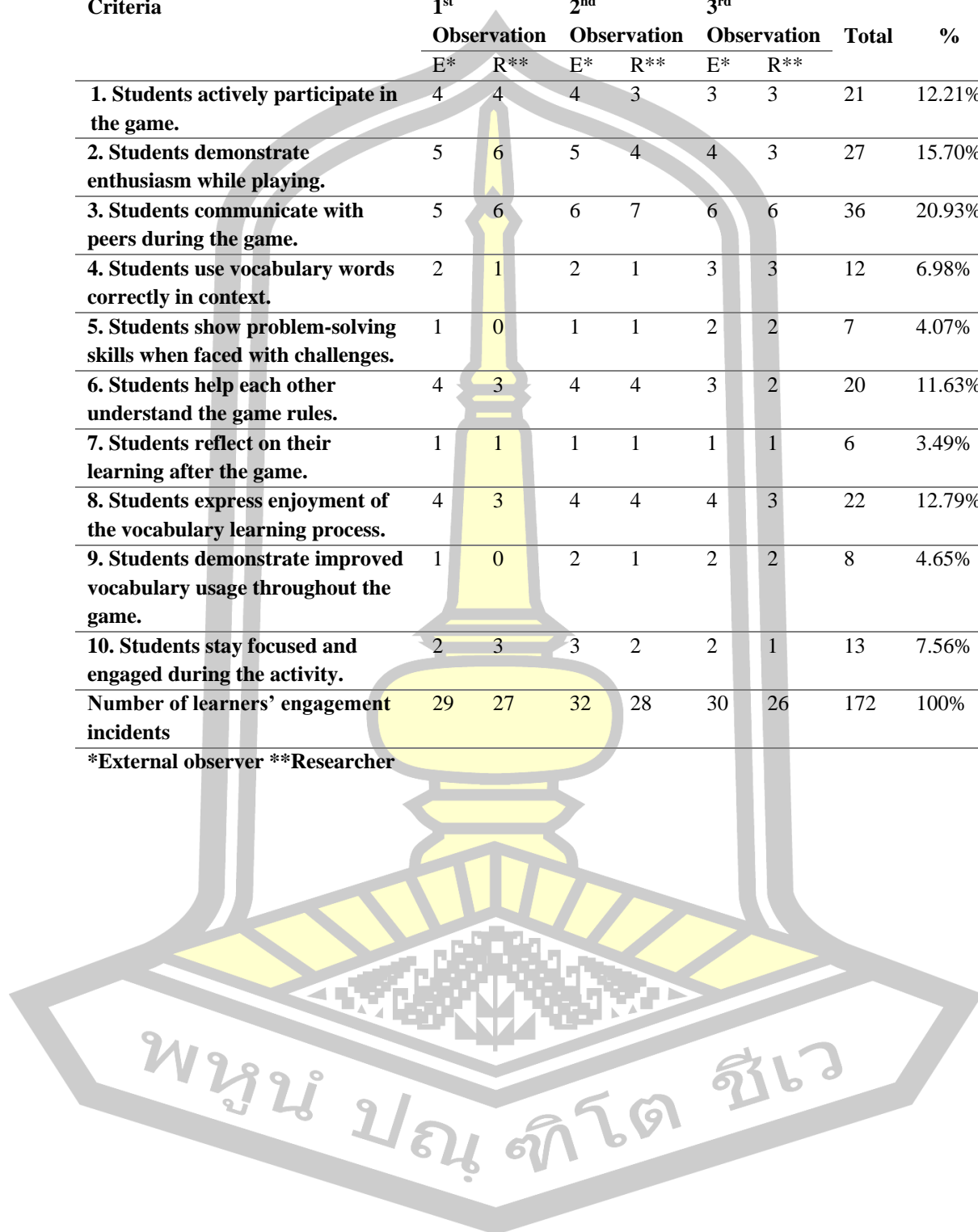
These findings support the effectiveness of card game-based vocabulary learning in fostering active participation, peer interaction, and enjoyment among learners. However, further instructional scaffolding may be needed to enhance reflection and problem-solving skills in the learning process.



**Table 18** Incidents and criteria of observed learners' engagement

Criteria	1 <sup>st</sup>		2 <sup>nd</sup>		3 <sup>rd</sup>		Total	%
	Observation		Observation		Observation			
	E*	R**	E*	R**	E*	R**		
1. Students actively participate in the game.	4	4	4	3	3	3	21	12.21%
2. Students demonstrate enthusiasm while playing.	5	6	5	4	4	3	27	15.70%
3. Students communicate with peers during the game.	5	6	6	7	6	6	36	20.93%
4. Students use vocabulary words correctly in context.	2	1	2	1	3	3	12	6.98%
5. Students show problem-solving skills when faced with challenges.	1	0	1	1	2	2	7	4.07%
6. Students help each other understand the game rules.	4	3	4	4	3	2	20	11.63%
7. Students reflect on their learning after the game.	1	1	1	1	1	1	6	3.49%
8. Students express enjoyment of the vocabulary learning process.	4	3	4	4	4	3	22	12.79%
9. Students demonstrate improved vocabulary usage throughout the game.	1	0	2	1	2	2	8	4.65%
10. Students stay focused and engaged during the activity.	2	3	3	2	2	1	13	7.56%
<b>Number of learners' engagement incidents</b>	<b>29</b>	<b>27</b>	<b>32</b>	<b>28</b>	<b>30</b>	<b>26</b>	<b>172</b>	<b>100%</b>

\*External observer \*\*Researcher



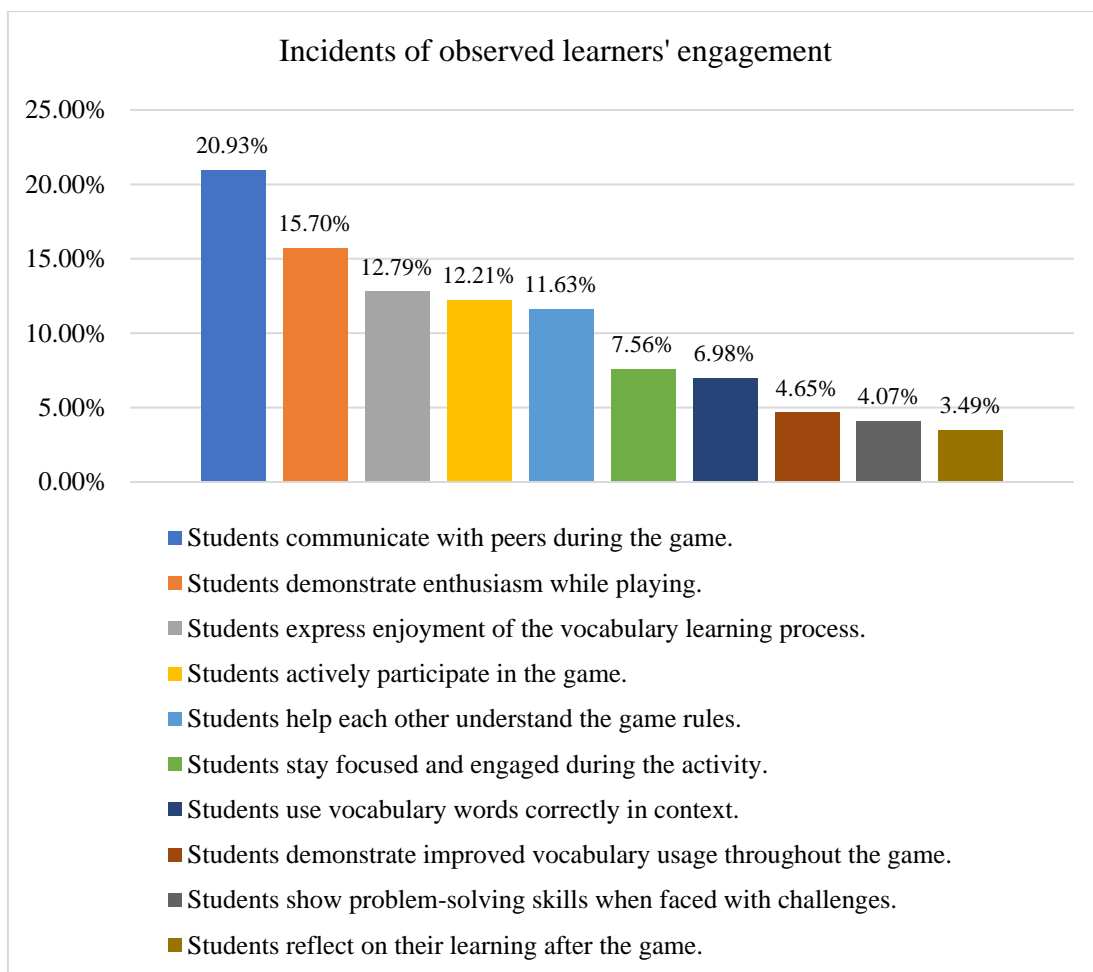


Figure 10 Incidents of observed learners' engagement

### 4.3 The Relationship between Quantitative and Qualitative Results

This section explains how the results from the vocabulary tests (quantitative data) and the findings from the interviews, questionnaires, and classroom observations (qualitative data) support each other and work together to give a full picture of the effects of card game-based vocabulary learning.

The vocabulary test results showed that students in the experimental group improved their vocabulary knowledge more than those in the control group. These improvements were clear in all four types of tests—form-recognition, form-recall, meaning-recognition, and meaning-recall. The students who played vocabulary card games were better able to remember how words looked, how to spell them, what they meant, and how to use them. Even though their scores were slightly lower in the

delayed post-test, they were still much higher than before the intervention. This suggests that card games helped students remember vocabulary for a longer time.

The qualitative findings from interviews, questionnaires, and classroom observations help to explain why these vocabulary improvements happened. For example, many students said they enjoyed playing games, felt excited during the lessons, and liked learning new words in this way. The questionnaire results showed high scores for both behavioral and emotional engagement, such as following game rules, working with friends, paying attention, and feeling happy and confident. These emotional and behavioral responses are important because students who enjoy learning are more likely to pay attention, stay motivated, and remember what they learn.

In the interviews, students shared their personal thoughts and experiences. Some students said they felt more confident using new words after playing the games. Others said they worked harder and helped their friends during group activities. These actions match the behaviors observed during class, where students were seen cooperating with teammates, focusing on the game, and showing enthusiasm. This shows that students were not only doing well in tests but were also engaged during the lessons, which likely helped improve their vocabulary skills.

