ORIGINAL ARTICLE

Using Flashcard-Based Techniques to Improve Students' Vocabulary Retention

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ABSTRACT
The study aims to investigate how flashcard-based techniques are used to improve students' vocabulary retention as well as the students' perceptions and attitudes toward using flashcard-based techniques to improve vocabulary retention and the difficulties they faced during their learning process. The four-week study involved 18 students from an entire class at a language center. The data from vocabulary tests, questionnaires, student self-evaluation checklists, and students' reflections were analyzed using both qualitative and quantitative methods. The test results and student reflections demonstrate that flashcard-based techniques contributed significantly to the students' vocabulary recall. The findings of the survey, together with student self-evaluation checklists and their comments, reveal that these students had favourable perceptions and positive attitudes toward their vocabulary retention as a result of the teacher's use of flashcard-based techniques. A variety of challenges during the learning process faced by the participants also offer meaningful suggestions for both the learners and teachers to effectively facilitate the former's vocabulary retention.

1. INTRODUCTION

According to Hedrick et al. (2008), vocabulary knowledge can be used as an indicator for a foreign language acquisition success. Exploring effective techniques to improve students' vocabulary acquisition and retention has been a top priority in language instruction following the recognition of the critical role of vocabulary mastery in language acquisition. Flashcard instructions are considered as one type of effective memory-aid tools for vocabulary learning experiences. Furthermore, flash cards can be used for almost any subject. They are ideal for acquiring foreign language vocabulary, math formulas, dates and events for history studies, psychological terms, and even more sophisticated topics like medical terminology (Lewis et al., 2010). According to Gelfgren (2008), different students learn in different ways, and it is important to use visual teaching approaches because studies suggest that most students learn visually. The use of flashcards is seen to be an enjoyable strategy for EFL learners to boost their vocabulary retention (Robillard et al., 2014). Flashcards are a simple and colorful tool to teach vocabulary in a fun way, and they can help students with their visual learning process. Regarding the use of flashcards, there have been some studies on the implementation of using flashcard activities (Pimada et al., 2020), but they focused on the effectiveness of flashcard techniques on learners' writing, reading and speaking skills. Some studies were conducted to investigate the beneficial use of flashcards towards English vocabulary lessons, but just in the context of primary or secondary schools. However, there have not been many studies on the effects of this teaching technique on vocabulary retention. Most of them used an experimental or a case study approach. There are many studies investigating the impact of flash cards and simulation on learners' vocabulary memory. Furthermore, action research is very effective for teachers to reflect on interesting or problematic parts of their own teaching in a well-organized way and come up with effective solutions to enhance their teaching practice (Hughes & McCarthy, 1998). For these

reasons, the researchers decided to conduct the study with the adoption of action research in the hope of improving their own teaching techniques and her institutions.

2. LITERATURE REVIEW

2.1. The importance of vocabulary retention

The value of vocabulary outweighs the relevance of other aspects of the language system including pronunciation, grammar, and discourse (Folse, 2004). According to Richards, vocabulary is one of the most visible aspects of language and one of the first things that people notice. Furthermore, good language acquisition relies heavily on learners' vocabulary retention. Vocabulary is a fundamental component of skill and knowledge development. Moreover, several experts define the significance of mastering vocabulary. According to David Wilkins, cited by Thornbury, vocabulary acquisition is more important than grammar learning because "without grammar, very little can be conveyed, and without vocabulary, nothing can be conveyed." In other words, someone who can properly use grammar can only express very little with it, whereas someone who can properly use vocabulary may communicate practically a lot with it. McCarthy argues that no matter how thoroughly and successfully a student learns grammar and masters the sounds of a second language, communication cannot be achieved without words. From the given viewpoints, the researchers acknowledge that vocabulary retention plays a vital role in language acquisition. The achievement of a foreign language learning student at school is closely linked to vocabulary development (Wallace, 1982). The size of a learner's vocabulary reflects their ability to learn to read, acquire new information, think and learn about the world, and accomplish tasks in that language.

2.2. Dimensions of vocabulary knowledge

Scholars have provided a variety of perspectives on vocabulary knowledge dimensions. Vocabulary can be divided into two categories, according to Richards (1976) and Nation (1990): vocabulary breadth and vocabulary depth. In other words, there are two basic dimensions to vocabulary words: how many words one knows and how well one knows those words. According to Henriksen (1999), in order to properly understand a term, learners must be able to create purposeful links between the target words and other words they are familiar with. It means that students must be familiar with the target words' semantic network as well as its morphological, syntactic, and collocational characteristics. According to Schneider et al. (2002), vocabulary consists of four components: (1) the ability to pronounce or spell, (2) the ability to distinguish one word from another, (3) the ability to associate L2 terms with their L1, and (4) the ability to detect L2 and L1 equivalence. To put it another way, vocabulary knowledge encompasses a wide range of aspects, including word pronunciation and spelling, word formation, lexical field, word families, synonym, antonym, word combination, homonymy, hyponymy, denotation, and connotation. Overall, the ongoing study's researcher supports the idea that knowing a word involves being able to recognize the spoken form of the word, pronounce, spell, and write the word, and then use the word in appropriate situations (Nation, 2001).

