



The Effect of the Graphic Organizer Strategy on Student's Vocabulary Building at ITB STIKOM Bali



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Abstract

This study aimed to determine whether the use of the Graphic Organizer (GO) strategy could improve students' vocabulary development at ITB STIKOM Bali. The population of this study was the students in the first semester who were studying English for IT. Through cluster random sampling, the two classes were taken as samples in this study. They were assigned to the experimental and control groups by lottery. To obtain the required data, the two groups received different treatments. The experimental group was taught by using the Graphic Organizer strategy (GOs), while the control group was taught by using a conventional technique. The instruments used to collect the data in this study were a pretest, a posttest, and a teaching scenario. After analyzing the result was found that there was a significant difference between students' vocabulary building at students who were taught using the GO strategy and those who were taught using the conventional vocabulary. The findings revealed that None (0%) of the students in the experimental group scored less than **10**, while in the control group, there were **6** (17,6%) students who got a score less than ten.

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1 Introduction

Language functions as a fundamental medium of communication and remains an essential subject to be mastered, particularly in higher education, where students are expected to engage in academic and professional discourse. Mastery of a language requires competence in four core skills—listening, reading, speaking, and writing—supported by essential language components such as pronunciation, spelling, grammatical structure, and vocabulary. Among these components, vocabulary plays a crucial role in enabling learners to understand and convey meaning effectively.

Moir & Nation (2008) observed that vocabulary instruction received limited emphasis in earlier approaches to language teaching, as greater attention was often given to grammatical structures. However, recent developments in language pedagogy have increasingly recognized vocabulary as a central element of language learning. Vocabulary knowledge is particularly vital for learners of English as a foreign language (EFL), as limited vocabulary proficiency restricts students' ability to communicate ideas clearly, comprehend academic texts, and participate actively in classroom interactions. In contrast, a strong vocabulary foundation supports the development of all language skills.

Thornbury (2002) highlighted that while grammar allows partial meaning to be conveyed, vocabulary is indispensable for effective communication. Adequate vocabulary knowledge enables learners to comprehend spoken input, interpret written materials, and express ideas fluently in both spoken and written forms. This condition is especially relevant in tertiary education, where students are required to engage with discipline-specific terminology and academic discourse.

Despite the acknowledged importance of vocabulary mastery, many first-semester students at ITB STIKOM Bali encounter challenges in learning and retaining English vocabulary. Preliminary observations indicated that students often struggle to identify synonyms and antonyms, understand contextual meanings, and translate vocabulary accurately. Furthermore, students reported low motivation and boredom during vocabulary learning activities, which were frequently dominated by memorization and dictionary-based tasks (Castro-Delgado et al., 2024).

To address these challenges, English instructors must adopt instructional strategies that align with students' cognitive levels and promote active engagement. Vocabulary items that appear simple to instructors may pose significant difficulty for learners, resulting in ineffective vocabulary acquisition. Although consulting dictionaries is a common method for learning new words, it is often time-consuming and does not guarantee meaningful understanding (Sarica & Cavus, 2009). One alternative approach is the use of Graphic Organizers (GO), which facilitate vocabulary development by enabling learners to visually organize and relate concepts. Graphic Organizers are visual representations that help students structure information and establish meaningful connections between concepts (Zaini et al., 2010). Clark (2007), further argued that Graphic Organizers not only assist learners in categorizing information but also enhance conceptual understanding, stimulate idea generation, and support the identification of relationships among concepts. Therefore, this study aimed at investigating the effectiveness of the Graphic Organizer strategy in improving English vocabulary mastery among first-semester students at ITB STIKOM Bali.

2 Materials and Methods

1) Participants

This study focused on investigating students' vocabulary development. The participants were **first-semester students at ITB STIKOM Bali**, who were selected as the sample of the study. The participants were divided into two groups: an experimental group and a control group. The experimental group received vocabulary instruction using the Graphic Organizer strategy, while the control group was taught using conventional instructional methods. The use of the Graphic Organizer strategy was expected to enhance students' vocabulary development compared to traditional teaching approaches.

2) Research Design

The design of this research was quasi-experimental which was presented quantitatively where vocabulary items were taught to the experimental group students using the GO strategy while they who were taught to the control group students using the conventional technique.

3) Research Variable

There are two variables in this research, namely; Independent and dependent variable. According to Tuckman (1999) independent variable in a research study is the factor that is measured, manipulated, or selected by the experimenter to determine its relationship to an observed phenomenon. Based on the

definition of independent variable, “Graphic Organizer” strategy is the independent variable of this study. On the other hand, dependent variable according to Tuckman (1999) is the factor that is observed and measured to determine the effect of the independent variable; it is the factor that appears, disappears, or varies as the researcher introduces, removes, or varies the independent variable. In this study, the dependent variable is “students score achievement”.

4) Data Collection

Instruments

There are three instruments used in this study. They were pretest, posttest as well as a complete instrument. The complete research instrument is used to conduct research. In this case, the researcher used teaching scenarios as a means to control the subjects. The teaching scenario was the researcher's guidance in implementing the strategy in the experimental group as well as maintaining conventional teaching techniques in the control group. The teaching scenario could be seen in the appendices.

Validity

Validity is the extent to which the tests measure what they were expected to measure (Fraenkel & Wallen, 1990). Using three instruments for data collection would help to validate the findings; the findings from all the instruments could converge to present the results of this study. Data gathered from the pretest and posttest were tabulated to make a comparison of the achievements of the students.

Reliability

Reliability is the degree to which a test consistently measures whatever it measures. A test is said to be reliable if the test shows an exact result. Fraenkel & Wallen (1990) define reliability as the way to measure the consistency and the stability of the test.