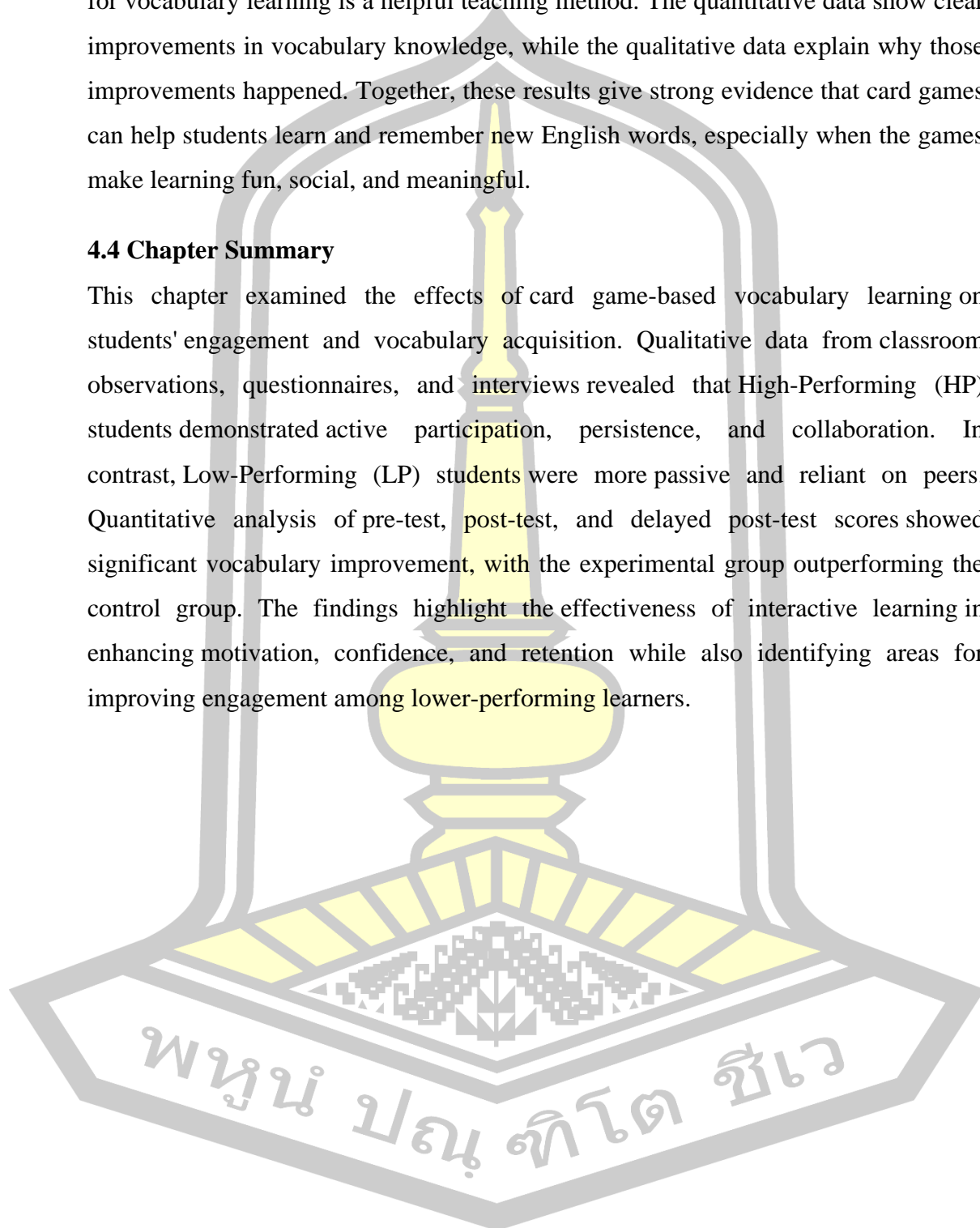
These positive feelings and active behaviors can help explain why the students in the experimental group did better in the tests. When learners are emotionally engaged—meaning they enjoy the activity and feel good about learning—they are more likely to keep trying and to remember the words they learn. Likewise, behavioral engagement—such as participating actively in games, helping others, and trying to use new vocabulary—supports the development of language skills.

The slight drop in scores in the delayed post-test also makes sense when looking at the qualitative results. Some students admitted in the interviews that they did not review the vocabulary outside of class or did not try to remember the words after the lesson. This shows that while card games were effective and enjoyable during the lessons, students may need more support to continue learning and reviewing vocabulary on their own.

Overall, both the test results and the students' reflections show that using card games for vocabulary learning is a helpful teaching method. The quantitative data show clear improvements in vocabulary knowledge, while the qualitative data explain why those improvements happened. Together, these results give strong evidence that card games can help students learn and remember new English words, especially when the games make learning fun, social, and meaningful.

#### **4.4 Chapter Summary**

This chapter examined the effects of card game-based vocabulary learning on students' engagement and vocabulary acquisition. Qualitative data from classroom observations, questionnaires, and interviews revealed that High-Performing (HP) students demonstrated active participation, persistence, and collaboration. In contrast, Low-Performing (LP) students were more passive and reliant on peers. Quantitative analysis of pre-test, post-test, and delayed post-test scores showed significant vocabulary improvement, with the experimental group outperforming the control group. The findings highlight the effectiveness of interactive learning in enhancing motivation, confidence, and retention while also identifying areas for improving engagement among lower-performing learners.



## CHAPTER V

### DISCUSSION AND CONCLUSION

This chapter discusses the findings of the study in relation to the research and the existing literature. The discussion integrates quantitative and qualitative findings on learners' engagement in card game-based vocabulary acquisition, with a focus on behavioral and emotional engagement. The chapter also examines how engagement influences vocabulary knowledge. Finally, the chapter concludes with implications for teaching, study limitations, and recommendations for future research.

#### **5.1 Effects of Card Game-Based Teaching on Vocabulary Acquisition and Retention**

This section discusses the findings of using card game-based teaching on vocabulary acquisition among Thai primary school students. The findings from this study provide compelling evidence that card game-based teaching significantly enhances vocabulary acquisition and retention among Thai primary school students. The quantitative results demonstrated that students in the experimental group outperformed their counterparts in vocabulary learning across form-recognition, form-recall, meaning-recognition, and meaning-recall tests. These findings align with Nation's (2022) assertion that repeated exposure to vocabulary in engaging and meaningful contexts enhances both immediate recall and long-term retention. The substantial improvements observed in the experimental group further reinforce the critical role of active engagement in vocabulary learning, as opposed to passive memorization techniques, which often lead to short-term gains but poor retention.

An analysis of test scores highlights the impact of engagement on learning effectiveness. The form-recognition scores of the experimental group increased by nearly 50%, with only a 4% decline in retention over time, indicating that game-based learning helped solidify vocabulary recognition. While the control group also exhibited improvement, the sustained retention in the experimental group emphasizes the superiority of interactive learning methods over traditional rote learning approaches (Schmitt, 2019). Similarly, in form-recall tasks, the experimental group improved by over 30%, with a minimal 3% decrease over time, demonstrating the

effectiveness of active recall strategies embedded in card games in reinforcing memory retrieval (Finn & Zimmer, 2012; Fredricks et al., 2004).

The impact of meaning-focused interactive learning was particularly evident in meaning-recognition and meaning-recall tests, where students in the experimental group demonstrated nearly a 40% gain with only a 3% drop over time. This suggests that card games create an interactive, meaning-driven learning environment that enhances retention, supporting Ellis's (2010) argument that meaning-focused learning fosters deeper processing and stronger long-term retention. Furthermore, meaning-recall test results confirmed that the experimental group consistently outperformed the control group, reinforcing the Depth of Processing Hypothesis (Schmitt, 2019), which posits that higher cognitive engagement through peer discussion and repetition strengthens recall and retention.

From a cognitive processing perspective on vocabulary acquisition and retention, the overall performance analysis across all test measures further underscores the effectiveness of game-based vocabulary instruction. The experimental group's scores improved nearly 40%, with only a slight drop over time. Although the control group also exhibited vocabulary gains, the experimental group significantly outperformed them, suggesting that interactive learning methods promote stronger retention by engaging multiple cognitive processes simultaneously. These findings align with Mayer's (2011) Cognitive Theory of Multimedia Learning, which highlights that learning experiences integrating visual, auditory, and kinesthetic elements lead to deeper cognitive processing and enhanced retention.

Additionally, the substantial gains in form-recognition and meaning-recognition tasks reinforce the importance of repeated exposure to vocabulary through engaging activities. Nation (2022) emphasizes that vocabulary acquisition is most effective when learners repeatedly encounter words in varied and meaningful contexts, and the results of this study provide empirical support for this principle. Moreover, the Engagement Framework (Fredricks et al., 2004) highlights the role of behavioral, emotional, and cognitive engagement in enhancing learning outcomes, which was evident in the experimental group's structured gameplay, explanation, repetition, and

application of words in different contexts. This deep vocabulary processing contributed to stronger retention and recall over time.

According to the learner engagement framework, beyond cognitive benefits, the study underscores the importance of balancing competition and collaboration in game-based learning. While competition motivated many students to perform better, some experienced stress, which slightly impacted their performance. This aligns with Young and Wang's (2014) findings, which suggest that competition in educational settings can either enhance or hinder engagement depending on individual emotional responses.

Furthermore, emotional engagement played a crucial role in vocabulary retention. Students who reported enjoying the games and feeling motivated performed significantly better on post-tests, reinforcing Ge and Ifenthaler's (2017) argument that emotional engagement strengthens cognitive connections and improves academic outcomes. Conversely, students who experienced anxiety due to competitive elements exhibited slightly lower retention scores, suggesting that an optimal balance between collaboration and competition is essential to maximize engagement and learning effectiveness.

Overall, the study provides strong empirical evidence for the effectiveness of card games as a vocabulary instruction strategy. The statistically significant improvements in vocabulary acquisition and retention among the experimental group confirm that interactive, game-based learning enhances students' ability to process, retain, and recall vocabulary. Additionally, the positive impact of emotional and social engagement on learning outcomes underscores the need for well-structured, interactive vocabulary activities that foster motivation, deeper learning, and long-term retention. These findings contribute to the growing body of research advocating innovative, student-centered approaches to vocabulary learning in EFL classrooms, reinforcing the value of active, engaging, and interactive instructional methods.

