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EXPLORING THE USE OF MIND MAPPING IN VOCABULARY LEARNING: A QUALITATIVE STUDY OF GRADE 6 STUDENTS' CLASSROOM ENGAGEMENT AND VOCABULARY RETENTION AT TAM BINH SECONDARY SCHOOL

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Abstract:
This study explores the use of mind mapping as a strategy for vocabulary learning among Grade 6 students at Tam Binh Secondary School in Dong Thap Province, Vietnam. The research aimed to examine how mind mapping influences students' classroom engagement and their perceptions of vocabulary retention. A qualitative research design was employed, using classroom observations and semi-structured interviews as the main data collection methods. Eight vocabulary lessons were observed, including four lessons in a control group using traditional teaching methods and four lessons in an experimental group using mind-mapping activities. In addition, ten students participated in interviews to share their learning experiences. The findings indicate that mind mapping increased students' classroom engagement, encouraged collaboration, and helped learners organize vocabulary into meaningful categories. Students also reported that visual elements such as colors and images supported their ability to remember and recall vocabulary. The study suggests that mind mapping can be an effective instructional strategy for improving vocabulary learning in lower-secondary EFL classrooms.

Keywords: mind mapping, vocabulary learning, classroom engagement, vocabulary retention, EFL students

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1. Introduction

1.1 Rationale of the Study

In the context of globalization, English has become an essential tool for communication, education, and career development. In Vietnam, improving students' English proficiency has become a national priority, as emphasized in the General Education Curriculum 2018 issued by the Ministry of Education and Training (MOET, 2018). The curriculum highlights the importance of developing students' communicative competence, critical thinking, and learner autonomy in foreign language education.

Among the key components of language learning, vocabulary plays a fundamental role. Without sufficient vocabulary knowledge, learners may struggle to understand texts, express ideas, or participate effectively in communication. For lower-secondary students, especially Grade 6 learners who transition from primary to secondary education, vocabulary learning becomes more demanding due to the increasing number of new words and more complex language structures.

However, vocabulary learning in many classrooms still relies heavily on traditional teaching methods such as memorizing word lists, repetition, and translation. Although these techniques may help students remember vocabulary temporarily, they often fail to support long-term vocabulary retention. As a result, students frequently forget new words after lessons or assessments.

In recent years, educational researchers have suggested that vocabulary learning can be more effective when students actively construct knowledge and make meaningful connections between words. One strategy that has attracted attention in language teaching is mind mapping, a visual learning technique that organizes information around a central concept using branches, images, and colors (Buzan & Buzan, 2010). Mind mapping helps learners visualize relationships among ideas and may support deeper cognitive processing and memory retention.

Previous studies have shown that mind mapping can enhance vocabulary learning, improve comprehension, and increase learner motivation. However, most studies have focused mainly on quantitative outcomes, such as vocabulary test scores. There is still limited research exploring how mind mapping influences students' classroom engagement and learning experiences, particularly among lower-secondary students in Vietnamese EFL contexts.

Therefore, this study adopts a qualitative approach to explore how mind mapping is used in vocabulary learning and how it influences students' engagement and vocabulary retention. By using classroom observations and student interviews, the study aims to provide deeper insights into students' learning behaviors, perceptions, and experiences when using mind mapping in vocabulary lessons at Tam Binh Secondary School.

1.2 Research Questions

This study tried to answer the following research questions:

1) How does the use of mind mapping influence Grade 6 students' classroom engagement during vocabulary learning activities?
2) What are Grade 6 students' perceptions and experiences regarding the use of mind mapping for vocabulary retention?

1.3 Research Objectives

The study had to achieve the following objectives:

1) To explore how mind mapping is implemented in vocabulary learning activities and how it influences Grade 6 students' classroom engagement at Tam Binh Secondary School.
2) To investigate Grade 6 students' perceptions and experiences regarding the use of mind mapping in supporting vocabulary retention.

2. Literature Review

2.1 Vocabulary Retention

Vocabulary retention refers to learners' ability to remember and recall words after initial learning. In second language acquisition, vocabulary retention is considered an essential indicator of successful vocabulary learning because learners must store vocabulary items in long-term memory and retrieve them when needed (Nation, 2013; Schmitt, 2000).