2.3. Vocabulary learning strategies

It is beneficial to recall several vocabulary learning strategies that will assist the researchers in determining which strategy is most effective for their students.

Oxford (1990) distinguishes between two types of vocabulary learning strategies: direct strategies and indirect strategies. Direct strategies include cognition, memory, and compensation strategies whereas indirect strategies support the learning process by "focusing, planning, evaluating, seeking opportunities, controlling anxiety, increasing cooperation and empathy, and other means" (Oxford, 1990, p.151). According to Schmitt (1997), the most used vocabulary learning strategies are using a dictionary, verbal and written repetition, learning spelling, guessing meaning from context, and discussing meaning with peers. Learning from context, dictionary use, vocabulary note-taking, rote rehearsal, encoding, word formation, semantic networks, and vocabulary in use are all task-dependent techniques for vocabulary learning, according to Gu (2003). Language learning strategies were divided by Hosenfeld et al. (1992) into four categories: metacognitive, cognitive, social, and affective strategies. Metacognitive methods are used to plan for language learning and to think about the process. Cognitive strategies are those that deal with the manipulation of various learning processes as well as the assessment of the learning process. Learners' communicative interactions with others are the focus of social approaches. Affective strategies refer to measures used to deal with emotional problems. In summary, the researcher agrees with Oxford's ideas regarding indirect and direct vocabulary learning processes. Vocabulary can be learned unintentionally through contextual experiences or

purposely through well-designed instructions. Vocabulary development is a gradual process. Simply speaking, learners gradually absorb words when they are stimulated. Flashcard-based techniques are appealing to visual learners, but it can also be utilized to excite kinesthetic learners.

2.4. Vocabulary teaching strategies

Various research on vocabulary acquisition has introduced numerous vocabulary teaching strategies that increase visual stimuli and retain words more efficiently. One of the most common ways for teaching vocabulary, according to Folse (2004), is to write a list of words with their definitions and then have students copy them down. In their textbooks, students are frequently expected to perform several exercises on certain words. Any teaching strategies that enhance learners' interest with vocabulary, according to these researchers, are effective. Extensive reading, according to Krashen (1989), allows pupils to deduce the meanings of unfamiliar words in certain circumstances, allowing them to acquire and retain more words. Implicit reading and explicit instruction are more effective ways to learn vocabulary (Nation, 2001).

To summarize, there have been a variety of vocabulary pedagogical approaches, each with its own set of advantages and disadvantages. In this study, the researcher would like to use flashcard-based techniques to encourage students to become more involved with words, and thereby learn and retain more vocabulary.

3. MATERIALS AND METHODS

3.1. Research participants

The action research was carried out with the participation of 18 students from one class. One researcher, who is also an English teacher in a class, was also involved in the research with the participants. At the chosen center, the researcher was one of four English teachers. She has been directly teaching students in the chosen center; as a result, she was fully acquainted with her learners' English proficiency levels and attitudes towards learning English vocabulary.

3.2. Research instruments

The study was carried out as an action research project to see how effective the teacher's use of flashcard-based techniques was in terms of improving students' vocabulary memory with the adoption of tests, questionnaires and students' reflections to collect the data. A flashcard-based project for teaching vocabulary was developed and implemented, followed by the data collection and analysis to assess the project's effectiveness, and then revised and improved for future implementation.

4. RESULTS AND DISCUSSION

The data from vocabulary tests, questionnaires, student self-evaluation checklists, and student reflections were analyzed and interpreted in this section to seek the answers to the two research questions. The findings were analyzed and interpreted in three major areas: (1) the students' improved vocabulary retention as a result of the teacher's use of flashcard-based techniques; (2) the students' perceptions and attitudes towards their flashcard-based vocabulary learning experiences; and (3) the difficulties the students encountered during the vocabulary learning process as a result of the teacher's use of flashcard-based techniques.

4.1. The improvement of the students' vocabulary retention through the teacher's deployment of flashcard-based techniques

A pre-test and a post-test were conducted with the 18 students in order to examine the students' improvement of vocabulary retention through learning vocabulary with flashcard-based techniques, and they were graded in terms of four dimensions of vocabulary, namely: word pronunciation, word stress, word meaning (synonym and antonym, and translation), and word use (collocation, word combination) (Nation, 1990).