## 5.2 Learners' Behavioral and Emotional Engagement in Card Game-Based Vocabulary Acquisition

The findings from this study provide compelling evidence that card game-based vocabulary learning fosters strong behavioral and emotional engagement among Thai primary school students. Behavioral engagement was reflected in students' active participation, willingness to collaborate, and adherence to game rules. In contrast, emotional engagement was evident through their enthusiasm, motivation, and enjoyment of the learning process. These findings align with research emphasizing the role of engagement in enhancing vocabulary acquisition and overall academic performance (Ellis, 2010; Nation, 2022). The results also support Fredricks et al.'s (2004) framework, which highlights behavioral and emotional engagement as key factors in learning success.

Regarding behavioral engagement, students exhibited high levels of behavioral engagement throughout the study. Classroom observations revealed that learners were eager to participate in the card games, frequently volunteering for turns, assisting teammates, and celebrating correct answers. Many initially passive students gradually became more engaged as they gained confidence in their vocabulary knowledge. These findings reinforce Ellis's (2010) argument that engagement in language tasks fosters active participation, leading to improved vocabulary acquisition. Furthermore, students who actively discussed word meanings and formed sentences using target vocabulary demonstrated higher retention rates in post-test assessments, supporting Nation's (2022) findings on meaning-focused learning.

The structured yet interactive nature of the card game also minimized off-task behavior, as students remained focused and engaged with their peers. The team-based format encouraged collaboration, reinforcing Vygotsky's (1978) socio-cultural theory, which underscores the importance of peer interaction in language learning. The collaborative nature of the activity allowed students to negotiate meaning, support one another, and deepen their understanding of vocabulary concepts. One student highlighted this aspect, stating, "*My friends always ask me to explain the meanings of words*" (S03), while another added, "*Not only explain the meanings of words, I also explain the rules for my teammates*" (S03). These statements suggest that peer-

assisted learning reinforced vocabulary retention and encouraged leadership and teamwork.

Furthermore, students demonstrated commitment to learning by adhering to game rules and consistent participation. Questionnaire data revealed that all students reported following game rules, while almost all students paid close attention to vocabulary during gameplay. However, fewer students reported using the learned words in speaking or writing outside the classroom, indicating a potential area for instructional improvement. These findings align with Fredricks et al. (2004), who emphasized that behavioral engagement strongly predicts academic success, particularly when students are actively involved in learning tasks.

Concerning motivation and enjoyment of acquiring vocabulary through card game-based vocabulary learning, emotional engagement was a key factor in the effectiveness of the intervention, as students consistently expressed enthusiasm and motivation toward vocabulary learning through card games. Interviews revealed overwhelmingly positive responses, with 100% of students reporting that they enjoyed learning vocabulary through games. One student stated, *"I like that we don't just sit and study. The teacher lets us do activities"* (S02), while another emphasized, *"I feel happy when we play vocabulary card games"* (S01). These statements underscore the importance of interactive learning approaches in fostering engagement and making vocabulary acquisition more enjoyable.

The competitive element of the card games further heightened engagement. Several students indicated that competition increased their excitement and motivation to participate. One student remarked, *"I feel more excited when it comes to competition"* (S04), while another stated, *"I am so happy to be the winner"* (S02). Moreover, rewards and team-based challenges encouraged students to perform better, with one learner noting, *"I am so excited when the teacher gives rewards. So, my group tries to earn good scores to get a reward"* (S02). These findings align with Abdul Jabbar and Felicia (2015), who argue that competition, rewards, and interactive feedback sustain learners' interest and encourage deeper vocabulary processing.

Despite the overwhelmingly positive emotional engagement, a small percentage of students experienced anxiety due to competition. For instance, one student shared, *"I*

*sometimes felt anxious while playing vocabulary card games because I wanted to win” (S04).* This supports the argument by Young and Wang (2014) that competition can either enhance or hinder engagement, depending on individual emotional responses. The study suggests balancing competition and collaboration in game-based learning is essential to accommodate different learning styles and emotional responses.

The study’s findings highlight a direct link between engagement and vocabulary retention. Students who actively participated in gameplay, explained vocabulary to peers, and engaged in discussions showed higher post-test accuracy and stronger recall. One student noted, *“I feel more confident recalling the words I learned when I do the post-test” (S01)*, while another remarked, *“I think that when I’m happy while learning, the results turn out better than before” (S03)*. These excerpts align with Plass et al. (2015), who found that positive emotions during learning enhance memory retention and motivation, ultimately leading to better long-term learning outcomes.

The study also reinforces Schmitt’s (2019) Depth of Processing Hypothesis, which posits that deeper cognitive engagement—such as peer discussion and repetition—enhances recall and retention. Students who frequently explained vocabulary to teammates or repeated words aloud demonstrated increased recall accuracy in post-tests. The findings also support the Engagement Framework (Fredricks et al., 2004), which suggests that a combination of behavioral, emotional, and cognitive engagement leads to stronger academic performance.

Additionally, the observed collaborative nature of engagement aligns with socio-cultural perspectives on language learning (Vygotsky, 1978). The scaffolding provided by peers allowed students to internalize vocabulary at a deeper level, reinforcing previous research suggesting that students who learn vocabulary in interactive contexts retain words more effectively (Nazemi & Rezvani, 2019).

Integrating classroom observations, interviews, and questionnaire data provides strong evidence that card game-based vocabulary acquisition fosters both behavioral and emotional engagement. Students actively participated in gameplay, collaborated with peers, and demonstrated strong motivation toward vocabulary learning, supporting previous research on engagement-based learning approaches (Schmitt, 2019; Nation,

2022). While competition played a crucial role in engagement, the findings highlight the need for balancing competitive and cooperative elements to accommodate diverse learner needs.

This study underscores the effectiveness of game-based learning as a strategy for enhancing vocabulary acquisition, retention, and motivation in EFL classrooms. The findings suggest that educators should integrate structured, interactive learning activities that encourage engagement while minimizing anxiety-inducing elements. By doing so, teachers can create a more supportive and enjoyable vocabulary learning environment that fosters deeper learning and long-term retention.

### **5.3 Implications of the Study**

This study clearly shows that when card games are used as part of vocabulary lessons, students become more involved, focused, and emotionally invested in their learning. One of the key implications is the need to incorporate structured gameplay into vocabulary instruction. The study demonstrated that students in the experimental group significantly outperformed those in the control group across all test measures, highlighting the role of interactive learning in reinforcing vocabulary knowledge. In practical terms, this means that teachers should not only use games occasionally but design them as part of a well-planned vocabulary teaching sequence. Teachers should integrate card games into their lessons to create dynamic and engaging learning environments, allowing students to practice vocabulary in meaningful and memorable contexts. Additionally, game-based activities enhance motivation and concentration, providing students with an immersive and enjoyable alternative to traditional vocabulary instruction (Hwang et al., 2016; Vos et al., 2011).

Another crucial implication is the importance of addressing individual differences in emotional engagement. While competition was found to be a strong motivator for some students, it also induced anxiety in others. Teachers should balance competitive and cooperative elements in game-based learning to ensure that all learners can participate comfortably. Various game formats, such as team-based play, collaborative challenges, or non-competitive options, can help accommodate different learning preferences. This approach aligns with socio-cultural learning theories, which emphasize the role of peer interaction and social collaboration in language learning

(Vygotsky, 1978). Teachers should consider rotating different game modes or allowing students to choose how they want to play, which can help reduce stress while maintaining motivation.

Additionally, this study reinforces the need for game-based and social learning approaches in EFL instruction. Educators can enhance vocabulary recognition, recall, and retention by engaging students in collaborative, interactive tasks while fostering a positive classroom environment. Games provide a low-pressure setting where students can experiment with language, negotiate meaning, and receive immediate feedback, all of which are essential for language acquisition. Research suggests that learners who actively engage with vocabulary through social and interactive contexts exhibit stronger retention and application of words in real-life communication (Nation, 2022; Schmitt, 2019). Implementing such approaches does not require advanced technology or expensive materials—simple printed cards and clear rules are sufficient to transform classroom dynamics.

Furthermore, the study highlights the importance of supporting struggling learners through engaging, stress-free instructional methods. Many students experience difficulty retaining vocabulary due to traditional passive learning approaches, which rely heavily on memorization without meaningful interaction. Card game-based learning provides an alternative by reducing learning anxiety and increasing motivation, making it an effective tool for students who struggle with language learning (Finn & Zimmer, 2012; Rumberger, 1983). In particular, students with lower proficiency levels benefit from repeated exposure in an enjoyable format, which helps build confidence over time. Educators should consider implementing interactive learning strategies that cater to different proficiency levels and provide sufficient scaffolding to support all students.

Beyond vocabulary acquisition, the findings also suggest that game-based learning strengthens communication and social interaction skills. Through collaborative gameplay, students engage in peer discussions, negotiate word meanings, and practice language in an authentic setting. These elements contribute to developing essential communicative skills, which are often overlooked in traditional vocabulary instruction (Derakhshan & Khatir, 2015; Goerss et al., 1999; Lukas et al., 2020). By fostering

teamwork and peer-assisted learning, card games encourage students to become active participants in their learning process, leading to deeper language comprehension and retention. This also aligns with real-world communication, where learners must work with others to solve problems, share ideas, and clarify meaning—skills that games naturally promote.

The implications of this study emphasize the need for engaging, student-centered learning approaches in EFL vocabulary instruction. The findings suggest that integrating card game-based activities into teaching practices can significantly enhance vocabulary acquisition, retention, and motivation. Educators should design interactive and structured vocabulary tasks that encourage active participation, peer collaboration, and meaningful language use. Furthermore, balancing competition and cooperation is essential to ensure that all learners, regardless of proficiency level or learning preference, can benefit from an interactive and supportive classroom environment. When used thoughtfully, card games can become powerful teaching tools—not only for vocabulary learning but also for creating positive classroom experiences where students feel safe, motivated, and ready to learn.