According to Nation (2013), knowing a word involves understanding its form, meaning, and use in different contexts. Similarly, Schmitt (2000) states that vocabulary retention is closely related to the strength of the form–meaning connection stored in long-term memory.

From a cognitive perspective, vocabulary retention depends on how information is processed in memory. The Levels of Processing theory proposed by Craik and Lockhart (1972) suggests that information processed at deeper semantic levels is more likely to be remembered than information processed superficially. Therefore, vocabulary activities that require learners to analyze meaning, create associations, and apply words in context can improve retention.

Another important theory related to vocabulary learning is Dual Coding Theory developed by Paivio (1986). This theory explains that information can be stored in two systems: a verbal system and a visual system. When vocabulary is presented with visual support such as diagrams, pictures, or graphic organizers, learners may remember words more effectively.

In the Vietnamese context, vocabulary learning has also been widely discussed by local researchers. Nguyen Thi Mai Hoa (2018) states that vocabulary is a fundamental component of language learning and directly influences students' ability to develop the four language skills. Similarly, Le Van Canh (2011) emphasizes that vocabulary teaching

in Vietnamese classrooms often relies on memorization and translation, which may not effectively support long-term retention.

For lower-secondary students, vocabulary retention can be particularly challenging because they encounter an increasing number of new words and more complex language structures. Therefore, teachers need to apply effective teaching strategies that encourage meaningful learning and active student participation.

2.2 Mind Mapping in Language Learning

2.2.1 Definition of Mind Mapping

Mind mapping is a visual technique used to organize information around a central idea through branches, keywords, colors, and images. The concept of mind mapping was popularized by Buzan (2009), who argued that this technique reflects the brain's natural associative thinking process.

According to Buzan and Buzan (2010), a mind map starts with a central concept placed in the middle of a page. Related ideas are then represented through branches and sub-branches, forming a network of connected information. Davies (2011) explains that mind mapping helps learners visualize relationships among concepts and organize knowledge more effectively. Unlike traditional note-taking methods, which follow a linear format, mind mapping allows learners to represent ideas in a more flexible and creative structure.

In language education, mind mapping has been used to support vocabulary learning, reading comprehension, writing organization, and speaking preparation.

2.2.2 Benefits of Mind Mapping in Vocabulary Learning

Many researchers have suggested that mind mapping offers several benefits for vocabulary learning.

First, mind mapping helps learners organize vocabulary into meaningful categories. According to Al-Jarf (2011), visual learning tools such as mind maps can improve vocabulary comprehension by helping learners see relationships among words. Second, mind mapping supports memory retention through visual representation. The use of colors, symbols, and images can provide visual cues that facilitate recall (Buzan & Buzan, 2010).

Third, mind mapping promotes active learning. Instead of memorizing isolated words, students actively construct knowledge by organizing vocabulary into networks of related ideas. Oxford (2011) states that learning strategies that involve active cognitive processing can enhance language learning outcomes.

Fourth, mind mapping may increase student motivation and engagement. Morsi and Sivakami (2024) found that students who used mind mapping in vocabulary learning showed higher motivation and better vocabulary retention compared with those who used traditional methods.

In Vietnam, several studies have also examined the use of mind mapping in language learning. For example, Tran Thi Thanh Ha (2020) reported that mind mapping helped secondary school students organize vocabulary more effectively and increased their interest in learning English. Similarly, Nguyen Van Loi (2017) suggested that visual learning strategies such as mind mapping can support vocabulary retention and encourage learner autonomy.

2.3 Classroom Observation in Language Learning Research

Classroom observation is an important qualitative research method used to examine teaching and learning processes in real classroom settings.

According to Cohen, Manion, and Morrison (2018), classroom observation allows researchers to collect direct evidence about classroom interactions, student participation, and instructional practices. Observation can provide valuable insights into how teaching strategies influence students' learning behaviors.

In language education research, observation has been widely used to examine classroom engagement, communication patterns, and the effectiveness of teaching methods. Richards and Farrell (2005) emphasize that classroom observation helps researchers understand how teachers implement instructional strategies and how students respond to these strategies during learning activities.

