

Exploring the Implementation of Semantic Mapping Strategy in Teaching Vocabulary

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Abstract: This study explored how the semantic mapping strategy was implemented in vocabulary teaching, how students responded to its use, and what challenges appeared during the learning process. The research applied a descriptive qualitative design involving five participants: Tari, Zizah, Danu, Dera, and Bunga. The data were collected through semi-structured interviews, classroom observation, and documentation. In analyzing the data, the researcher used Miles and Huberman's interactive analysis model, consisting of data reduction, data display, and conclusion drawing or verification. The results showed that semantic mapping was implemented through visual and interactive learning activities such as grouping vocabulary, connecting concepts, using diagrams, and organizing words into categories. Most students felt that this strategy helped them understand vocabulary more clearly and remember words more easily. The learning activities also became more interactive because students were actively involved in discussions, vocabulary organization, and classroom participation. In addition, students expressed positive responses toward the use of semantic mapping because the activities were considered more interesting and enjoyable compared to conventional vocabulary learning. However, several difficulties were still found during the implementation process. Some students experienced problems when connecting unfamiliar vocabulary and still depended on teacher explanations and examples during classroom activities. Limited vocabulary mastery also influenced students' ability to organize vocabulary relationships independently. Overall, the study indicates that semantic mapping can support vocabulary learning by improving students' understanding, participation, and learning motivation. Therefore, this strategy can be considered as one alternative teaching strategy to create a more meaningful and engaging vocabulary learning environment.

Keywords: Semantic Mapping, Vocabulary Learning, Teaching Strategy, Students' Responses, Qualitative Study

Introduction

Vocabulary plays an important role in English learning because it helps students understand and use language effectively in communication. Without sufficient vocabulary mastery, students often experience difficulties in speaking, writing, reading, and listening activities. In English as a Foreign Language (EFL) learning, vocabulary is considered one of the main foundations that supports students' language development. As stated by Carey et al. (2025), grammar may help learners arrange language, but vocabulary carries meaning in communication. This shows that vocabulary mastery is essential for students in learning English.

In many classroom situations, students still face problems in learning vocabulary. Some students find it difficult to remember word meanings, pronounce unfamiliar words, or use vocabulary appropriately in context. Based on preliminary observation and informal interviews, several students explained that vocabulary learning activities often rely on memorizing word lists and direct translation (Besthia, 2018). These activities sometimes make students feel less interested and less active during the learning process. Students also mentioned that they prefer learning activities involving pictures, diagrams, or visual media because such activities help them understand vocabulary more easily (Noyan et al., 2025; Pushpanathan, 2017).

One strategy that can be used to support vocabulary learning is semantic mapping. Semantic mapping is a visual learning strategy that allows students to connect words, concepts, and categories through diagrams or maps. According to Heimlich and Pittelman (1986), semantic mapping helps learners visualize relationships between words and concepts, making vocabulary easier to understand and remember. Through this strategy, students are encouraged to organize vocabulary into categories and connect new words with their prior knowledge.

The implementation of semantic mapping is also related to meaningful learning theory proposed by Ausubel (1963). The theory explains that learning becomes more meaningful when new information is connected to existing knowledge structures. In semantic mapping activities, students actively connect vocabulary concepts through visual organization and conceptual relationships. As a result, students may develop a better understanding and longer vocabulary retention during the learning process.

Several previous studies have reported that semantic mapping provides positive effects on vocabulary learning. Earlier research found that semantic mapping can improve vocabulary mastery, classroom interaction, and students' learning motivation (Daud et al., 2025). However, many previous studies mainly focused on quantitative findings and learning outcomes. Limited studies have explored how semantic mapping is implemented in classroom practice, especially in Indonesian EFL contexts. In addition, students' experiences, classroom participation, and challenges during the implementation process are still rarely discussed in depth (Pakaja et al., 2025).

Based on this situation, the researcher was interested in exploring the implementation of the semantic mapping strategy in vocabulary learning activities. This study focused on how the strategy was implemented in the classroom, how students responded to the learning activities, and what challenges were encountered during the implementation process. Therefore, the study entitled "Exploring the Implementation of Semantic Mapping Strategy in Teaching Vocabulary" was conducted to provide a deeper understanding of the use of semantic mapping in EFL vocabulary learning.

Methods

This study used a qualitative approach with a descriptive qualitative design to explore the implementation of the semantic mapping strategy in vocabulary learning. This approach was chosen because the study focuses on students' experiences, responses, and challenges during the natural learning process in the classroom. Qualitative research allows researchers to understand learning phenomena in depth from the perspectives of the participants (Lim, 2024).

The study was conducted during an English language learning activity that implemented the semantic mapping strategy in vocabulary teaching. The study participants consisted of five students: Tari, Zizah, Danu, Dera, and Bunga. The participants were selected using a purposive sampling technique because respondents were intentionally selected based on their involvement in the learning activities using semantic mapping and their ability to provide information relevant to the research focus (Ahmad & Wilkins, 2024).

