

The implementation of semantic mapping in enriching vocabulary for ielts learners at Odin language academy

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Abstract: This research aims to explore the benefits of semantic mapping for English language learners, particularly for IELTS students at ODIN Language Academy. The study evaluates the effectiveness of semantic mapping in vocabulary enrichment, comparing it with traditional strategies. The research involved 60 IELTS students, split into an experimental group (31 students) using semantic mapping and a control group (21 students) employing conventional methods. Pre-tests and post-tests were administered to both groups, and the results were analyzed using deductive reasoning and quantitative methods, including Classroom Action Research (CAR) and controlled experiments. The findings indicated that semantic mapping significantly improved vocabulary acquisition, helping students overcome challenges with word memorization and better prepare for IELTS tasks. Students exposed to semantic mapping outperformed their peers who followed traditional methods. The study concluded with recommendations to enhance semantic mapping implementation, highlighting the importance of teacher facilitation, promoting student collaboration, and optimizing time allocation in lessons.

Keywords: Semantic mapping, IELTS

1. INTRODUCTION

The fast-paced globalization process and the rapid development of information technology have led to an increasing demand for the acquisition of the English language. As the global lingua franca, English serves as the primary medium of communication in various sectors, such as business, education, and international relations. In this context, acquiring proficiency in English has become a crucial skill for students who wish to pursue higher education, especially those preparing for the International English Language Testing System (IELTS).

Vocabulary acquisition plays an essential role in language learning, as words are the building blocks for communication. However, many non-native learners of English face significant challenges in acquiring and retaining new vocabulary. Traditional vocabulary teaching methods, such as rote memorization and translation, often fail to engage learners and lead to poor long-term retention. Learners often struggle with effectively using, understanding, and memorizing new vocabulary, primarily due to limited classroom time and concentration. These difficulties hinder their comprehension of English materials and reduce their enthusiasm during lessons, ultimately leading to poorer academic performance. Teachers, on the

other hand, face challenges in selecting appropriate vocabulary teaching methods due to the diverse backgrounds, levels, and interests of students. Many educators rely on traditional techniques such as dictation, note-taking, and sentence construction, which are often ineffective as students find them tedious and are reluctant to practice regularly. To address this, we chose to explore Semantic Mapping, a technique that illustrated the link between concepts and task phrases through a visual, which can be used both in the classroom and independently by students to enrich their vocabulary (Renata, 2018).

This research aims to evaluate the effectiveness of semantic mapping in enriching the vocabulary of IELTS learners at ODIN Language Academy. It seeks to answer the following research questions:

How can semantic mapping be beneficial in enriching vocabulary for IELTS learners?

Is semantic mapping more effective than traditional methods for teaching vocabulary to IELTS learners?

How can students apply semantic mapping to improve their long-term retention of vocabulary?

2. RESEARCH METHODOLOGY

To answer the research questions, two primary research methods were used: controlled experiments

and Classroom Action Research (CAR). These methods were applied to assess the effectiveness of semantic mapping in comparison to traditional vocabulary teaching strategies.

2.1. Controlled Experiment Design

This method involved dividing students into two groups: an experimental group and a control group. The experimental group learned vocabulary through the use of semantic mapping, while the control group was taught using traditional methods such as translation and dictation. This experiment took place in four IELTS classes at ODIN Language Academy, involving 60 students aged between 16 and 21. The experimental group included 31 students, and the control group consisted of 29 students. Although both groups were introduced to the same vocabulary topics, their teaching methods varied. Pre-tests and post-tests were administered to both groups to assess their vocabulary knowledge before and after the experiment. The test results were then analyzed to determine the effectiveness of the respective teaching methods.

2.2. Classroom Action Research (CAR)

Classroom Action Research (CAR) was utilized to examine students’ reactions to semantic mapping in real classroom environments. This approach followed four key stages: planning, implementation, observation, and reflection (Kunlasomboon, N. *et al.* 2015). The research spanned two cycles, each consisting of three lessons, with each lesson lasting 90 minutes, of which 50 minutes were dedicated to applying semantic mapping.