In the context of vocabulary learning, classroom observation can help researchers examine how students participate in vocabulary activities, interact with peers, and apply learning strategies such as mind mapping. Observation data can therefore provide important information about the learning process, which may not be fully captured through tests or questionnaires.

In Vietnam, classroom observation has also been used in studies on language teaching practices. Le Van Canh (2011) notes that observing classroom activities can help researchers understand how teaching methods affect student engagement and learning outcomes.

2.4 Student Interviews in Language Learning Research

Interviews are commonly used in qualitative research to explore participants' perceptions, experiences, and opinions.

According to Creswell (2014), interviews allow researchers to obtain detailed information about participants' perspectives and personal experiences. Semi-structured interviews are particularly useful because they provide a flexible framework that allows participants to express their ideas freely while still addressing the research questions.

In language learning research, interviews can provide insights into students' learning strategies, motivation, and attitudes toward instructional methods. Dörnyei (2007) states that interviews are effective tools for understanding learners' beliefs and experiences in language learning contexts.

In this study, semi-structured interviews were conducted with selected students to explore their experiences with mind mapping and their perceptions of its effectiveness for vocabulary learning.

Combining classroom observations and student interviews enables researchers to triangulate data and obtain a deeper understanding of both the learning process and students' perspectives

3. Research Methodology

3.1 Research Design

This study employed a qualitative research design to explore how mind mapping is used in vocabulary learning and how it influences students' classroom engagement and vocabulary retention.

Qualitative research aims to understand participants' experiences, behaviors, and perceptions in natural settings (Creswell, 2014). In this study, the qualitative approach was appropriate because the research focused on exploring students' classroom engagement and their experiences with mind mapping, rather than measuring learning outcomes through statistical tests.

Two qualitative data collection methods were used:

- **Classroom observations**, which allowed the researcher to examine students' participation, interaction, and engagement during vocabulary lessons.
- **Semi-structured interviews**, which provided insights into students' perceptions and experiences related to vocabulary learning and the use of mind mapping.

By combining classroom observations and interviews, the study aimed to obtain a comprehensive understanding of both **students' learning behaviors and their perspectives**.

3.2 Research Context and Participants

The study was conducted at Tam Binh Secondary School, Ngu Hiep Ward, Dong Thap Province, South ò Vietnam, in the Mekong Delta, during the 2024–2025 academic year. The participants were Grade 6 students learning English as a foreign language (EFL).

A total of 78 students participated in the study. The students were divided into two intact classes:

- **Control group:** 39 students who learned vocabulary using traditional teaching methods such as repetition, translation, and textbook exercises.
- **Experimental group:** 39 students who learned vocabulary through mind mapping activities.

For the qualitative data collection, a smaller sample of students was selected for interviews.

A total of 10 students participated in the interviews, including:

- 5 students from the control group,

- 5 students from the experimental group.

The interview participants were selected using purposive sampling to represent different levels of participation and learning ability.

Participation in the study was voluntary, and students' identities were kept confidential.

3.3 Data Collection Methods

3.3.1 Classroom Observation

Classroom observation was used to examine how vocabulary lessons were conducted and how students participated in learning activities.

A total of eight vocabulary lessons were observed:

- Four lessons in the control group,
- Four lessons in the experimental group.

The observed lessons corresponded to four units in the Grade 6 English textbook:

1) Unit 1 – My New School,
2) Unit 2 – My House,
3) Unit 3 – My Friends,
4) Unit 4 – My Neighborhood.

During each lesson, the researcher used an observation checklist to record classroom behaviors and learning activities.

The checklist focused on several aspects of student engagement, including:

- students' attention to teacher instructions,
- students' participation in vocabulary activities,
- students' use of learning strategies,
- interaction among students,
- students' confidence when using new vocabulary.

In addition to the checklist, detailed field notes were recorded during each observation to capture classroom interactions, student responses, and significant events.

3.3.2 Semi-Structured Interviews

Semi-structured interviews were conducted to explore students' perceptions and experiences related to vocabulary learning and the use of mind mapping.