Table 1. Components of Pre-test and Post-test

Components of Pre-test and Post-test						Total
Pronunciation	Stress	Vietnamese meaning	Suitable words	Opposite words	Closet words	Number of questions
3	2	10	10	2	3	30

The findings regarding the students' improved vocabulary retention through flashcard-based techniques are presented and analyzed in three major parts. The first part displays the findings from pre-test (no flashcard techniques involved) and post-test (flashcard techniques involved) vocabulary test scores. The second section presents the findings by comparing the pre-test and the post-test results. The third section summarizes the findings from questions 1, 2, 3, and 4 in the student reflections.

The data analysis process involved determining the mean scores to check whether or not there were any significant differences between pretest and posttest results. Tables were used to display the data due to clarity and ease of assessment. The researchers themselves checked the papers of the two tests and used the following score interval in their study.

Table 2. Category and Score interval

Category	Score interval
Excellent	9.0 - 10
Good	8.0 - 8.9
Fair	7.0 - 7.9
Pass	5.0 - 6.9
Fail	< 5.0

4.1.1. Pre-test Results

It can be seen from the pie chart that about one third of the surveyed students failed in the pre-test. None of them were classified into the good or excellent levels of the test. Only 6% of the students achieved an average result (fair) from the given test.
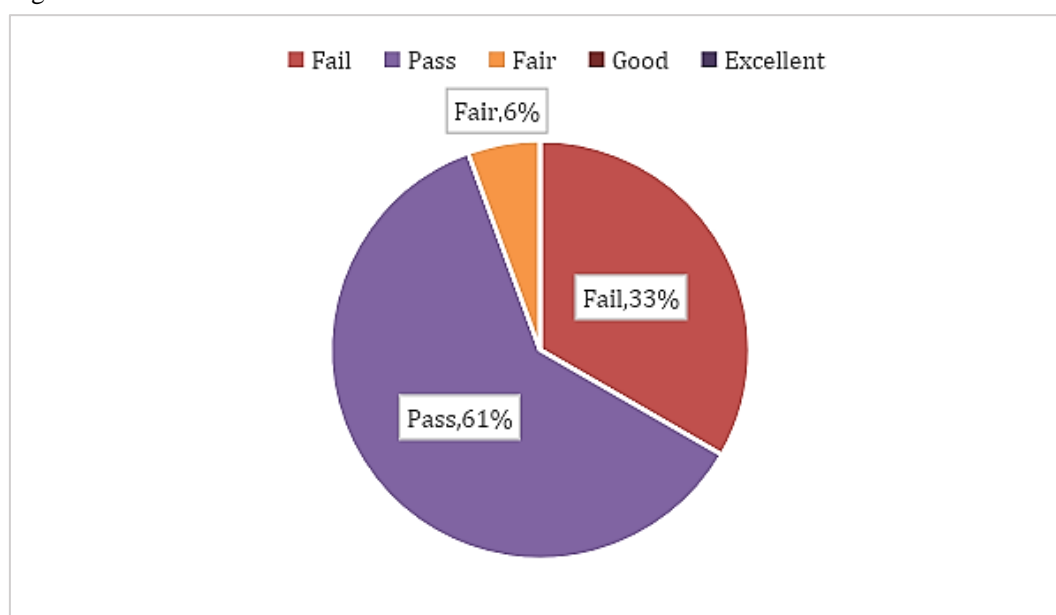

Chart 1. Students' pre-test score

4.1.2. Post-test Results

As we can see from the pie chart below, after applying flashcard techniques in teaching and learning vocabulary, only 6% of the students failed the test compared to 33% in the pretest. The number of students' results classified as good account for 11%. Also, 22% of the participants achieved a fair score in the post-test.
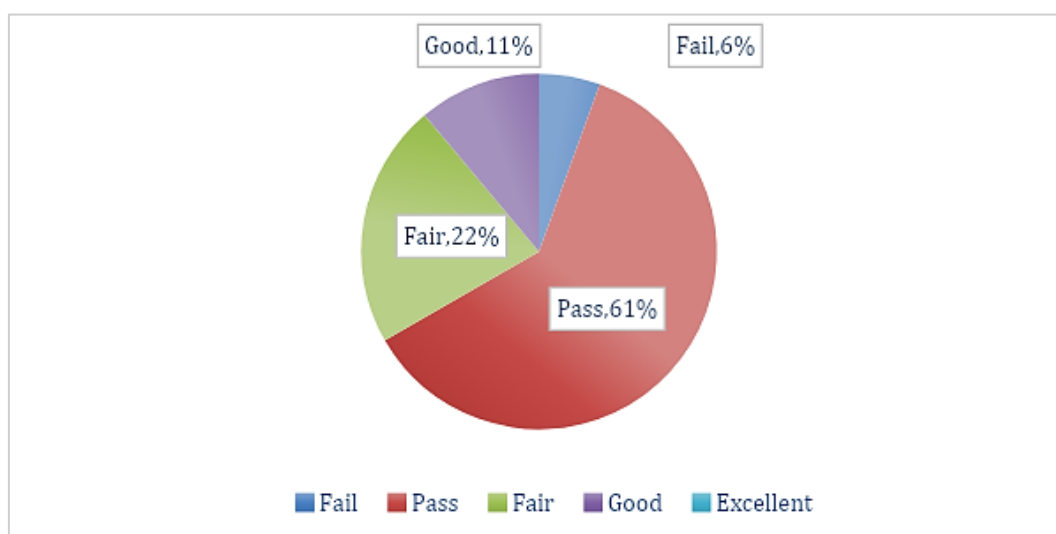
Chart 2. Students' post-test score