#### **5.4 Limitations of the Study and Suggestions for Future Research**

While this study provides valuable insights into the effectiveness of card game-based vocabulary learning, several limitations should be acknowledged. First, the sample size was relatively small, as it focused on a single primary school in Thailand. The findings, while significant, may not be fully generalizable to broader EFL contexts or different educational settings. Future research should expand the scope by including a larger and more diverse sample, encompassing students from multiple schools, varied age groups, and different proficiency levels. This would enhance the reliability and applicability of the findings to a wider population.

Second, this study examined behavioral and emotional engagement in game-based vocabulary learning. While these factors are crucial in shaping learners' experiences and motivation, cognitive engagement, which involves mental effort, critical thinking, and problem-solving skills, was not explicitly analyzed. Future research should investigate the cognitive aspects of engagement to provide a more comprehensive understanding of how game-based learning enhances deeper vocabulary processing

and retention. Additionally, longitudinal studies could assess the long-term effects of card game-based learning, determining whether the observed vocabulary gains persist over time.

Furthermore, this study did not extensively explore individual differences in learner characteristics. Factors such as personality traits, learning styles, and prior exposure to games could influence how students engage with game-based vocabulary learning. Future research could examine the impact of these individual differences on engagement and learning outcomes, offering insights into how educators can tailor game-based activities to suit diverse learner needs. Additionally, further studies could compare different types of educational games to determine which game-based approaches are most effective for vocabulary acquisition in EFL settings.

Lastly, this study relied on a structured intervention within a controlled classroom setting, limiting its ability to assess the effectiveness of game-based learning in more informal or self-directed environments. Future research could explore how students engage with card games in independent or technology-enhanced learning settings, such as digital vocabulary games, mobile applications, or blended learning models. Investigating technology integration with game-based learning could provide insights into how digital and traditional game-based methods can complement each other in language instruction.

### **5.5 Conclusion of the Study**

This study investigated the impact of card game-based teaching on Thai primary school students' vocabulary acquisition and retention while also exploring how learners exhibit behavioral and emotional engagement in game-based vocabulary learning. The findings prove that integrating interactive and engaging instructional strategies can significantly enhance vocabulary recognition, recall, and retention among young EFL learners.

For RQ1, the results indicate that card game-based teaching improves vocabulary acquisition and retention. Students in the experimental group significantly outperformed those in the control group across all test measures, with notable improvements in form-recognition, form-recall, meaning-recognition, and meaning-recall tasks. Furthermore, delayed post-test results demonstrated that students retained

more vocabulary knowledge over time, reinforcing the argument that active and meaningful learning experiences strengthen long-term memory (Nation, 2022; Schmitt, 2019). These findings suggest that repeated exposure, peer interaction, and gameplay enhance vocabulary learning.

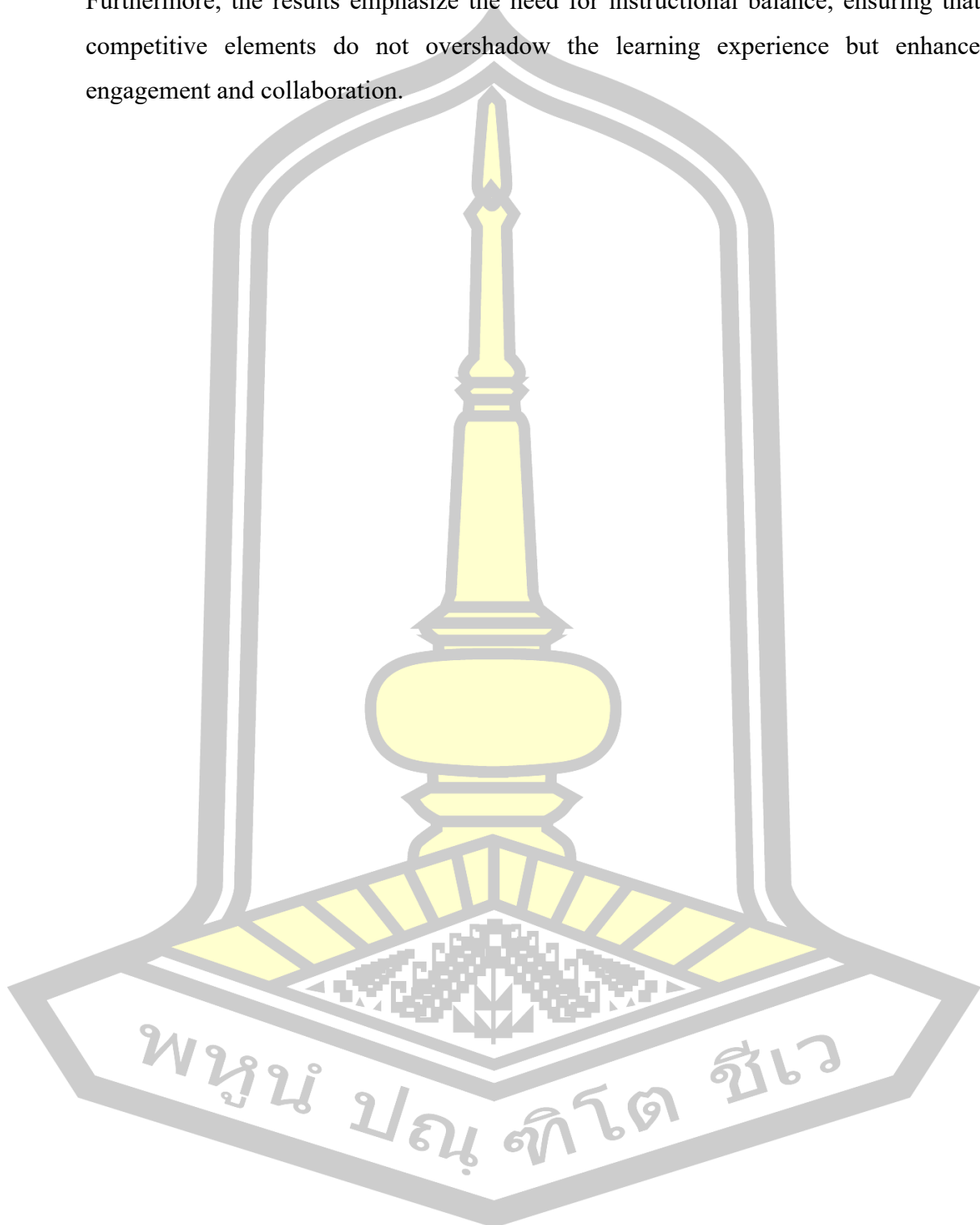
Additionally, the study confirms that card game-based learning fosters deeper cognitive engagement by encouraging learners to actively process, retrieve, and apply vocabulary in multiple contexts. Compared to rote memorization and traditional vocabulary instruction, card games provide an interactive platform where students reinforce vocabulary knowledge dynamically and engagingly, leading to higher retention rates and stronger vocabulary acquisition.

Regarding RQ2, the findings also highlight the critical role of behavioral and emotional engagement in vocabulary acquisition. Students in the experimental group actively participated in gameplay, engaged in team discussions, and demonstrated enthusiasm for the competitive aspects of the learning activity. Behavioral engagement was reflected in their willingness to follow game instructions, collaborate with teammates, and actively participate in learning. Emotional engagement was evident through students' expressions of excitement, enjoyment, and motivation, reinforcing that learning environments that incorporate fun and interactive elements foster greater enthusiasm for vocabulary learning (Finn & Zimmer, 2012; Fredricks et al., 2004).

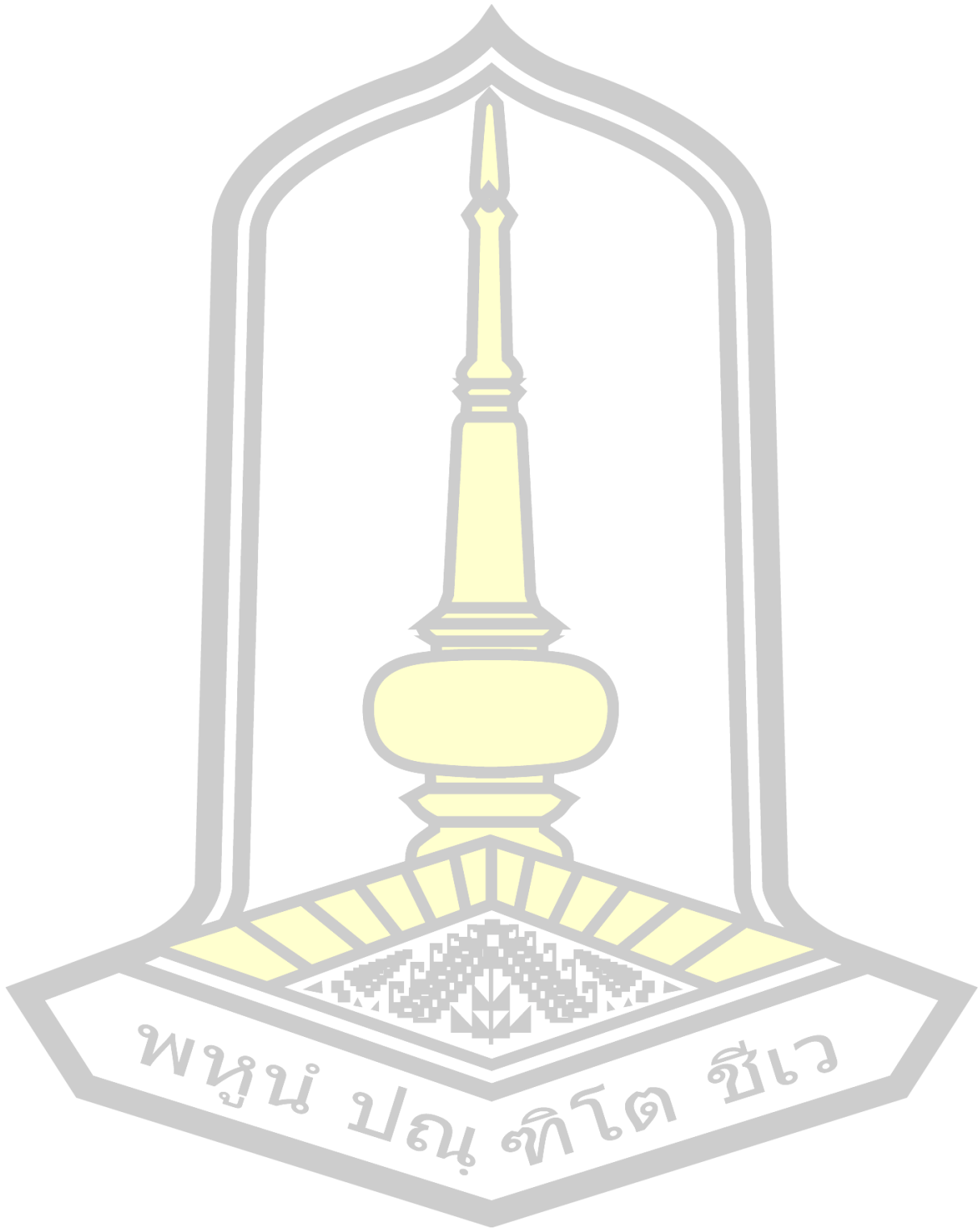
However, while competition and rewards played a motivational role for many students, some participants reported experiencing anxiety or pressure to perform. This suggests that the emotional impact of game-based learning varies among individuals, highlighting the need for balanced instructional approaches that maximize engagement while minimizing stress or negative emotions. The findings underscore the importance of structuring game-based learning environments to include both competitive and cooperative elements, ensuring that all students benefit from the instructional approach regardless of confidence level or learning style.