A total of ten students were interviewed, including:

- five students from the control group,
- five students from the experimental group,

The interview questions focused on the following topics:

- students' experiences in learning English vocabulary,
- strategies used to remember vocabulary,
- students' opinions about mind mapping,
- perceived benefits and challenges of using mind mapping in vocabulary learning

Each interview lasted approximately 15–20 minutes. The interviews were conducted in Vietnamese to ensure that students could express their thoughts clearly.

With participants' permission, the interviews were audio-recorded and later transcribed for analysis.

3.4 Data Analysis

The data collected from classroom observations and interviews were analyzed using thematic analysis, following the procedures proposed by Braun and Clarke (2006).
The analysis process involved several steps:

1. **Familiarization With The Data.** The Researcher Read The Observation Notes And Interview Transcripts Several Times To Gain An Overall Understanding Of The Data.
2. **Generating Initial Codes.** Important Segments Of Information Related To Classroom Engagement, Participation, And Perceptions Of Mind Mapping Were Identified And Coded.
3. **Identifying Themes.** Similar Codes Were Grouped Together To Form Broader Themes Related To The Research Questions.
4. **Reviewing And Interpreting Themes.** The Themes Were Examined And Interpreted To Understand How Mind Mapping Influenced Students' Classroom Engagement And Vocabulary Learning Experiences.

The results from classroom observations and interviews were compared to ensure data triangulation, which strengthened the credibility of the findings.

3.5 Credibility of the Study

Several strategies were used to ensure the credibility and reliability of the qualitative research.

First, data triangulation was applied by collecting information from both classroom observations and student interviews.

Second, detailed descriptions of classroom events and student responses were recorded to provide rich qualitative data.

Third, the researcher followed systematic procedures for data collection and analysis to ensure transparency and consistency.

These strategies helped improve the trustworthiness of the research findings.

Below is a complete academic version of Section 4 (Observation Results only) based directly on the observation data you provided. It is written in a qualitative research style, suitable for a thesis where Section 4 reports findings without heavy discussion.

4. Findings and Discussion

4.1 Classroom Observation Results

Classroom observations were conducted to examine how vocabulary learning activities were implemented and how students engaged during the lessons. A total of eight observation sessions were carried out, including four lessons in the control group and four lessons in the experimental group. Each lesson corresponded to one unit in the Grade 6 English textbook: *My New School*, *My House*, *My Friends*, and *My Neighborhood*.

The observation checklist focused on five main criteria:

1) Students' attention to teacher instructions,
2) Participation in vocabulary activities,
3) Use of memorization strategies,
4) Interaction with classmates,
5) Confidence in using new vocabulary.

The following sections present the observation findings for both groups.

4.1.1 Observation Results of the Control Group

Four observation sessions were conducted in the control group during traditional vocabulary lessons. Overall, the classroom environment was structured and teacher-directed. Students generally followed the teacher's instructions; however, their participation and interaction were relatively limited.

a. Students' Attention to Teacher Instructions

Across all four lessons, students consistently paid attention to the teacher's instructions. During Unit 1 (*My New School*), students sat quietly while the teacher introduced vocabulary such as *Math*, *Music*, and a *school bag*. Most students followed along in their textbooks and repeated the words chorally.

A similar pattern was observed in Unit 2 (*My House*), where students listened attentively while the teacher introduced vocabulary related to rooms and furniture, such as *living room*, *kitchen*, and *sofa*. The classroom atmosphere remained orderly and quiet.
In Units 3 and 4 (*My Friends* and *My Neighborhood*), students continued to demonstrate attentiveness when the teacher introduced new vocabulary such as *tall*, *friendly*, *park*, and *hospital*. These findings suggest that students in the control group were generally attentive during teacher explanations.

b. Participation in Vocabulary Activities

Although students paid attention to the teacher, participation in vocabulary activities was relatively limited. In most lessons, only a small number of students voluntarily raised their hands to answer questions. The majority of students responded only when the teacher directly called on them.