Data collection techniques included semi-structured interviews, observation, and documentation. Semi-structured interviews were used to obtain in-depth information about students' experiences during vocabulary learning using semantic mapping. Observations were conducted to observe classroom activities, student participation, and the implementation of the semantic mapping strategy during the learning process. Furthermore, documentation was used to collect supporting data in the form of field notes, student assignments, and semantic mapping results created during the learning activities.

The data analysis technique in this study employed the interactive analysis model by Miles and Huberman (1994), which consists of data reduction, data display, and conclusion drawing/verification. In the data reduction stage, the researcher selected, simplified, and grouped data from interviews, observations, and documentation based on themes related to the

research questions. Next, data display was performed by presenting the data in the form of thematic tables and narrative descriptions to facilitate the identification of patterns, relationships, and themes emerging from the research data. The final stage, conclusion drawing/verification, was conducted by interpreting all data and drawing conclusions based on recurring findings. These conclusions were then verified through repeated data checks to ensure the credibility and consistency of the research results.

To maintain data validity, this study employed triangulation techniques by comparing data from interviews, observations, and documentation. This technique ensured the data obtained were more valid, consistent, and reliable.

Results and Discussion

Results

Data Reduction

Data reduction refers to the process of selecting, simplifying, focusing, and transforming raw data obtained from interviews, observations, field notes, and documentation. In this study, the researcher transcribed all interview recordings from five participants, namely Tari, Zizah, Danu, Dera, and Bunga. The researcher carefully reviewed the interview transcripts several times to identify important statements related to the implementation of the semantic mapping strategy in vocabulary learning.

The researcher categorized the responses into several themes based on the research questions, such as:

1. Visual learning strategy
2. Interactive classroom learning
3. Vocabulary understanding
4. Students' motivation
5. Active participation
6. Learning challenges

Irrelevant data unrelated to the research focus were excluded during this stage.

Table 1. Data Reduction

Participant	Raw Data	Reduced Data	Initial Coding
Tari	"Semantic mapping helps me understand vocabulary meanings more easily because the teacher connects words using diagrams and pictures."	easier vocabulary understanding through diagrams	Visual learning
Zizah	"Visual learning through semantic mapping makes vocabulary easier to remember."	vocabulary easier to remember	Vocabulary retention
Danu	"Semantic mapping increases my motivation in learning vocabulary."	increased learning motivation	Learning motivation
Dera	"Classroom learning becomes more interactive."	active learning process	Interactive classroom
Bunga	"Sometimes I still find difficulties connecting unfamiliar words."	difficulty connecting unfamiliar vocabulary	Learning challenges

The data reduction process demonstrated that most participants viewed semantic mapping positively because it supported vocabulary understanding, classroom interaction, and learning motivation. However, several challenges related to unfamiliar vocabulary were also identified.

Table 2. Findings for Research Question 1

Participant	Main Response	Initial Code	Theme
Tari	The teacher connected vocabulary using a diagram and pictures	visual diagrams	Visual Learning Strategy
Zizah	Vocabulary became easier to remember through visual aids learning	vocabulary retention	Visual Learning Strategy
Dera	Learning became more interactive	classroom interaction	Interactive Classroom Learning
Danu	Students connected words and meanings	vocabulary connection	Vocabulary Understanding
Bunga	Students sometimes struggled with unfamiliar vocabulary	learning difficulty	Learning Challenges

The table above demonstrates that semantic mapping was implemented through visual learning activities, vocabulary connections, and interactive classroom discussions. Most students perceived the strategy as helpful in understanding vocabulary meanings more effectively.

Table 3. Findings for Research Question 2

Participant	Representative Response	Category	Theme
Tari	Learning became more interesting	Positive response	Students' Positive Responses
Zizah	Activities were interactive and enjoyable	Enjoyable learning	Learning Motivation
Danu	Semantic mapping increased motivation	learning motivation	Students' Motivation
Dera	Students participated actively	active participation	Active Participation
Bunga	Students still needed guidance	learning support	Learning Challenges

The findings displayed in Table 2 indicate that students responded positively to the semantic mapping strategy because learning became more interesting, interactive, and motivating. Nevertheless, several students still required teacher guidance during vocabulary mapping activities.

Table 4. Findings for Research Question 3

Participant	Representative Response	Initial Code	Theme
Bunga	Difficulties connecting unfamiliar vocabulary	unfamiliar vocabulary	Learning Challenges

Tari	Some vocabulary is still needed teacher guidance teacher explanation	Teacher Support
Danu	Students are sometimes vocabulary confusion confused about word categories	Vocabulary Difficulty
Zizah	Some activities needed more additional explanation examples	Learning Support
Dera	Limited vocabulary mastery limited vocabulary affected learning	Vocabulary Limitation

Interpretation: The findings indicate that students still experienced several challenges during semantic mapping activities, particularly in connecting unfamiliar vocabulary and organizing vocabulary concepts independently.