In conclusion, this study provides strong empirical support for using card games as a beneficial strategy for vocabulary instruction in EFL settings. The positive impact on vocabulary retention, engagement, and motivation suggests educators should consider

integrating interactive, game-based learning techniques into language instruction. Furthermore, the results emphasize the need for instructional balance, ensuring that competitive elements do not overshadow the learning experience but enhance engagement and collaboration.



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## REFERENCES

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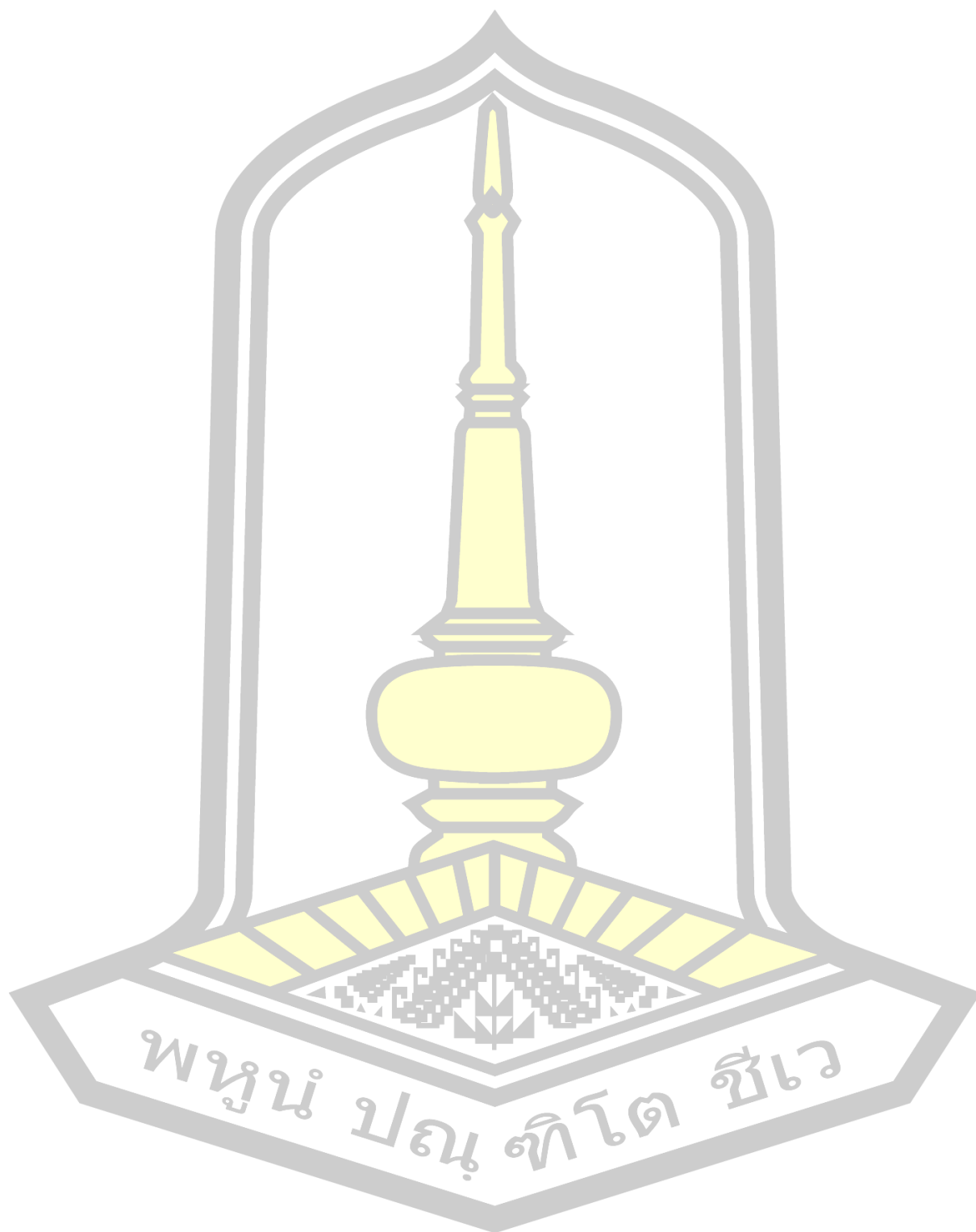
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APPENDICES

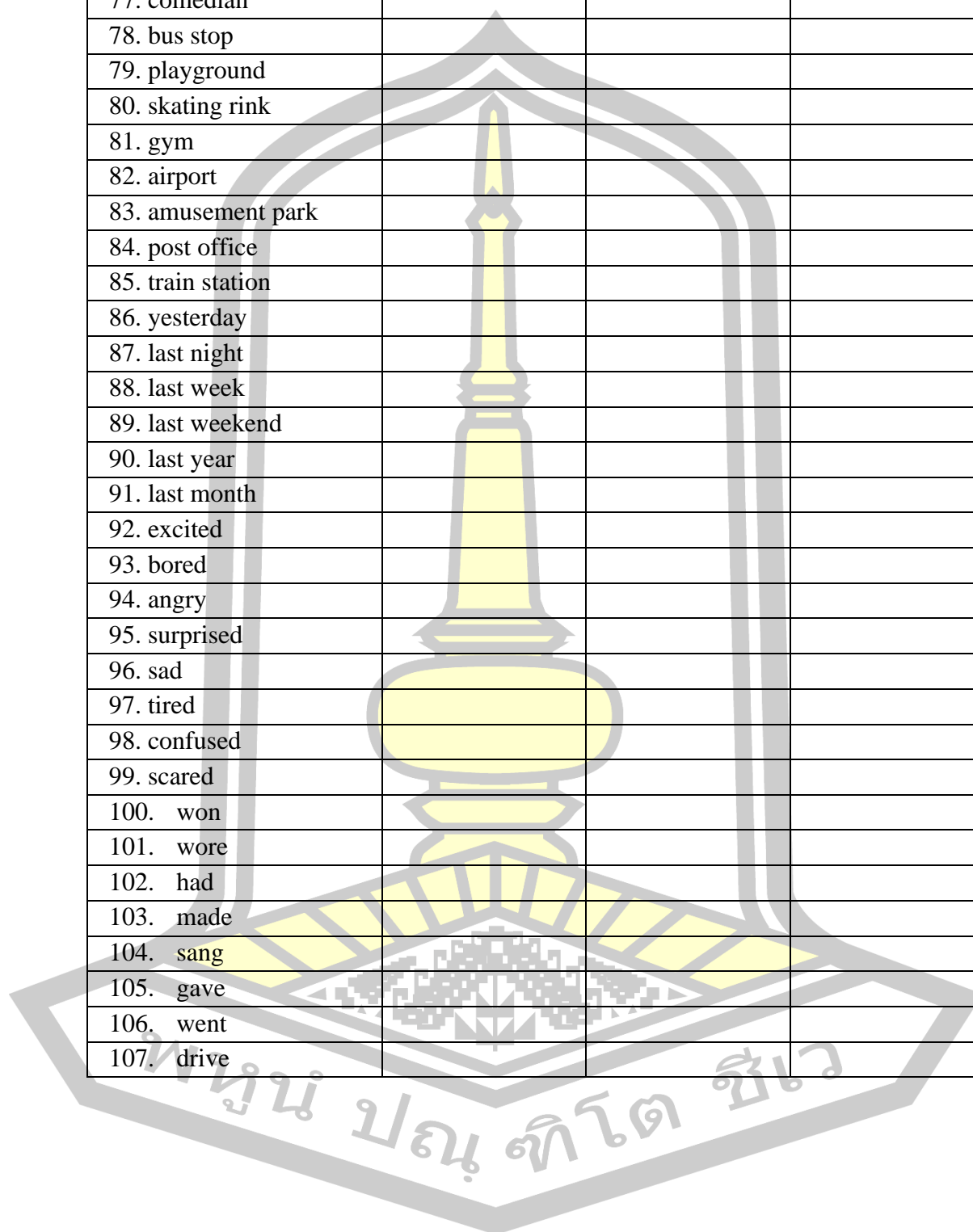


### Appendix A: English Vocabulary Checklist Test

words	Known word	Unknown word	Meaning
1. necklace			
2. earrings			
3. watch			
4. glasses			
5. keys			
6. cell phone			
7. wallet			
8. money			
9. music stand			
10. violin case			
11. harmonica			
12. drumsticks			
13. keyboard			
14. microphone			
15. car			
16. taxi			
17. bus			
18. subway			
19. train			
20. airplane			
21. boat			
22. helicopter			
23. hair salon			
24. pet store			
25. mall			
26. arcade			
27. bookstore			
28. food court			
29. basketball player			
30. astronaut			
31. mechanic			
32. carpenter			
33. computer programmer			
34. writer			
35. scientist			
36. photographer			
37. concert			

words	Known word	Unknown word	Meaning
38. ticket			
39. costume			
40. museum			
41. tour guide			
42. dinosaur			
43. elevator			
44. gift shop			
45. exhibit			
46. cafeteria			
47. aquarium			
48. tomorrow			
49. next week			
50. next year			
51. cute			
52. ugly			
53. small			
54. fat			
55. thin			
56. strong			
57. weak			
58. noisy			
59. quiet			
60. fast			
61. slow			
62. friendly			
63. mean			
64. dangerous			
65. unusual			
66. beautiful			
67. intelligent			
68. powerful			
69. colorful			
70. talented			
71. interesting			
72. ballerina			
73. tap dancer			
74. violinist			
75. acrobat			
76. juggler			

words	Known word	Unknown word	Meaning
77. comedian			
78. bus stop			
79. playground			
80. skating rink			
81. gym			
82. airport			
83. amusement park			
84. post office			
85. train station			
86. yesterday			
87. last night			
88. last week			
89. last weekend			
90. last year			
91. last month			
92. excited			
93. bored			
94. angry			
95. surprised			
96. sad			
97. tired			
98. confused			
99. scared			
100. won			
101. wore			
102. had			
103. made			
104. sang			
105. gave			
106. went			
107. drive			



**Appendix B: The Form-Recognition Test**

Instructions: Look at the pictures and choose the correct items.