During the planning phase, the teacher created lesson plans and gathered the necessary materials, including handouts and visual aids for the semantic mapping activities. The implementation phase involved delivering the lessons and monitoring students’ participation and engagement. In the observation phase, the teacher recorded students’ performances in vocabulary tasks and interactions during class. Lastly, in the reflection phase, the collected data was analyzed, and necessary adjustments were made in preparation for the subsequent cycle.

3. FINDINGS

The learners’ results of the post-tests at the end of the cycle demonstrated the effectiveness of the technique used. To get the data related to the learners’ vocabulary knowledge level, we distributed the vocabulary test to participants of both experimental

and control group. However, in this section, only the scores of learners who were taught with semantic mapping strategy would be assessed. According to the success criteria, 75% of the learners using the semantic mapping approach at the conclusion of the cycle would acquire the vocabulary score equal or more than 60. Besides, there should be an improvement between scores of pre-test and post-test.

3.1. The results of learners from the experimental group in cycle 1

In cycle 1, there were three sessions, lasting one and a half hours each and including approximately 50 minutes to implement the semantic mapping technique. The pre-test and post-test both consisted of 40 questions from learning topics of classes in cycle 1, and each items was given one point for each correct answer. Question types in these tests were diverse, such as multiple choice, table/summary completion, matching words to complete phrases/ collocations/sentences and many more.

Table 1: The minimum, maximum, mean score, and standard deviation of the pre-test scores of the experimental group

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PRETESTSCORE	31	29.00	68.00	51.8065	7.53843
Valid N (listwise)	31				

From Table 1 shows that the figure of the calculated standard deviation was quite large (7.53843), which could be interpreted that the collected data was spread further away from the mean. This means at the beginning of the experiment, most learners in the experimental group showed a fair lack of vocabulary knowledge and the word resources of them varied significantly.

Table 2: The classification of the pre-test scores of the experimental group

No	Classification	Score	Pre-test scores	
			F	P (%)
1	Very good	80-100	0	0
2	Good	70-79	0	0
3	Fair	60-69	5	16.12
4	Poor	50-59	17	54.84
5	Very poor	0-49	9	29.04
Total			31	100

Source: Results from data analysis (2023)

The data from the research revealed that the majority of the learners’ prior vocabulary knowledge was classified as “poor”, which means a vast majority of learners in the experimental group had inadequate vocabulary resources.

Table 3: The minimum, maximum, mean score, and standard deviation of the post-test scores of the experimental group in cycle 1

	N	Minimum	Maximum	Mean	Std. Deviation
POSTTESTSCORE	31	42.00	79.00	61.0968	7.09541
Valid N (listwise)	31				

As demonstrated from Table 3, the assessed standard deviation was 7.09541, proving that there was still a noticeable variation between the post-test scores of 31 experimented learners.

Table 4: The classification of the post-test scores of the experimental group in cycle 1

No	Classification	Score	Post-test scores	
			F	P (%)
1	Very good	80-100	0	0
2	Good	70-79	5	16.12
3	Fair	60-69	15	48.39
4	Poor	50-59	10	32.26
5	Very poor	0-49	1	3.23
Total			31	100

The outcomes demonstrated that, in comparison to before the adoption of semantic mapping, the learners' command of vocabulary had improved. Compared with the pre-test results, the number of learners who were categorised as "good" and "fair" increased from 0 (0%) and 5 (16.12%) to 5 (16.12) and 15 (48.39%), respectively. In contrast, the quantity of "poor" and "very poor" test-takers decreased from 17 (54.84%) and 9 (29.04%) to 10 (32.26%) and 1 (3.23%) accordingly. The learners' first post-test results, however, did not satisfy the requirements for success. Out of 75% of learners, only 64.51% reached or surpassed 60 in their scores.

There were two reasons why cycle one's semantic mapping implementation did not work out. First, because there was a lack of understanding of concepts from semantic mapping, learners were still having trouble remembering the word and its meaning. The second issue is that because they work alone, the vocabulary enrichment of the learners had not improved.

The researcher conducted the cycle 2 with better preparation because the success criterion had not yet been met. Improvements were made in two areas. In order to prevent students from being confused when creating semantic mapping, the researcher

first provided more instances and explanations. Second, to encourage greater idea sharing amongst classmates, the learners were instructed to work in groups as opposed to individuals.