4.1.3. Comparison of pre-test results and post-test results

The researchers employed "F-Test Two-Sample for Variances and t-Test: Two-Sample Assuming Equal Variances" to see if any observed difference in pre-test and post-test scores was statistically significant.

Table 3. The comparison between the scores of pre-tests and post-test

F-Test Two-Sample for Variances		
	Pre-test scores	*Post-test scores*
Mean	5.388888889	6.705882353
Variance	1.545751634	2.470588235
Observations	18	17
df	17	16
F	0.625661376	
P(F<=f) one-tail	0.173429008	
F Critical one-tail	0.43691026	

t-Test: Two-Sample Assuming Equal Variances		
	Pre-test scores	*Post-test scores*
Mean	5.388888889	6.666666667
Variance	1.545751634	2.352941176
Observations	18	18
Pooled Variance	1.949346405	
Hypothesized Mean Difference	0	
df	34	
t Stat	-2.745567181	

P(T<=t) one-tail	0.004791426
t Critical one-tail	1.690924255
P(T<=t) two-tail	0.009582852
t Critical two-tail	2.032244509

As presented in the table, after applying flashcard - based techniques, the students got higher scores in post-test (mean = 6.667) than those in pre-test (mean = 5.389).

4.1.4. Effectiveness of flashcard-based techniques on vocabulary retention shown in student reflections

To determine how the teacher' use of flashcard-based technique affected students' vocabulary retention, the researchers counted the number of new words the groups listed in their responses to questions 1, 2, 3, and 4 in the student reflections, then multiplied by the number of students in each group. In other words, the researchers focused on two groups of four students. Four vocabulary lessons were taught in a round using flashcards. Ten new words were introduced in each class. As a result, the total number of new words taught in a round is 30 words, with the teacher's use of flashcard-based techniques.

Table 4. Number of new words the students learned in round 1

Questions	Number of new words	Number of students	
		Round 1	
		Number	%
Number of new words the students remembered	50-100%	12	66.7
	0-49%	6	33.3
Number of new words the students knew meanings	50-100%	14	77.8
	0-49%	4	22.2
Number of new words the students could pronounce correctly	50-100%	10	55.6
	0-49%	8	44.4
Number of new words the students could use	50-100%	8	44.4
	0-49%	10	55.6

According to Table 4, more than 66 percent of students could recall new vocabulary from round 1. After the lessons, nearly 80 percent and 60% respectively of the participants could understand more than half of the new words' meanings and could pronounce them correctly. Furthermore, around 45% of learners were able to employ new vocabulary and construct sentences. The researchers would conclude that the students' participation in word games and storytelling activities improved their ability to retain vocabulary.

Overall, the results of two vocabulary tests and four questions in the student responses demonstrated that the teacher's use of flashcard-based technique improved students' vocabulary retention in terms of word spelling, pronunciation, meanings, and word uses.

4.2. The students' perceptions of and attitudes towards their vocabulary learning experiences with flashcard-based techniques

Three types of instruments namely questionnaires, student self-evaluation checklists, and student reflections, were used to explore the students' perception of and attitudes towards their vocabulary learning experiences with flashcard-based techniques. These findings include two major topics: (1) the students' perceptions of the impact of the teacher's use of flashcard-based techniques on their vocabulary retention, and (2) their perceptions and attitudes toward the benefits of the teacher's use of flashcard-based techniques.

4.2.1. The students' opinions on the effects of the teacher's deployment of flashcard-based techniques on their vocabulary retention

- Questionnaire responses analysis

Question 1 and 2 in the survey focus on the students' viewpoints on the impact of the teacher's use of flashcard-based techniques on vocabulary retention. From Chart 3, it can be seen that a majority of students, over two third (nearly 67%) agreed and strongly agreed that the application of flashcard-based technique helped them remember new words more efficiently because the techniques provided them with a variety of memorable experiences of learning vocabulary. Only 16.7% of the students opposed the above opinion. And according to Chart 4, high percentages of students (nearly 28% and 40% respectively) strongly agreed and agreed that using flashcards in vocabulary lessons helped them recall practically all new words after viewing or playing relevant games with their friends.