For example, during Unit 1, only a few students attempted to answer questions related to vocabulary usage, while most students focused on copying vocabulary or completing textbook exercises individually. Similarly, in Unit 2 and Unit 3, students mainly engaged in repeating vocabulary and completing matching or gap-filling tasks. These observations indicate that classroom participation was somewhat passive and largely teacher-controlled.

c. Reliance on Memorization and Repetition

Another consistent observation was the strong reliance on memorization strategies. In all lessons, students copied vocabulary into their notebooks and repeated each word several times as instructed by the teacher.

For instance, during Unit 1, students repeated each word three times after the teacher. When asked to explain the meaning of the word *calculator*, several students looked down at their notebooks before answering.

Similarly, in Units 2, 3, and 4, students frequently relied on their notebooks when forming sentences or explaining vocabulary meanings. These observations suggest that vocabulary learning in the control group depended heavily on repetition and memorization.

d. Student Interaction

Student interaction in the control group was limited. Most classroom activities were completed individually, and opportunities for peer interaction were brief.

During several lessons, the teacher included short pair-check activities lasting approximately two minutes. However, interaction during these activities mainly involved students reading vocabulary or answers aloud to their partners rather than discussing ideas or constructing new sentences collaboratively.

Therefore, peer interaction played a relatively small role in the vocabulary learning process.

e. Confidence in Using New Vocabulary

Students' confidence when using new vocabulary appeared moderate. When students were asked to produce sentences, many spoke softly or hesitated before answering.

For example, in Unit 1, one student produced the sentence *"I have Math today,"* but spoke hesitantly and looked at the textbook before responding. Similarly, in Unit 2, a student said, *"There is a table in my kitchen,"* but paused before finishing the sentence.

In Unit 4, when describing their neighborhood, one student said, *"There is a park… near my house,"* but required a brief pause before completing the sentence. These examples suggest that students were able to use new vocabulary but often relied on teacher prompts or written materials.

f. Summary of Control Group Observations

In short, classroom observations in the control group revealed a structured but teacher-centered learning environment. Students were attentive to instructions and capable of recalling vocabulary. However, their learning activities mainly involved copying, repetition, and individual exercises.

Student interaction and spontaneous language use were limited, and participation levels varied across the class. Compared with the experimental group, students demonstrated lower engagement and less independence in applying new vocabulary.

4.1.2 Observation Results of the Experimental Group

Four observation sessions were conducted in the experimental group during vocabulary lessons that incorporated mind-mapping activities. The observations revealed a highly interactive and student-centered classroom environment.

a. Students' Attention to Teacher Instructions

Students in the experimental group showed strong attention during the instruction phase. When the teacher introduced the mind-mapping technique and wrote the central topic on the board, students immediately focused on the explanation.

For example, in Unit 1 (*My New School*), the teacher demonstrated how to create branches for categories such as *School subjects* and *School things*. Students maintained eye contact with the teacher and followed the explanation carefully.

Similar patterns were observed in the other units. In Unit 2 (*My House*), students listened attentively as the teacher explained how to divide the mind map into branches such as *Rooms* and *Furniture*. Several students began sketching the structure of the mind map in their notebooks while listening.

b. Participation in Mind-Mapping Activities

Participation during mind-mapping activities was notably high. During group work, students actively suggested vocabulary items and discussed how to organize them within the mind map.

For instance, in Unit 1, students proposed vocabulary such as *Math*, *English*, *History*, and *calculator*. Some groups also added additional words beyond the textbook, including *Art club* and *computer room*.

In Unit 2, students suggested vocabulary related to rooms and furniture, such as *bedroom*, *wardrobe*, and *garage*. Students discussed where to categorize certain words, demonstrating active engagement with the vocabulary.

c. Use of Colors and Visual Elements

A distinctive feature of the experimental group's activities was the use of visual elements. Students frequently used colored pens and drawings to organize vocabulary in their mind maps.

For example, in Unit 3 (*My Friends*), students used different colors to distinguish between *appearance* and *personality* vocabulary. Some groups drew simple images, such as smiling faces or small figures, to represent specific words.