3.2. The results of learners from the experimental group in cycle 2

Cycle 2 consisted of three one and a half-hour session, with roughly 50 minutes dedicated to applying the semantic mapping technique, which was similar to cycle 1. The post-test at the end of cycle 2 also included 40 questions with each correct answer gaining one point.

Table 5: The minimum, maximum, mean score, and standard deviation of the post-test scores of the experimental group in cycle 2

	N	Minimum	Maximum	Mean	Std. Deviation
POSTTESTSCORE	31	55.00	86.00	66.7419	6.83924
Valid N (listwise)	31				

The data in table 5 indicated that the mean score at the end of cycle 2 grown to 66.7419, which might be perceived that the overall score of 31 test-takers had improved. Similarly, both the maximum and minimum score increased to 55 and 86, and these were achieved by one learner for each one. Additionally, the variation of results between learners dropped, illustrating that scores clustered more tightly around the average number due to a fall in standard deviation to 6.83924. This can be interpreted that learners' vocabulary knowledge experienced a stable growth.

Table 6: Classification of the post-test scores of the experimental group in cycle 2

No	Classification	Score	Post-test scores	
			F	P (%)
1	Very good	80-100	3	9.68
2	Good	70-79	9	29.03
3	Fair	60-69	12	38.71
4	Poor	50-59	7	22.58
5	Very poor	0-49	0	0
Total			31	100

As exhibited in Table 6, the vocabulary scores of learners in the post-test of cycle 2 showed a greater achievement at a good frequency. Regarding the highest vocabulary level, 3 learners (9.68%) obtained a score above 80 and were classified as having "very good" lexical command. 9 test-takers (29.03%) acquired the result between 70 and 79, categorised

as “good”. Meanwhile, the number of scores equal to or under 59 decreased dramatically compared with that from the pre-test before implementing semantic mapping.

In short, the use of the semantic mapping approach has gradually enriched learners’ vocabulary. Only 16.12% of learners surpassed the score of 60 in the pre-test prior to the implementation of the semantic mapping technique, indicating a low level of vocabulary competence among the experimental group. They were more proficient in vocabulary after two cycles of implementation. This occurs as a result of semantic mapping, which aids learners in learning words in a more structured manner since the meaning was easily memorised by the students. The improvement was 77.42% of learners obtained the score equal or above 60 in cycle two compared to only 64.51% in cycle one. This met the given criteria which showed that the implementation of semantic mapping in enriching vocabulary for IELTS learners was successful.

3.3. The comparison between the effectiveness of implementing semantic mapping and traditional methods to enrich IELTS learners’ vocabulary

Table 7: Comparison of pre-test scores between the experimental and control group

	N	Minimum	Maximum	Mean	Std. Deviation
PRETESTEXPERIMENTAL	31	29.00	68.00	51.8065	7.53843
PRETESTCONTROL	29	32.00	70.00	51.2069	7.37457
Valid N (listwise)	29				

From Table 7, it is explicit that the figures of the control group were relatively similar to those of the experimental group. Most control group learners as well as experimental group learners had a moderate deficiency of vocabulary knowledge at the start of the trial, and their word resources differed greatly.

Table 8: Comparison of post-test scores between the experimental and control group in cycle 1

	N	Minimum	Maximum	Mean	Std. Deviation
POSTTESTEXPERIMENTAL1	31	42.00	79.00	61.0968	7.59541
POSTTESTCONTROL1	29	37.00	73.00	57.1724	7.30493
Valid N (listwise)	29				

The statistics in Table 8 display the mean score of learners from the control group, which was 57.1724, indicating an improvement compared to their pre-test scores. There was also an increase in both the minimum and maximum scores achieved by the learners. The standard deviation remained high at 7.30493. However, the average post-test result of

the experimental group (61.0968) was notably better than that of the 29 learners from the control group (57.1724).