1. I remembered words more efficiently and because flashcard-based techniques provided me with a variety of memorable experiences of learning vocabulary.
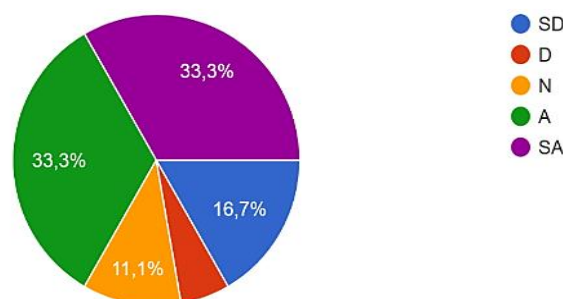
18 câu trả lời

Chart 3. Reasons why lessons with flashcard-based techniques enhanced students' vocabulary retention (survey question 1)

2. I could remember almost all newwords I learned from the flashcards after playing or watching the related games performed by my friends.
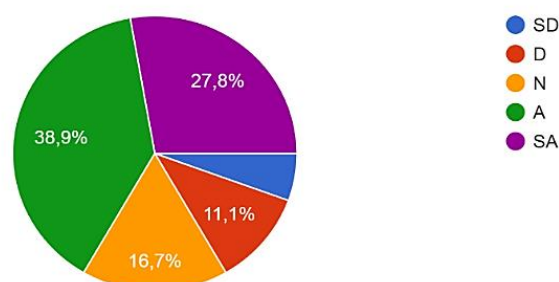
18 câu trả lời

Chart 4. Students' opinion on the enhancement of vocabulary retention with flashcard-based techniques (survey question 2)

- Student self-evaluation checklists result analysis

Regarding the student self-evaluation checklists, the following chart provides more evidence about the effectiveness of learning vocabulary with flashcard-based techniques.

As for question 1 in the checklist, more than half of the students could almost always remember the meanings of most new words, even complex phrases, and the second largest proportion of the participants (nearly 40%) did so sometimes. Meanwhile, only 5.6% of all respondents could never remember the meanings of vocabulary. In response to question 2, the same number of students (44.4%) admitted that using flashcard techniques, they could always or sometimes remember the spelling of words quickly and accurately whereas a minority (11%) said they could recall the spelling. In the next question (Q3), the majority of the participants (80%) believed that they became familiar with the new word pronunciation after watching the games or participating in a storyline, although only about a third rarely had that feeling.
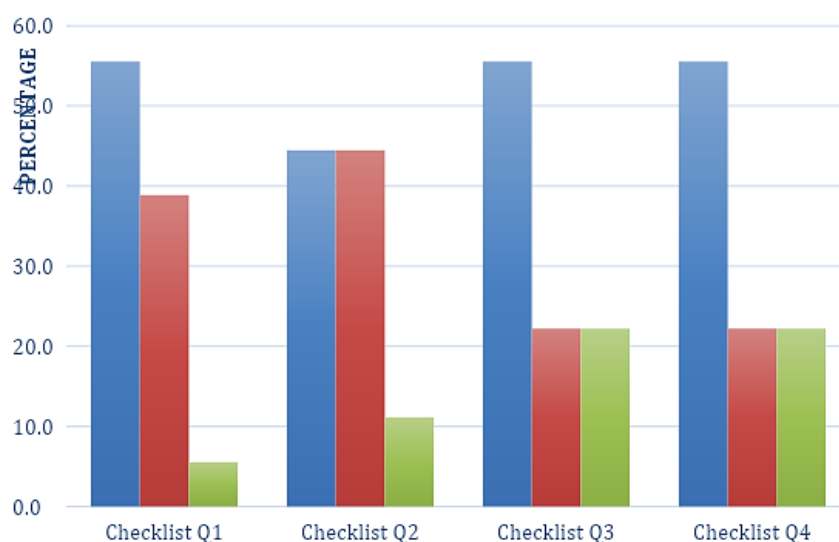

Chart 5. Students' opinions on the effects of the teacher's deployment
of flashcard-based techniques on vocabulary retention in the checklists

Overall, the chart above shows that the majority of students regarded flashcard-based techniques as a helpful strategy to improve vocabulary retention almost always or sometimes.