1.



- 1. cell phone
- 2. wallet
- 3. necklace
- 4. watch

4.



- a) helicopter
- b) car
- c) airplane
- d) bicycle

2.



- a) music stand
- b) drumsticks
- c) microphone
- d) keyboard

5.



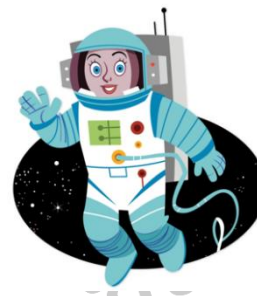
- a) hair salon
- b) pet store
- c) bookstore
- d) food court

3.



- a) subway
- b) boat
- c) taxi
- d) train

6.



- a) scientist
- b) astronaut
- c) photographer
- d) mechanic



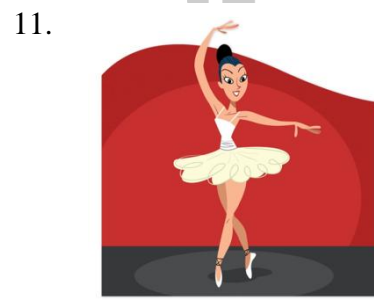
- a) concert
- b) ticket
- c) costume
- d) cinema



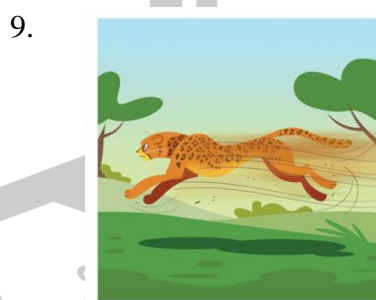
- a) unusual
- b) dangerous
- c) intelligent
- d) powerful



- a) museum
- b) gift shop
- c) cafeteria
- d) aquarium



- a) comedian
- b) ballerina
- c) juggler
- d) tap dancer

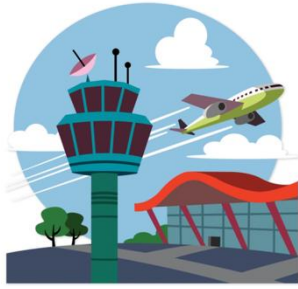


- a) strong
- b) weak
- c) fast
- d) slow



- a) amusement park
- b) skating rink
- c) playground
- d) train station

13.



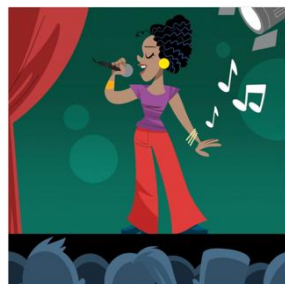
- a) gym
- b) post office
- c) hospital
- d) airport

14.



- a) bored
- b) tired
- c) confused
- d) scared

15.



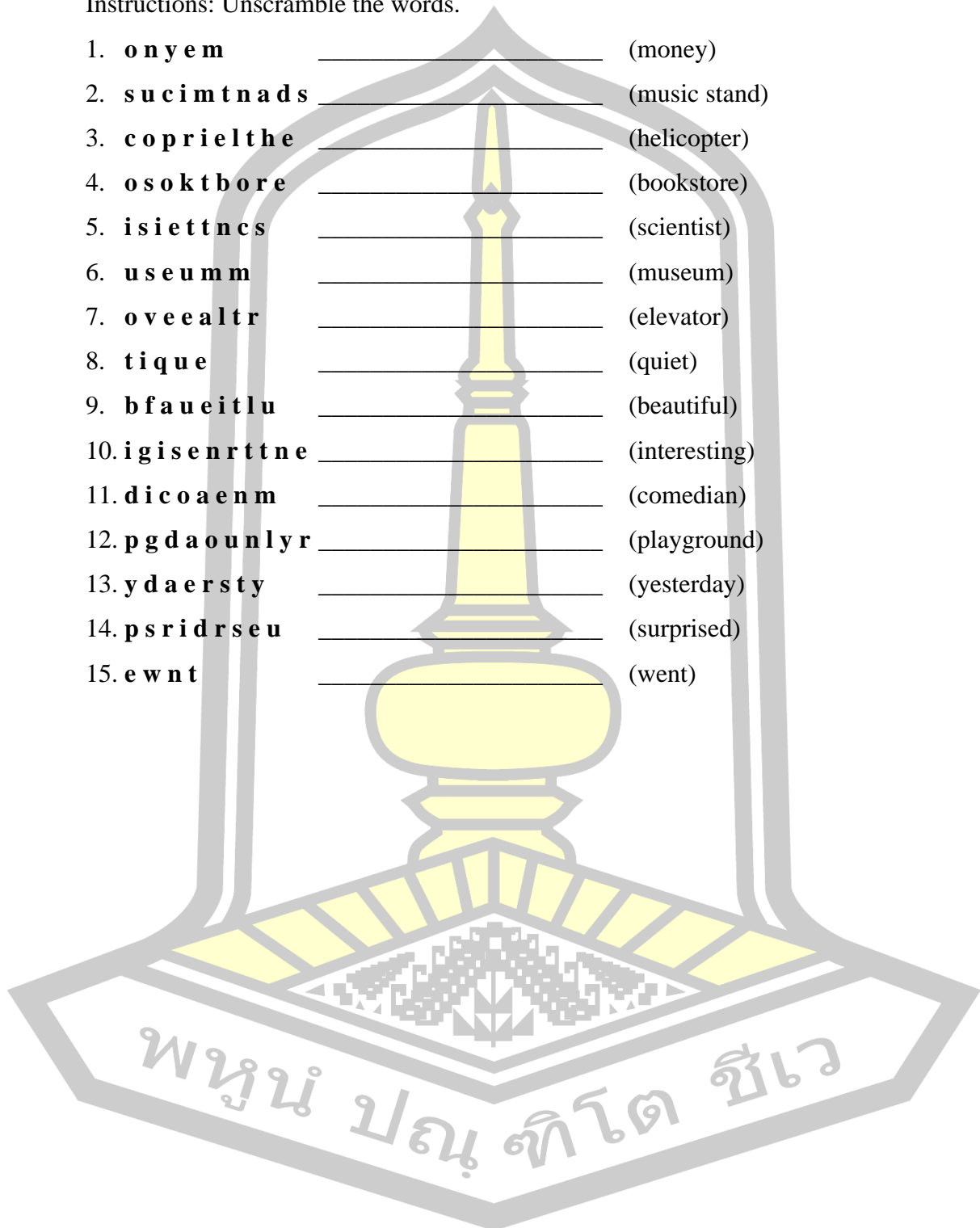
- a) won
- b) gave
- c) went
- d) sang

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### Appendix C: The Form-Recall Test

Instructions: Unscramble the words.

- |                                  |       |               |
|----------------------------------|-------|---------------|
| 1. <b>o n y e m</b>              | _____ | (money)       |
| 2. <b>s u c i m t n a d s</b>    | _____ | (music stand) |
| 3. <b>c o p r i e l t h e</b>    | _____ | (helicopter)  |
| 4. <b>o s o k t b o r e</b>      | _____ | (bookstore)   |
| 5. <b>i s i e t t n c s</b>      | _____ | (scientist)   |
| 6. <b>u s e u m m</b>            | _____ | (museum)      |
| 7. <b>o v e e a l t r</b>        | _____ | (elevator)    |
| 8. <b>t i q u e</b>              | _____ | (quiet)       |
| 9. <b>b f a u e i t l u</b>      | _____ | (beautiful)   |
| 10. <b>i g i s e n r t t n e</b> | _____ | (interesting) |
| 11. <b>d i c o a e n m</b>       | _____ | (comedian)    |
| 12. <b>p g d a o u n l y r</b>   | _____ | (playground)  |
| 13. <b>y d a e r s t y</b>       | _____ | (yesterday)   |
| 14. <b>p s r i d r s e u</b>     | _____ | (surprised)   |
| 15. <b>e w n t</b>               | _____ | (went)        |



### Appendix D: The Meaning-Recognition Test

Instructions: Look at the words and choose the correct meanings.