Similarly, in Unit 4 (*My Neighborhood*), students used different colors to categorize places, shops, and public services. Some groups also drew icons such as a tree for *park* or a cross symbol for *hospital*. These visual features appeared to increase student engagement and clarity in organizing vocabulary.

d. Student Interaction and Collaboration

Interaction among students was a prominent feature of the experimental group. During group work, students frequently discussed vocabulary meanings and categories.

For example, in Unit 3, when one student placed *long hair* under the personality branch, another student corrected the classification and explained that it belonged under appearance. The group discussed the issue briefly and reorganized the word correctly.

Students also divided responsibilities within groups, such as writing vocabulary, searching for additional words in the textbook, and organizing the design of the mind map. This collaborative process encouraged continuous interaction among group members.

e. Confidence in Using New Vocabulary

Students in the experimental group demonstrated relatively high confidence when using new vocabulary. During presentations, many students volunteered to speak and produced complete sentences without relying heavily on their notes.

For instance, in Unit 1, one student stated confidently: *"My favorite subject is English because it is interesting."* In Unit 2, another student said: *"There is a sofa in my living room."*

Similarly, during Unit 4 presentations, students described their neighborhoods using sentences such as *"There is a park near my house"* and *"There are two supermarkets in my neighborhood."* These examples suggest that students were able to apply vocabulary more confidently in communicative contexts.

f. Summary of Experimental Group Observations

In summary, the observations indicate that vocabulary lessons using mind mapping created a dynamic and student-centered learning environment. Students actively participated in vocabulary activities, interacted frequently with their classmates, and demonstrated creativity through the use of colors and visual elements.

The mind-mapping technique encouraged students to organize vocabulary conceptually rather than memorize isolated words. As a result, students appeared more confident when using new vocabulary and more engaged in classroom activities.

4.2 Summary of Observation Findings

In summary, the observation data reveal clear differences between the two instructional approaches.

The control group followed a traditional teacher-centered approach characterized by repetition, copying, and individual exercises. Although students were attentive, participation and interaction were limited.

In contrast, the experimental group demonstrated higher levels of engagement, collaboration, and confidence during vocabulary learning activities. The use of mind mapping encouraged students to organize vocabulary visually, discuss ideas with classmates, and apply new words in meaningful sentences.

4.2 Interview Results

Semi-structured interviews were conducted with selected students in order to explore their perceptions and experiences of vocabulary learning before and after the implementation of mind mapping. In total, ten students were interviewed, including five students from the control group and five students from the experimental group.

The interviews were conducted at three stages of the study:

1) **Before the intervention** (to explore students' previous vocabulary-learning habits).
2) **Before the pre-test** (to examine students' initial perceptions of mind mapping).
3) **After the intervention and post-test** (to investigate students' experiences and perceived benefits of the method).

The interview findings reveal several key themes related to students' vocabulary-learning strategies, learning difficulties, perceptions of mind mapping, and changes in learning confidence.

4.2.1 Students' Vocabulary Learning Before Using Mind Mapping

The interview results show that before the intervention, most students relied primarily on traditional memorization strategies to learn vocabulary.

Many students reported that they usually copied vocabulary words into their notebooks and tried to memorize them by repetition. For example, participant S05 stated that the main method used was copying new words and learning them by heart. However, the student admitted that vocabulary was often forgotten quickly and that review activities were not done regularly.

Similarly, several students explained that they sometimes repeated vocabulary multiple times in order to remember spelling. Despite these efforts, many students still experienced difficulties remembering the correct spelling of words or recalling vocabulary during tests.

Some students attempted to organize vocabulary in slightly more systematic ways. For instance, participant S04 reported writing vocabulary in a small notebook and

grouping words into categories such as school objects, family members, or animals. The student also tried to create simple sentences using new vocabulary to improve retention. However, even students who applied such strategies acknowledged that traditional learning methods could become repetitive and sometimes boring. Students mentioned that repeatedly writing and reading vocabulary did not always help them remember words for a long time.

In general, the interview findings suggest that before the intervention, students' vocabulary learning mainly depended on **memorization and repetition**, with limited use of visual or organizational strategies.

4.2.2 Students' Initial Perceptions of Mind Mapping

Before fully applying mind mapping in classroom activities, students were asked about their initial perceptions of this learning method.