- Student reflection responses analysis

The data from questions 5 and 6 in the student reflections were analyzed to see whether learning vocabulary with flashcards improved the students' retention of meanings, pronunciation, and spelling of new words. The researcher analyzed the student reflections using thematic analysis. All students agreed that the use of flashcard-based techniques boosted their memory of new word meanings and spelling, as evidenced by their responses to questions 5 and 6 in the student reflections. In addition, the students provided three primary reasons to support their opinions. First and foremost, flashcard exercises made learning interesting. The majority of students described their flashcard learning experience as memorable, simple, pleasant, and enjoyable.

"We learnt language in a more suitable environment with more laughter," according to a response in the student reflection. The classroom evolved into a playground where everyone can learn while playing games. For example, four students in a group... played the "Crossword puzzle" which imprinted several new words related to the 'Travel' topic."

The usage of flashcard-based techniques improved students' creativity and vocabulary learning awareness, which is the second reason. 13 out of 18 students stated that they spent more time learning language, and that acquiring vocabulary was no longer a mandatory assignment provided by the teacher.

Third, more vocabulary exercise made it easier for learners to retain word definitions, pronunciations, and applications. Students said that they needed to know how to use and pronounce the words in order to participate in games and narrative storytelling activities.

The findings above clearly showed that the students had favorable views on the effectiveness of using flashcard-based strategies to improve vocabulary memory.

4.2.2. The students' opinions on and attitudes towards psychological and social benefits of using of flashcard-based technique to teach vocabulary

The motivation, satisfaction, and development of personal characteristics, as well as the establishment and development of practical competencies, are all psychological and social benefits of the teacher's deployment of flashcard-based technique shared by the participants.

The following are the outcomes related to the students' attitudes and opinions on psychological and social benefits of flash-card techniques using the Likert scale in the survey questionnaire:

Table 5. Students' opinions on and attitudes towards psychological and social benefits
of the use of flashcard-based techniques in the questionnaire

Statements	Responses (%)				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I had a lot of fun during the lessons with flashcard activities so I was not scared of vocabulary lessons any more.	22.2	44.4	22.2	11.1	0
I became more confident, sociable and creative when trying to finish the games in my group.	27.8	33.3	27.8	0	11.1
I felt happy with the lessons with flashcards because of the feeling of success after playing with my group.	38.9	38.9	11.1	0	11.1
I liked the lessons with flashcards because I was interested in how simple and easy to remember the new words.	16.7	44.4	22.2	5.6	11.1
When there was controversy in our group, I knew how to discuss frankly and find the agreement with my group members.	11.1	38.9	38.9	11.1	0
After acting out our group's games, I started to use body language as gesture, facial expression when communicating because I recognized the benefits.	22.2	55.6	16.7	0	5.6
I learned about collaboration skills when working in groups.	33.3	33.3	16.7	5.6	11.1
I will learn more new words without encouragement or requirement from other people as now I know learning vocabulary is of great importance in acquiring a foreign language.	33.3	38.9	16.7	11.1	0

Table 5 shows that a large percentage of students strongly agreed and agreed that flashcard-based techniques provided them with a lot of fun (66.6 percent), happiness (approximately 80 percent), satisfaction, and reduced their fear of learning vocabulary, which resulted from two main reasons: their confidence (about 60%) and their sense of satisfaction from their own game success (nearly 80 percent). The majority of students also stated that their self-esteem, sociability, and creativity had improved (close to 75%). More than 80% of participants strongly agreed or agreed that learning vocabulary through flashcard-based techniques resulted in various benefits such as the development of teamwork skill, the frequency of body language usage in communication, and the enhanced awareness of the importance of vocabulary in learning English as a foreign language (EFL) while only 0% and 11.1% respectively strongly agreed or disagreed with these ideas. It means that the intervention boosted their willingness to learn vocabulary on their own.

Additional evidence was provided through the student self-evaluation checklists as can be seen in Table 6.

Table 6. Students' opinions on and attitudes towards psychological and social benefits of the use of flashcard-based techniques reported in the student self-evaluation checklists

Statements	Almost always/ most of the time		Sometimes		Rarely or never	
	Number of checklists	%	Number of checklists	%	Number of checklists	%
I felt motivated and eager in today's vocabulary lesson.	9	50	6	33.3	3	16.7
I recognized storytelling games made me more creative and more confident.	8	44.4	4	22.2	3	16.7
I felt it was exciting to communicate in English.	13	72.2	4	22.2	1	5.6
I had more chances to surf the Internet and improve my pronunciation.	10	55.6	5	27.8	3	16.7
I knew how to work with others more effectively.	5	27.8	9	50	4	22.2

The researchers collected 18 student checklists in total after the intervention cycle. The researchers then calculated the percentages of students who had a positive or negative view on the intervention's benefits using these checklists. The majority of students admitted that the intervention had a variety of psychological and social benefits. In the vocabulary sessions, 50% of the students were almost always motivated and enthusiastic. 44.4 % were more creative and confident after playing activities and listening to a narrative. 77.2% were nearly always excited while communicating with friends in English, just over 20% were sometimes excited, and only 5.6 percent were rarely excited. Interestingly, just over 16% of the students denied the increase in their possibilities of surfing the Internet and only a small number of participants believed that their group collaboration skills had rarely improved (22%).