1. **necklace**

- a) แหวน
- b) หมวก
- c) สร้อยคอ\*
- d) กำไลข้อมือ

2. **drumsticks**

- a) ไมโครโฟน
- b) กีตาร์
- c) ไม้กลอง\*
- d) เปียโน

3. **train**

- a) รถเมล์
- b) รถไฟ\*
- c) รถยนต์
- d) เครื่องบิน

4. **pet store**

- a) ร้านขายอาหาร
- b) ร้านขายเสื้อผ้า
- c) ร้านขายสัตว์เลี้ยง\*
- d) ร้านหนังสือ

5. **food court**

- a) โรงแรม
- b) โรงอาหาร\*
- c) สนามเด็กเล่น
- d) ร้านขายเสื้อผ้า

6. **basketball player**

- a) นักบาสเกตบอล\*
- b) นักว่ายน้ำ
- c) นักฟุตบอล
- d) นักวิ่ง

7. **writer**

- a) นักเขียน\*
- b) นักแสดง
- c) นักเต้น
- d) นักดนตรี

8. **tour guide**

- a) ช่างภาพ
- b) นักร้อง
- c) พนักงานโรงแรม
- d) มัคคุเทศก์\*

9. **friendly**

- a) เป็นมิตร\*
- b) น่าเบื่อ
- c) โกรธ
- d) เศร้า

10. **talented**

- a) เหนื่อย
- b) มีพรสวรรค์\*
- c) ซื่อซาย
- d) ขี้เกียจ

11. **post office**

- a) โรงเรียน
- b) โรงพยาบาล
- c) ที่ทำการไปรษณีย์\*
- d) ซูเปอร์มาร์เก็ต

12. **last night**

- a) เมื่อเช้า
- b) พู้งี้
- c) สัปดาห์หน้า
- d) เมื่อคืนนี้\*

## 13. scared

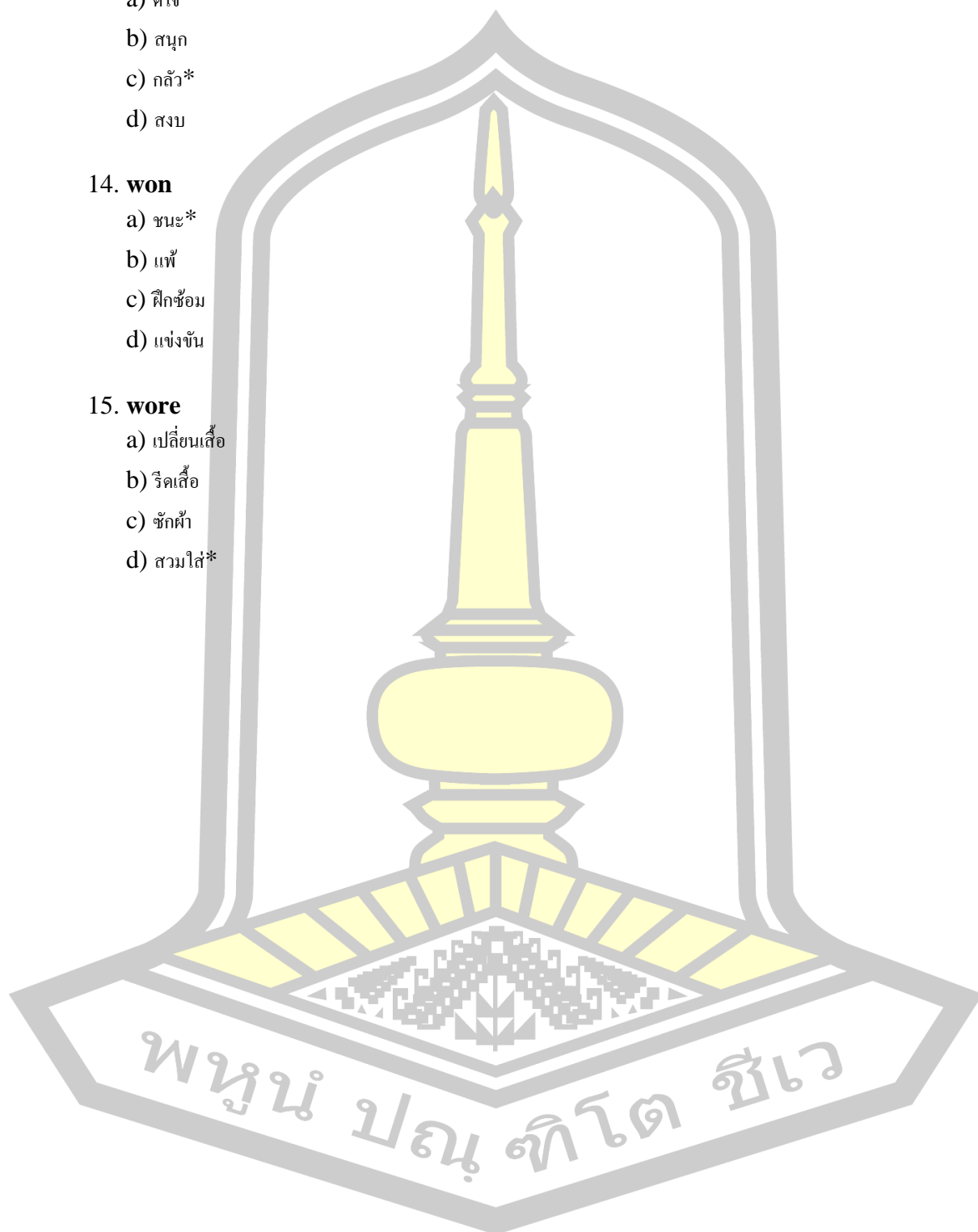
- a) ดีใจ
- b) สนุก
- c) กลัว\*
- d) สงบ

## 14. won

- a) ชนะ\*
- b) แพ้
- c) ผูกซ้อม
- d) แข่งขัน

## 15. wore

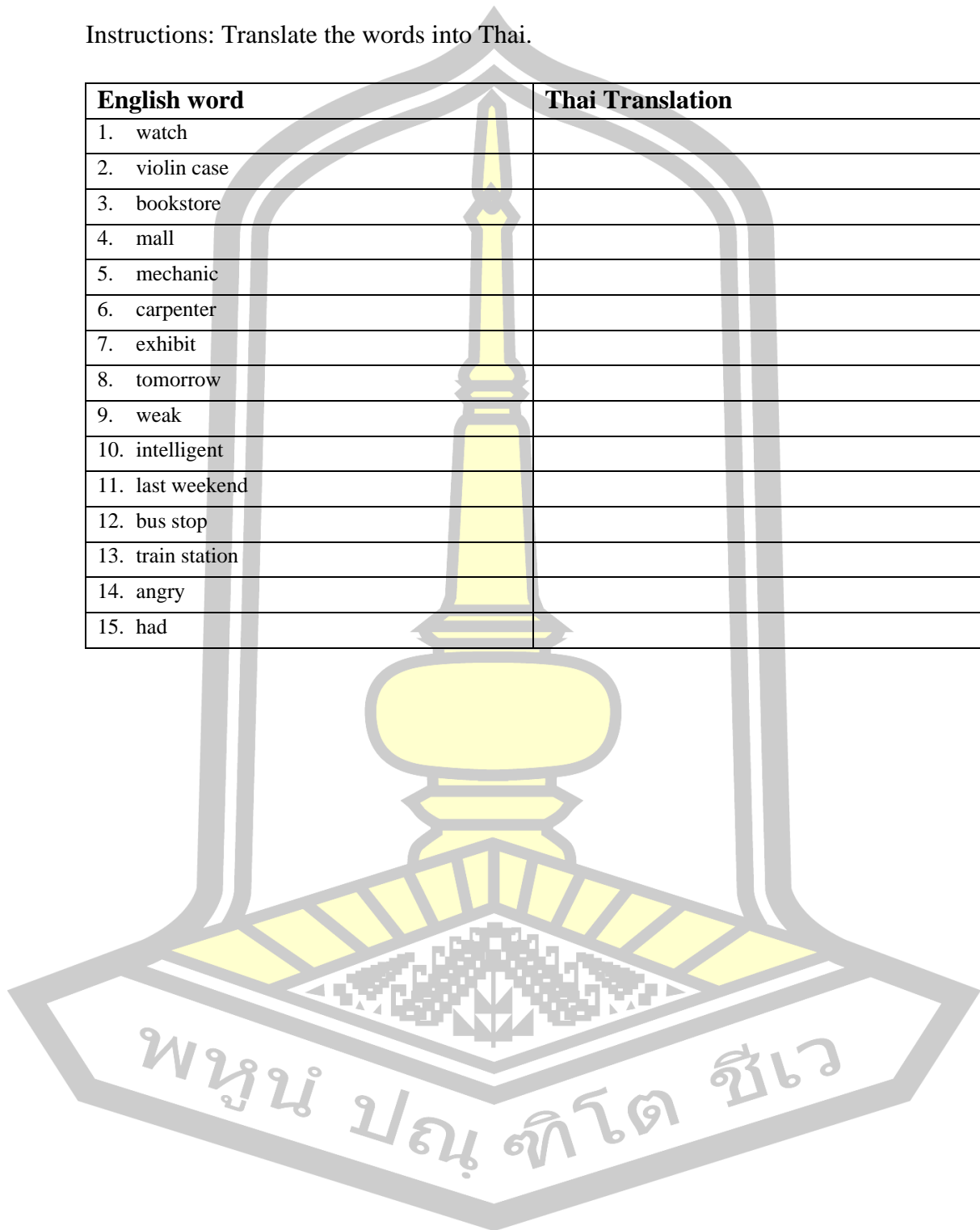
- a) เปลี่ยนเสื้อผ้า
- b) รีดเสื้อผ้า
- c) ซักผ้า
- d) สวมใส่\*



### Appendix E: The Meaning-Recall Test

Instructions: Translate the words into Thai.

English word	Thai Translation
1. watch	
2. violin case	
3. bookstore	
4. mall	
5. mechanic	
6. carpenter	
7. exhibit	
8. tomorrow	
9. weak	
10. intelligent	
11. last weekend	
12. bus stop	
13. train station	
14. angry	
15. had	



## Appendix F: Survey Questionnaire: Learning Vocabulary with Card Games

Dear Students,

This questionnaire is designed to help us understand how you feel and behave when you learn new English words using card games. There are no right or wrong answers – just choose the answers that best describe you.

### Part 1: Behavioral Engagement

Please choose the answer that shows how often you do these things during card-game-based vocabulary learning

1 = Never    2 = Rarely    3 = Sometimes    4 = Often    5 = Always

Statements	Your Answers				
	1	2	3	4	5
1. I try my best to play the card games during vocabulary lessons.					
2. I pay attention to the words in the card games.					
3. I follow the rules of the game while playing.					
4. I help my friends understand words when we play.					
5. I try to remember the words from the card games.					
6. I use the words I learned from the games when I speak or write in English.					

### Part 2: Emotional Engagement

Please choose the answer that shows how you feel during card game-based vocabulary learning.

1 = Strongly Disagree

2 = Disagree

3 = Not Sure

4 = Agree

5 = Strongly Agree

Statements	Your Answers				
	1	2	3	4	5
7. I enjoy learning new words by playing card games.					
8. I feel happy when we play vocabulary card games.					
9. I feel more confident about the words I learn after playing the card games.					
10. I feel excited to learn new words with card games.					
11. I feel proud when I use the words I learned from the games.					
12. Playing card games makes learning new words fun for me.					