The interviews indicate that most students had little or no prior experience with mind mapping. Several students reported that they had heard about the concept but had never used it in vocabulary learning before.

Some students initially felt uncertain or anxious about the new method. For example, participant S05 expressed concern that mind mapping might be difficult and that the student might not be able to keep up with classmates. The student reported feeling unsure about how to organize vocabulary into branches or connect different words within a diagram.

Other students expressed curiosity and interest in the new learning strategy. Participant S04, for example, showed a positive attitude toward the method and believed that visual elements such as colors and images might help organize vocabulary more clearly.

However, even students who were interested in the technique reported some initial challenges. These difficulties mainly included organizing vocabulary categories, drawing the mind map structure correctly, and managing the time needed to complete the diagrams.

In summary, students' initial perceptions of mind mapping were mixed, including curiosity and interest as well as uncertainty and lack of confidence.

4.2.3 Students' Experiences After Learning with Mind Mapping

After participating in vocabulary lessons that used mind mapping, students reported several positive learning experiences.

One of the most frequently mentioned benefits was improved vocabulary organization. Students explained that mind maps helped them group vocabulary into related categories, which made it easier to remember multiple words at the same time.

For instance, participant S05 reported that vocabulary could be remembered according to thematic branches. When reviewing the topic *School*, the student was able to

recall several related words, such as *classroom*, *teacher*, *homework*, and *subject*, by looking at the same branch in the mind map.

Students also described how the visual structure of mind maps supported memory recall. Some students reported that during tests, they could mentally reconstruct the mind map and recall vocabulary by remembering the position of branches or images. Another important finding from the interviews was the role of visual elements, such as colors and drawings. Students explained that the use of colors helped distinguish categories, while simple drawings made vocabulary easier to remember.

For example, participant S04 explained that drawing small images or using color highlighting helped create visual associations between vocabulary items and their meanings.

These findings suggest that mind mapping helped students develop visual and conceptual connections between vocabulary items, rather than memorizing words individually.

4.2.4 Students' Engagement and Collaboration in Mind-Mapping Activities

The interviews also revealed that mind mapping encouraged greater classroom interaction and collaboration.

Several students explained that working in groups helped them learn additional vocabulary because classmates contributed ideas that they had not thought of before. Participant **S05** noted that group discussions often resulted in more complete mind maps because each member suggested different vocabulary items.

Students also reported that group work increased participation and allowed them to exchange ideas about vocabulary organization. Some students contributed by suggesting new words, while others helped arrange branches or improve the design of the mind map.

This collaborative process appeared to support both vocabulary learning and classroom engagement.

4.2.5 Changes in Student Confidence and Learning Attitudes

Another important theme emerging from the interviews was the improvement in students' confidence and learning attitudes.

Before the intervention, some students reported feeling discouraged or lacking confidence when learning vocabulary. Participant S05, for example, mentioned feeling disappointed after receiving low vocabulary scores and sometimes feeling discouraged about learning English.

However, after using mind mapping, many students reported increased confidence in their ability to remember and use vocabulary. Students explained that the visual structure of mind maps helped them review vocabulary more efficiently before tests.

Some students also reported improvements in writing and speaking tasks. For example, participant **S05** explained that the student was able to use a wider range of vocabulary when writing a paragraph about daily routines in the post-test.

Students also expressed strong interest in continuing to use mind mapping in the future.

Many believed that the strategy could be applied not only in English learning but also in other subjects such as science, history, or literature.

4.2.6 Remaining Challenges

Although the overall responses were positive, students also mentioned a few remaining challenges.

Some students reported that creating mind maps could initially require more time than traditional note-taking, especially when they attempted to organize vocabulary carefully or add visual elements.

A few students also mentioned occasional difficulties remembering correct spelling, even when they remembered the structure of the mind map.

However, most students indicated that these challenges gradually decreased as they became more familiar with the method.

4.2.7 Summary of Interview Findings

In summary, the interview results indicate that mind mapping influenced both cognitive and affective aspects of vocabulary learning.