Regarding the classification of the post-test scores of the experimental and control group in cycle 1, there was a significant distinction between the post-test score frequencies in cycle 1 between learners from the experimental group and the control group. After cycle 1, which included three sessions of implementing semantic mapping, learners who applied this strategy saw better improvement in their post-test scores, with 64.51% achieving a score of 60 or above. Meanwhile, 37.93% of learners who enriched their vocabulary using conventional techniques (dictation, translation) scored 60 or higher. Additionally, the control group showed a higher proportion of test-takers receiving a score of 59 or below, classified as ‘poor’ or ‘very poor.’ Overall, the implementation of semantic mapping proved to be more effective in enhancing IELTS learners’ vocabulary knowledge than traditional strategies. However, the percentage of learners in the experimental group still did not meet the success criteria, so a further comparison of post-test results at the end of cycle 2 will be conducted to examine the efficacy of semantic mapping more closely.

Table 9: Comparison of post-test scores between experimental and control group in cycle 2

	N	Minimum	Maximum	Mean	Std. Deviation
POSTTESTEXPERIMENTAL2	31	55.00	86.00	66.7419	6.83924
POSTTESTCONTROL2	29	45.00	76.00	60.5172	7.27865
Valid N (listwise)	29				

After three lessons in cycle 2, the statistics related to post-test score of 60 learners from both the experimental and control group is collected and demonstrated by Table 9. It is noticeable that the previously discussed outcome of the experimental group revealed a greater improvement compared with that of the control group. 29 test-takers who acquired new vocabulary through conventional techniques achieved a mean score of 60.5172. This was a slight enhancement after cycle 1 and the figure of standard deviation remained relatively unchanged in comparison with the post cycle 1 standard deviation. It could be concluded that there was still a large disparity between learners’ vocabulary level in the control group.

Regarding the classification of the post-test scores of the experimental and control group in

cycle 2, there was a transparent difference in the categorisation of learners' vocabulary knowledge of the experimental and control group. 77.42% out of 31 learners obtained a score equal or above 60 and this met the teacher's success criteria. On the other hand, only 55.17% out of 29 learners received a similar range of score and the proportion of test-takers got results from 0-59 was 44.83% which was higher than that of experimental group (25.81%).

Via collected data examined above, the researcher could come to an inference that semantic mapping is superior to traditional teaching strategies in the purpose of enriching vocabulary for IELTS learners at ODIN Language Academy.

3.4. Discussion

Semantic mapping significantly improved learners' vocabulary, as shown by the data and findings from post-test results in cycles one and two compared to pre-test scores. More than 75% of learners in the experimental group were classified as having a "fair" vocabulary level, demonstrating the method's effectiveness. Semantic mapping enhanced vocabulary acquisition more effectively than traditional methods, as shown in the controlled experiment. By organizing words into conceptual maps, learners expanded their vocabulary range and improved word recall.

The technique proved beneficial in addressing common vocabulary issues, such as word memorization. It improved learners' reflexes and understanding of vocabulary, enabling them to use words fluently in context. Additionally, semantic mapping helped students better comprehend tasks involving the four IELTS skills (reading, listening, speaking, writing). The method enhanced test-takers' reading comprehension, helped them catch keywords in listening, and improved their ability to express ideas in speaking and writing.

Moreover, semantic mapping increased classroom participation. The student-centered approach encouraged learners to organize ideas, collaborate, and share vocabulary. Reduced teacher involvement allowed learners to take ownership of the learning process. Observations revealed that learners were more engaged and creative with their maps, showing increased enthusiasm for vocabulary acquisition. Therefore, the author concludes that semantic mapping can enhance students' motivation to acquire vocabulary and improve their overall

English proficiency, particularly for achieving higher IELTS scores.

4. CONCLUSION

In conclusion, the implementation of semantic mapping at ODIN Language Academy has proven to be an effective method for enriching the vocabulary of IELTS learners. The visual and interactive nature of semantic mapping helps students understand and retain vocabulary more effectively than traditional methods. The study also highlights the importance of collaboration and active participation in the learning process.

Future research could explore the long-term effects of semantic mapping on vocabulary retention and its application in other areas of language learning, such as grammar and reading comprehension. Additionally, further studies could investigate the impact of semantic mapping on different types of learners, such as visual or auditory learners, to determine how this strategy can be adapted to meet individual needs.

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