Method of Data Collection

These were the following steps of data collection:

- a) The two groups as the samples were chosen by the researcher from the population, then the groups were assigned randomly as the experimental group and control group by lottery.
- b) The experimental group was treated by GOs, while the control group was taught conventionally. The treatment lasted for about one month.
- c) The scores of the other 68 students were classified in groups of 10 (0-1, 11-20, 21-30, 31-40, 41-50), then the students whose scores were in each group were divided into two equal groups as control and experimental, so that the students were distributed in each group similarly.

5) Data Analysis

The analysis of the data can be explained systematically as follows.

- a) The experimental group was treated by GOs, while the control group was taught conventionally; the treatment lasted for about one month.
- b) The result of pre test would be compared with the result of post test.
- c) The results of post test from both groups were analyzed quantitatively.
- d) Formulating a conclusion.

6) Hypothesis Testing

After proving that the data was normally distributed and homogeneous, a parametric test of the two groups independent t-test, was administered. The t-test was used to measure the significant difference between the means of the two groups. The alternative hypothesis is formulated.

There is a significant difference between the vocabulary building at 7th-grade students of SMP N 5 Mendoyo who were taught using the Graphic Organizer strategy and the other students who were taught by the Conventional Vocabulary teaching technique. Statistically, it would be formulated as follows:

$$H_a : X \neq Y$$

Note:
 Ha: The alternative Hypothesis
 X : The mean score of the Control Group

This study is intended to investigate whether or not there is a significant difference in students' vocabulary building between those who were taught using the conventional technique and the graphic organizer strategy. If there is no significant difference in students' scores, it means that the null hypothesis will be accepted and the alternative hypothesis will be rejected. However, if there is a significant difference, the alternative hypothesis will be accepted, and the null hypothesis will be rejected.

3 Results and Discussions

The findings can be seen below:

Table 1
 Result of Control Group (Cg) and Experimental Group (Eg) Based on Pretest Scores

Score	Number of students in Cg (%)	Number of students in Eg (%)
1-10	40	41
11-20	25	27
21-30	20	19
31-40	8	10
41-50	7	3
50-100	0	0
Total (%)	100	100

From the result that was shown in Table 1, it could be seen that there were no students who gained the highest score of 50-100. In the score level of 41-50, 7 students in Cg gained it; meanwhile, there were 3 students in Eg. 8 students in Cg got a score in the level of 31-40, while in a similar score level, there were 10 students in Eg who got it. One step down level of score, which was 21-30, was obtained by 20 students from Cg and 19 students from Eg. There are 25 students from Cg and 27 students from Eg who got a score of 11-20. As it can be seen in Table 1, most of the students (42%) in both the control and experimental groups obtained a score of 0 to 10 in the pretest, which was the lowest score.

After giving treatment to the experimental group, first, the performances of the two groups were compared, and second, the performances of the two groups in the pretest and posttest were compared to investigate their progress and the influence of using GOs and Conventional teaching treatment. The result could be seen in the following table.

Table 2
 Result of Control Group (Cg) and Experimental Group (Eg) Based on Posttest Scores

Score	Number of students in Cg		Number of students in Eg (%)	
	Nominal	Percentage	Nominal	Percentage
1-10	6	17,6%	0	0%
11-20	8	23,5%	1	2,9%
21-30	14	41,2%	4	11,8%
31-40	4	11,8%	12	35,3%
41-50	2	5,9%	10	29,4%
50-100	0	0%	7	20,6%
Total	34	100%	34	100%

Table 2 shows the posttest results for both the experimental and control groups; all students in the experimental group showed encouraging improvements compared to those in the control group. None of the students in the experimental group scored less than **10**, whereas in the control group, 6 students scored less than 10. The result

related to the research question, concerning whether the GO strategy had an effect on students' vocabulary building, showed that the GO group students had higher scores in vocabulary tests.

This result was in line with the findings of Nilforoushan (2012) and Zaghlool (2004). These higher scores could be influenced by four factors. First, providing those students with direct and explicit instruction on vocabulary-building techniques might have enabled them to improve their vocabulary repertoire in terms of the learned features of each vocabulary item. In other words, students learned all eight features together for each vocabulary item they came across; that is, its spelling, pronunciation, part of speech, meaning in the first language, meaning in the second language, synonym, antonym, and using it in a sentence. The second reason could be the use of the GO strategy to teach different vocabulary items (Colliot & Jamet, 2018). GO might help students to visualize and see all learned features as important parts of the same vocabulary item that they were trying to learn. As it is known that nowadays students are more like visual learners who have grown up using video games and computers to get new knowledge. And GO could be a teaching that represents those kinds of learning styles. The third, using the GO strategy, might have enabled those students to develop their vocabulary building through a visual representation, not by rote learning of separate abstract concepts, and the last, the students in the conventional technique memorized vocabulary items with their meanings in the first language only, without considering any other features (Zahedi & Abdi, 2012).

4 Conclusion

The results of the study suggested that the GO strategy was more effective than the Conventional technique in developing vocabulary building of students at ITB STIKOM Bali. This conclusion was supported by the posttest result that showed the increasing achievement of students' vocabulary building. The findings revealed that participants in the experimental group, who had received the treatments on the GO strategy, significantly enhanced their performance in a vocabulary test. Therefore, through rejecting null hypothesis, the researcher can claim that GO strategy is a useful way of enhancing vocabulary learning and can play an important role in teaching and learning vocabulary.

Conflict of interest statement

The authors declared that they have no competing interests.

Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

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