The students' positive opinions toward the flashcard learning experiences were also clarified in the student reflections, where a number of benefits of the intervention were noted. As a great number of students were pleased with the flashcard-based techniques, they volunteered to take part in the activity. They stated that they would like to take more vocabulary lessons using flashcards. The intervention improved the students' confidence, inventiveness, motivation, and sense of responsibility on a psychological level. The students made note of how their teamwork, interaction, active listening, negotiation, and communication skills developed over time. Most students used the words/phrases *"knew how to persuade my group members to speak in the same voice," "started to use body language to communicate," "worked in groups effectively," "paid attention to my classmates' words in the games,"* and *"listened carefully and commented on my friends' narratives"* in their reflections.

To summarize, the majority of the students always or sometimes agreed that the teacher's use of flashcard-based technique provided them with some psychological and social benefits.

4.3. The difficulties the students encountered during the vocabulary learning experience with the teacher's deployment of flashcard-based technique

The quantitative data from the questionnaires, student reflections, and the quantitative data from the student self-evaluation checklists were gathered and analyzed both descriptively and interpretively with the goal of investigating the difficulties students faced during the process of using flashcard-based activities to learn vocabulary. The qualitative data from the three instruments was thematically analyzed and inductively coded into three major themes: (1) difficulties related to the teacher's instructions, (2) difficulties resulting from the student's personal shortcomings, and (3) time limits for vocabulary practice and revision activities.

The number of checklists corresponds to the number of people who took part in the survey. 27.8% of the respondents indicated that their low rate of vocabulary retention was largely attributable to the teacher's infrequent

vocabulary revision. This viewpoint was supported by the same percent of students choosing "sometimes". About half of the students observed that the teacher sometimes did not provide clear instruction on how to properly make up or write a story or on a consistent basis. Furthermore, half of the examined students always or sometimes complained about the teacher's lack of specific vocabulary assessment standards. Ten out of eighteen students shared about their issues with the teacher's instruction in their questionnaire responses. A student said that her teacher did not provide any instruction on how to write or make up a storyline. Another student stated that it was the first time she had performed in front of a class. She admitted that it was difficult for her to act things out in English because the teacher did not provide a clear description of what she needed to accomplish. *"The teacher should spend more time reviewing the vocabulary before and after we acted out our storytelling, she didn't provide enough helpful advice on how to write a short narrative."* Two out of eighteen students mentioned in their reflections the teacher's role in the class.

Half of the participants (50%) sometimes or all the time encountered difficulties in following the content of the storytelling activities due to their poor vocabulary. When working in groups, over 40% of students rarely felt inferior. About 50 percent of the learners express dissatisfaction in their peers' pronunciation errors. Worry and loss of attention were admitted by 44.4% and 50% of the respondents, respectively, as negative psychology. 11.4% found the long and boring stories uninteresting. Lack of vocabulary, lack of study attention, pronunciation mistakes, feelings of shyness, embarrassment, reluctance, anxieties of making mistakes, fear, worries of face-losing threats, or feelings of inadequacy were all noted in the questionnaires by the students. Half of the participants admitted having limited vocabulary. In one of the checklists, a student expressed her disappointment with the number of words she knew. Her limited vocabulary made her unable to understand the story's content. Eight individuals admitted that they were watching the story activities for fun rather than for academic purposes. The majority of the responses cited feelings of shyness and concern. The psychological obstacles that arose during the encounter were the first and most significant challenge. In every student's reflection, they admitted that their shyness, worry, and even panic made it tough for them to remember words. In their reflections, the majority of learners used the following words/phrases: uneasy, worried, dissatisfactory, not courageous, discouraged, fearful of being laughed at, afraid of being insulted, even scared.

More than 50% of the participants agreed that they always or sometimes needed extra time for preparations, and 50 percent of students said that time restrictions and noises in class were a problem. Furthermore, a majority of the students claimed that the storytelling games would take more time to prepare.

4.4. Discussions

Based on the study's findings, it can be concluded that all types of data collected from the vocabulary tests, questionnaires, student self-evaluation checklists, and student reflections all led to the same conclusion: the teacher's use of flashcard-based technique in teaching vocabulary improved learners' vocabulary retention. Despite their problems, the majority of the students had optimistic perception and constructive evaluations of the strategies' impacts, recognizing the psychological and social benefits.