Before the intervention, students mainly relied on repetition and memorization strategies. Their initial perceptions of mind mapping included curiosity as well as uncertainty about the new method.

After participating in mind-mapping activities, students reported several benefits, including improved vocabulary organization, stronger memory recall, increased classroom engagement, and greater learning confidence.

Overall, the interview findings suggest that mind mapping not only supported vocabulary retention but also helped create a more engaging and motivating learning experience for Grade 6 students

4.3 Discussion

This study explored how mind mapping influenced Grade 6 students' classroom engagement and vocabulary retention. The findings from classroom observations and interviews provide several insights that support previous research on visual learning strategies in language education.

First, the results show that mind mapping increased students' classroom engagement. In the control group, vocabulary lessons were mainly teacher-centered, and students' participation was relatively passive. Students mostly listened to explanations, repeated vocabulary, and completed individual exercises. This pattern is consistent with

previous studies indicating that vocabulary teaching in many Vietnamese classrooms often relies on memorization and repetition (Le Van Canh, 2011).

In contrast, the experimental group demonstrated higher levels of participation and interaction during mind-mapping activities. Students actively suggested vocabulary, discussed word categories, and collaborated to create mind maps. These findings support Oxford's (2011) view that learning strategies involving active cognitive processing can improve learner engagement and participation.

Second, the interview findings suggest that mind mapping supported vocabulary retention. Before the intervention, most students relied on copying and repetition to memorize vocabulary, but they often forgot words quickly. After using mind mapping, students reported that organizing vocabulary into thematic branches helped them remember words more easily. This result supports the Levels of Processing theory (Craik & Lockhart, 1972), which states that deeper processing of information improves memory retention.

In addition, students mentioned that visual elements such as colors, images, and branch structures helped them recall vocabulary during tests. This finding is consistent with Paivio's Dual Coding Theory (1986), which suggests that combining verbal and visual information can strengthen memory.

Another important finding is the improvement in students' confidence and motivation. Students in the experimental group appeared more confident when using new vocabulary and showed greater interest in vocabulary-learning activities. Similar results were reported in previous studies that found mind mapping can increase learner motivation and positive attitudes toward language learning (Morsi & Sivakami, 2024; Tran Thi Thanh Ha, 2020).

In general, the findings suggest that mind mapping not only supports vocabulary retention but also promotes a more interactive and engaging learning environment for lower-secondary students.

5. Conclusion and Implications

5.1 Conclusion

This study investigated the use of mind mapping in vocabulary learning among Grade 6 students at Tam Binh Secondary School. Using classroom observations and semi-structured interviews, the research explored students' classroom engagement and their perceptions of vocabulary retention.

The findings show that mind mapping created a more interactive and student-centered learning environment compared with traditional vocabulary teaching methods. Students who used mind mapping participated more actively in classroom activities, interacted more with their classmates, and showed greater confidence when using new vocabulary.

Students also reported that mind mapping helped them organize vocabulary into meaningful categories and remember words more easily through visual elements such as colors and images.

Taken as a whole, the findings demonstrate that mind mapping can be an effective strategy for improving both classroom engagement and vocabulary retention among lower-secondary EFL students.

5.2 Implications

5.2.1 For teachers

Teachers may integrate mind mapping into vocabulary lessons to encourage active learning and classroom interaction. Clear instructions and examples should be provided so that students can learn how to organize vocabulary effectively.

5.2.1 For students

Students can use mind mapping as a learning strategy to organize vocabulary visually and review words more effectively.

5.2.2 For schools

Schools may encourage the use of creative and visual learning strategies in English classrooms to improve students' engagement and vocabulary learning.

5.3 Limitations

This study was conducted in only one secondary school with a relatively small number of participants, which may limit the generalizability of the findings. In addition, the research relied mainly on qualitative data from observations and interviews. The study period was also relatively short and focused on only a few vocabulary units.

5.4 Suggestions for Further Research

Future studies could examine the use of mind mapping in different schools or educational levels. Researchers may also use mixed-methods approaches that combine qualitative data with quantitative measurements such as vocabulary tests. In addition, further research could explore the use of mind mapping in other language skills, such as reading, writing, or speaking.

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