### Part 3: Open Questions

Please answer these questions by writing a few words or sentences.

1. What do you like the most about learning new words with card games?
2. How do the card games help you remember the new words?
3. How do you feel when you learn new words using card games compared to other ways of learning?
4. Do you think card games make learning new words easier? Why or Why not?

### แบบสอบถาม: การเรียนรู้คำศัพท์ด้วยเกมการ์ด

ถึง นักเรียนทุกคน

แบบสอบถามนี้จัดทำขึ้นเพื่อช่วยเราเข้าใจความรู้สึกและพฤติกรรมของนักเรียนเมื่อเรียนรู้คำศัพท์ภาษาอังกฤษใหม่ ๆ ผ่านการเล่นเกมการ์ด ไม่มีคำตอบที่ถูกหรือผิด – เพียงเลือกคำตอบที่ตรงกับนักเรียนที่สุด

ส่วนที่ 1: การมีส่วนร่วมทางพฤติกรรม

กรุณาเลือกคำตอบที่แสดงถึงความรู้สึกที่นักเรียนทำสิ่งเหล่านี้ระหว่างการเรียนรู้คำศัพท์ด้วยเกมการ์ด

1 = ไม่เคย 2 = นาน ๆ ครั้ง 3 = บางครั้ง 4 = บ่อย 5 = เสมอ

ข้อความ	คำตอบ				
	1	2	3	4	5
1. ฉันพยายามอย่างเต็มที่ในการเล่นเกมการ์ดระหว่างบทเรียนคำศัพท์					
2. ฉันใส่ใจต่อคำศัพท์ในเกมการ์ด					
3. ฉันปฏิบัติตามกฎของเกมขณะเล่น					
4. ฉันช่วยเพื่อนให้เข้าใจคำศัพท์เมื่อเราเล่น					
5. ฉันพยายามจำคำศัพท์จากเกมการ์ด					
6. ฉันใช้คำศัพท์ที่เรียนรู้จากเกมเมื่อพูดหรือเขียนภาษาอังกฤษ					

ส่วนที่ 2: การมีส่วนร่วมทางอารมณ์

กรุณาเลือกคำตอบที่แสดงถึงความรู้สึกของคุณระหว่างการเรียนรู้คำศัพท์ด้วยเกมการ์ด

1 = ไม่เห็นด้วยอย่างยิ่ง 2 = ไม่เห็นด้วย 3 = ไม่แน่ใจ 4 = เห็นด้วย 5 = เห็นด้วยอย่างยิ่ง

ข้อความ	คำตอบ				
	1	2	3	4	5
7. ฉันสนุกกับการเรียนรู้คำศัพท์ใหม่ ๆ โดยการเล่นเกมการ์ด					
8. ฉันรู้สึกมีความสุขเมื่อเราเล่นเกมการ์ดคำศัพท์					
9. ฉันรู้สึกมั่นใจมากขึ้นเกี่ยวกับคำศัพท์ที่เรียนรู้หลังจากเล่นเกมการ์ด					
10. ฉันรู้สึกตื่นเต้นที่จะเรียนรู้คำศัพท์ใหม่ ๆ ด้วยเกมการ์ด					
11. ฉันรู้สึกภูมิใจเมื่อใช้คำศัพท์ที่เรียนรู้จากเกม					
12. การเล่นเกมการ์ดทำให้การเรียนรู้คำศัพท์ใหม่ ๆ สนุกสำหรับฉัน					

## ส่วนที่ 3: คำถามเปิด

กรุณาตอบคำถามเหล่านี้โดยการเขียนคำหรือประโยคสั้น ๆ

1. นักเรียนชอบอะไรเกี่ยวกับการเรียนรู้คำศัพท์ใหม่ ๆ ด้วยเกมการ์ดมากที่สุด?
2. เกมการ์ดช่วยให้นักเรียนจำคำศัพท์ใหม่ ๆ ได้อย่างไร?
3. นักเรียนรู้สึกอย่างไรเมื่อเรียนรู้คำศัพท์ใหม่ ๆ โดยใช้เกมการ์ดเมื่อเปรียบเทียบกับวิธีการเรียนรู้อื่น?
4. นักเรียนคิดว่าเกมการ์ดทำให้การเรียนรู้คำศัพท์ใหม่ ๆ ง่ายขึ้นหรือไม่? ทำไมถึงคิดเช่นนั้น?



### Appendix G: Observation Checklist for Card Game-Based Vocabulary Learning

Observer Name: \_\_\_\_\_ Date: \_\_\_\_\_

Instructions: Check the appropriate box for each item observed.

Criteria	Yes	No
1. Students actively participate in the game.		
2. Students demonstrate enthusiasm while playing.		
3. Students communicate with peers during the game.		
4. Students use vocabulary words correctly in context.		
5. Students show problem-solving skills when faced with challenges.		
6. Students help each other understand the game rules.		
7. Students reflect on their learning after the game.		
8. Students express enjoyment of the vocabulary learning process.		
9. Students demonstrate improved vocabulary usage throughout the game.		
10. Students stay focused and engaged during the activity.		

Additional Comments:

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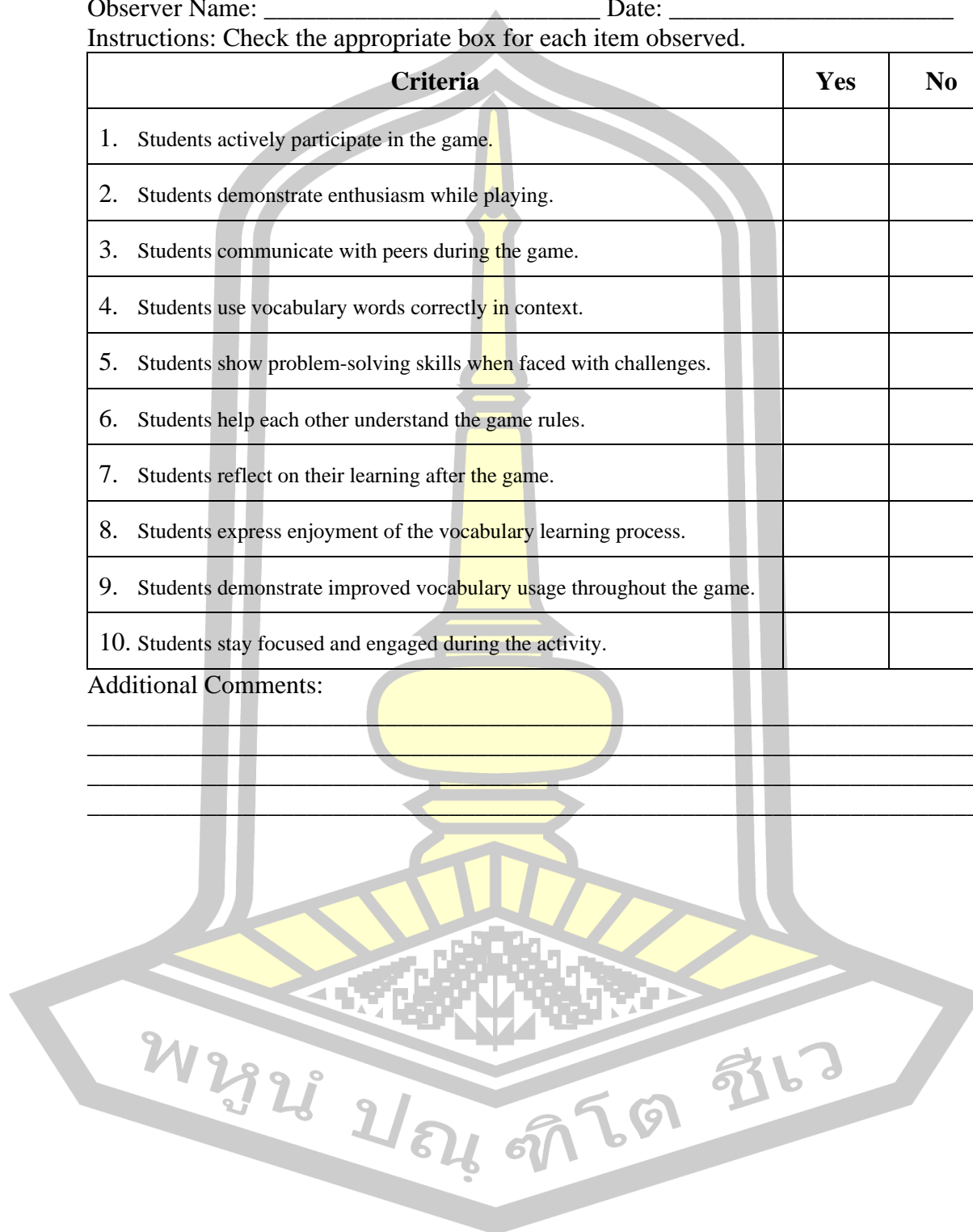
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### แบบสังเกตการมีส่วนร่วมในกิจกรรมการเรียนรู้คำศัพท์ผ่านเกมการ์ด

ชื่อผู้สังเกต: \_\_\_\_\_ วันที่: \_\_\_\_\_

คำชี้แจง: ทำเครื่องหมายในช่องที่เหมาะสมสำหรับแต่ละรายการที่สังเกตเห็น

เกณฑ์	ใช่	ไม่ใช่
1. นักเรียนมีส่วนร่วมในเกมอย่างกระตือรือร้น		
2. นักเรียนแสดงความตื่นตัวขณะเล่นเกม		
3. นักเรียนสื่อสารกับเพื่อนระหว่างเกม		
4. นักเรียนใช้คำศัพท์ได้ถูกต้องในบริบท		
5. นักเรียนแสดงทักษะการแก้ปัญหาเมื่อเผชิญกับความท้าทาย		
6. นักเรียนช่วยกันทำความเข้าใจกฎของเกม		
7. นักเรียนสะท้อนถึงการเรียนรู้หลังจากเกม		
8. นักเรียนแสดงความสนุกสนานในกระบวนการเรียนรู้คำศัพท์		
9. นักเรียนแสดงการใช้คำศัพท์ที่ดีขึ้นตลอดเกม		
10. นักเรียนมีสมาธิและมีส่วนร่วมในกิจกรรม		

ความคิดเห็นเพิ่มเติม:

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## BIOGRAPHY

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