Discussion

The results of this study indicate that implementing the semantic mapping strategy positively impacted vocabulary learning. The findings revealed that semantic mapping created a visual and interactive learning environment, helping students understand vocabulary meanings more effectively. This strategy also increased student motivation, class participation, and engagement during vocabulary learning activities (Budiarte et al., 2024). However, several challenges related to unfamiliar vocabulary and the need for teacher guidance were encountered during implementation.

One of the most important findings of this study relates to the implementation of semantic mapping as a visual learning strategy. The results showed that students learned vocabulary through diagrams, pictures, word groupings, and relationships between concepts (NASEM, 2018). Most participants explained that semantic mapping helped them connect vocabulary meanings more clearly and made vocabulary easier to remember (Chen, 2024). This finding supports Ausubel's (1963) theory of meaningful learning, which emphasizes that learning is more effective when new information is connected to prior knowledge. Through semantic mapping, students connect new vocabulary with familiar concepts, making the learning process more meaningful and easier to understand.

The results of this study also support previous research conducted by Heimlich and Pittelman (1986), which stated that semantic mapping can improve vocabulary comprehension by helping students visualize the relationships between concepts and words. In this study, students explained that vocabulary became easier to understand because semantic mapping organized words visually and conceptually. Observations also showed that students actively grouped vocabulary and connected meanings during the learning activities.

Another important finding in this study relates to students' positive responses to the semantic mapping strategy. The results showed that students considered vocabulary learning more interesting, interactive, and enjoyable when semantic mapping was implemented in class. Furthermore, students also demonstrated increased learning motivation and active participation during the learning activities. These findings align with constructivist theory, which states that students learn more effectively when they are actively involved in constructing knowledge through interactions and learning experiences.

Observations supported this interpretation, as students were seen actively participating in discussions, organizing vocabulary, and collaborative learning activities. Students appeared more enthusiastic during class interactions and participated more confidently than with traditional vocabulary learning methods (Ardiansyah et al., 2024). Therefore, semantic mapping not only improves vocabulary comprehension but also creates a more student-centered and engaging learning environment.

This study also found that semantic mapping encouraged active participation during classroom learning activities. Students discussed vocabulary meanings with their group mates,

categorized words, and connected ideas independently during semantic mapping activities. These findings indicate that semantic mapping supports collaborative learning and classroom interaction. This strategy allows students to be directly involved in the learning process rather than passively memorizing vocabulary lists.

However, this study also identified several challenges during the implementation process. One major challenge was students' difficulty connecting unfamiliar vocabulary independently. Some students still needed teacher explanations and additional examples to organize vocabulary concepts effectively. Students with low vocabulary mastery experienced greater difficulties during semantic mapping activities because they lacked sufficient prior knowledge to connect vocabulary meaningfully (Udaya, 2021).

These findings indicate that teacher guidance remains crucial in implementing semantic mapping strategies. Although semantic mapping supports independent and interactive learning, students still need instructional support, especially when encountering new and difficult vocabulary. Teachers play a crucial role in guiding students, providing examples, and helping them organize relationships between vocabulary words appropriately.

The results also indicate that the effectiveness of semantic mapping is influenced by students' vocabulary skills and the implementation process in the classroom. If students have limited vocabulary, they may experience confusion during semantic mapping activities (Anditasari, 2022). Therefore, teachers need to provide clear instructions, select appropriate vocabulary materials, and provide continuous guidance.

Conclusion

Based on the research results, it can be concluded that the semantic mapping strategy has a positive impact on students' vocabulary learning. Semantic mapping was implemented through visual and interactive learning activities such as the use of diagrams, pictures, vocabulary groupings, and relationships between word concepts. This strategy helps students understand vocabulary meaning more easily because they can see the relationships between words visually and conceptually.

The research results also showed that students responded positively to the application of semantic mapping in vocabulary learning. Most students felt that learning was more interesting, enjoyable, and interactive than conventional learning methods. Furthermore, semantic mapping also increased student motivation, active participation, and engagement during learning activities. Students became more active in discussions, connecting vocabulary, and organizing ideas during the learning process.

However, this study also identified several challenges during the implementation of semantic mapping. Some students still had difficulty connecting unfamiliar vocabulary and required teacher guidance during learning activities. Limited mastery of basic vocabulary also affected students' ability to construct semantic maps independently.

Overall, this study shows that semantic mapping is an effective strategy for enhancing vocabulary learning because it can increase vocabulary comprehension, learning motivation, classroom interaction, and active student participation. This strategy also supports more meaningful and student-centered learning in English.

Therefore, English teachers are advised to implement semantic mapping strategies in vocabulary learning activities to create a more interactive and effective learning environment. Furthermore, teachers need to provide sufficient guidance so that students can understand the relationships between vocabulary words well. Future researchers are advised to conduct research with a larger number of participants and at different educational levels to obtain broader and more in-depth results regarding the effectiveness of semantic mapping strategies in English learning.

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