4.4.1. Effects of the use of flashcard-based techniques on the students' vocabulary retention

The first research question seeks to examine the impact of a teacher's use of flashcard-based techniques on students' vocabulary retention. The vocabulary tests and student self-evaluation checklists were given in order to gather relevant information for this research question. The teacher's use of flashcard-based technique effectively improved the students' vocabulary retention, according to the quantitative data from the two instruments.

The teacher's use of flashcard tasks had a favorable influence on the students' retention of target vocabulary items, according to the test results. The mean of the post-test scores was higher than that of the pre-test scores, according to the test results. Consequently, it is possible to conclude that students have learned vocabulary using flashcard-based techniques rather than learning vocabulary by copying from the board and writing them down and then learning by heart in a conventional way. This study result is similar to that in Janudom and Wasanasomsithi's study (2009) which concluded that flashcard exercises, could help students acquire and retain vocabulary more efficiently.

4.4.2. Students' opinions and attitudes towards their vocabulary learning with flashcard-based techniques

With flashcard-based techniques, the research question 2 looked into the students' viewpoints and attitudes concerning their vocabulary learning experiences. The students' views on the influence of the teacher's use of

flashcard-based techniques on vocabulary retention, as well as their attitudes and thoughts on the psychological and social benefits of the intervention, were presented in two categories. Questionnaires, student self-evaluation checklists, and student reflections were used to gather research data.

The students' judgments on the effect of using flashcard-based techniques on vocabulary retention were largely positive, as evidenced by the statistics above. There were three key reasons behind this conclusion. For starters, flashcard exercises made learning interesting and relaxing. Second, the use of flashcard-based techniques improved students' playfulness and attention to vocabulary development. Third, more vocabulary exercises made it easier for learners to retain word definitions, pronunciations, and applications. The students were required to actively participate in learning activities during the intervention. The students were not taught in just learning what the words were, what they meant, or how they were used; instead, they were encouraged to participate in a variety of physical and social activities in order to gain a better understanding of the words.

This theory is supported by John (1987), who claims that theatrical exercises can help with visual, intellectual, psychological, and physical reinforcement, as well as helping to link vocabulary items to long-term memory. The study's findings also support Nation's (1990) theory that flashcard-based techniques promote long-term vocabulary retention because the variety of role playing provides memorable events, meaningful context, and repeated exposure to the word, all of which are necessary for vocabulary retention. Flashcard-based techniques, according to Sukkrong (2010), facilitate vocabulary learning by contributing to conscious vocabulary learning and focusing students' attention on vocabulary development. Similarly, Demircioğlu (2010) argues, in a related study, that flashcards engage participants in the contextualized learning process both physically and cognitively, resulting in increased vocabulary retention. These claims are supported by the responses of students on surveys, checklists, and student comments.

The students had a positive attitude toward the flashcard learning experience and obtained a number of benefits as a result of the intervention, according to the findings. A large number of students were so enthusiastic, motivated, and content with the flashcard-based lessons that they volunteered to participate in the games and expressed an interest in taking further vocabulary classes using flashcards. The participants stated that the teacher's use of flashcard-based techniques provided them with a number of psychological and social benefits, including motivation, fulfillment, and the development of personal attributes, as well as the establishment and improvement of interaction skills. Some students mentioned in their reflections that this learning experience sparked their attention because of the many stage properties, such as the ability to create and design their own flashcards.

Boudreault (2010) supports the findings, stating that using flashcards to teach languages has nine pros. The advantages of flashcard-based techniques were revealed in the study, including the improvement of students' confidence, the development of students' imagination, the enhancement of cooperative skills, the relief of tensions, the smooth interaction in the target language, and the improvement of pronunciation understanding, as listed. However, Boudreault recommended two benefits: the opportunity to improve independent thinking skills and critical thinking skills, although the data in this study did not show these.

5. CONCLUSION

The findings demonstrated that the teacher's use of flashcard-based techniques offered a number of psychological and social benefits for the students, including increased motivation, satisfaction, and personal attributes development, as well as the establishment and improvement of interaction skills. The final result reached by the researchers was that the learners had positive attitudes concerning the flashcard learning experience. A high percentage of the students seemed enthusiastic, motivated, and satisfied with the flashcard-based lessons, so they offered to perform parts in the games and expressed a desire for more vocabulary classes using flashcards. The majority of students stated in their reflection that this learning experience caught their attention because it included numerous engaging activities such as making and designing their own flashcards. All of the data from the vocabulary exams, surveys, student self-evaluation checklists, and student reflections all support the hypothesis that the teacher's use of flashcard-based vocabulary teaching strategies helps students retain more vocabulary. Although several difficulties were revealed by study instruments, all participants agreed that the efficiency of flashcard-based strategies on vocabulary retention is considerable and significant.

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