

DISCOVERING THE EFFECT OF CROSSWORD ON GRADE TEN STUDENTS' VOCABULARY LEARNING

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Abstract

The purpose of this study is to find out whether or not there is significant effect of crosswords puzzles on Grade Ten Students' Vocabulary Learning Outcome. The research method used in this research was quantitative *true*-experimental, and the design was post-test only control group design, meaning the data collected were only through post-test given to both experimental and control groups after treatments. To collect data for the study, the researcher used instrument in the form of objective, multiple choice , numbering 30 question items for both experimental class and control class that have been tried out in grade ten at experimental class. The scores obtained from the try-out class were used to analyze the validity, reliability, discrimination power and difficulty index of each question item in the instrument. The results of test obtained from samples were used to analyze the data using statistical formulas of Independent, *t-test*, preceded by normality and homogeneity tests as the pre-requisites to data analysis. The analysis using SPSS-based t-test produced significance (Sig.) score of 0.001, which was smaller than ($<$) Alpha 0.05, while the score of $t_{\text{observed}} / t_0$ is higher than the score of t-table 4.10. Since the significance (Sig.) score of 0.001 is smaller than ($<$) Alpha 0.05, and the score of $t_{\text{observed}} / t_0$ is higher than ($>$) the score of t-table 4.10, H_0 is rejected and H_A is accepted. Accordingly the research concludes that there is significant effect of crossword on grade ten students' vocabulary learning.

The keyword: Crossword, Vocabulary Learning Outcome

Introduction

The evidence that a reader's level of vocabulary knowledge is one of the elements that plays a role in determining reading comprehension performance in that language. The rich vocabulary knowledge helps students understand what the question items mean. Therefore, it can be concluded that in order that students perform English tests or exams better, their vocabulary knowledge needs to be enhanced, and the key to achieving better vocabulary knowledge is the teachers' teaching methods and techniques. The different approaches towards language learning had a different outlook on vocabulary, some language teaching methodologies had attached great importance to vocabulary learning (Nation, 2008) There are a lot of teaching techniques in English Language Teaching (ELT), yet teachers should be selective in choosing the appropriate vocabulary teaching technique to apply.

The level of students' ability to acquire vocabulary might be various. For the past decade, researchers have conducted teaching vocabulary through the help of crossword. A great number of research findings points to the many advantages of the crossword puzzle as a strategy of vocabulary instruction. First, learners get to enjoy learning the target language because they are involved in their own learning. one of the possible causes of poor performance in English as a second language is that the teacher still uses the conventional method in teaching. (Suezdi, 2017) Thus, approaches or vocabulary learning strategies that help learners in the acquisition of vocabulary should be identified. For example, literature on second language acquisition posits that the teaching of vocabulary should be done through exposure of learners to various vocabulary enhancing activities (Herman & Dole, 1988).

The use of crossword puzzles is one of the strategies that a teacher can employ. The purpose of this study, therefore, was to analyze the effectiveness of the crossword approach and the Traditional Lexical Pedagogy as instructional approaches in the teaching of vocabulary in secondary senior high schools in Bekasi. My choice of crossword puzzles is based on Wahyuni (2010) view, which says that a good solution to poor performance in English as a Second Language is by teaching vocabulary adopting crossword puzzle strategy. The crossword puzzle is a game that makes the teaching-learning process attractive. Not only does the crossword puzzle offer a challenge that will motivate the students to try to solve the puzzle by making learning fun and relaxed (Bressan 2011 , p. 197). A crossword is a vocabulary puzzle that normally takes the form of a square or a rectangular grid of white and black shaded squares. It is filling white squares with letters. Moreover it contains shaded squares as the barrier of words from each other. In left-to-right transcribed style languages, the words and phrases are written or answered from left to right and top to bottom. The completed or answered white squares are usually called entries or answers that are marked by numbered.

A crossword includes clues and white cells which are called respectively definitions and lights, also the shaded cells are sometimes called black squares or shaded squares. According to its experts the process of creating crossword puzzle is called cruciverbalism. Furthermore, other terminologies such as constructors, setters and compilers are used for crossword creators. A study conducted by Martin, Ruth, and Moses (2013) implied that teaching vocabulary through crossword results in a better learning of the words than presenting them using conventional techniques and enhances retention of new vocabulary items. Teaching vocabulary through crossword can be an effective factor in helping students remember and use the new words easily in primary school EFL classes. Another study conducted by Wahyu Nugroho Suprpto (2017), reveals that the results of statistical analysis of the experimental group outperformed that of the control group in the post-test. This led the researcher to the conclusion that teaching vocabulary through crossword puzzles can improve EFL learners' language proficiency. In addition, research carried out Behshahr Branc (2015) proved that vocabulary instruction inspired by the theories which were verified empirically and previous researches mentioned above, the writer was encouraged to conduct a research to find out whether or not Crossword Puzzle Teaching Technique had also significant impact on the vocabulary learning undertaken by the students under study.

Theoretical Underpinning

Vocabulary is a highly important part of a language that we need to be aware of because it covers and supports the four language skills in English which are listening, reading, speaking, and writing, and greatly influences someone's English proficiency. The term vocabulary referred to a list or set of words for particular language or a list of words that individual speakers of language use (Shadikah, Fauziati, & Supriyadi, 2017). Accordingly, a person's vocabulary is defined as a set of all words that the person understands to compose a new sentence. The addition of a person's vocabulary is generally considered an important part, both from the process of learning a language that has been mastered. Vocabulary learning is an important component yet a challenging and demanding task in both English language learning and content-based study. The literature on second language acquisitions sets a minimum learning target of 8,000-9,000 word families as the threshold for language learners to attain unsupported comprehension of unsimplified written texts and 6,000-7,000 word families for spoken texts (Nation, 2008).

According to the Maiguashca (as cited in Shadikah et al., 2017). stated that the fact that interest in teaching and learning vocabulary has increased, it is difficult to familiarize language teachers with the basic concepts of vocabulary teaching and also to equip them with the pedagogical 'know-how' of vocabulary teaching techniques. A crossword is a vocabulary puzzle that normally takes the form of a square or a rectangular grid of white and black shaded squares. It is filling white squares with letters. The main reason of using crossword in language teaching refers to its nature since a crossword acts as the retriever of information (vocabulary) from long term memory. We are dealing with four language skills in the process of language teaching and learning. The existence of huge amount of vocabularies that should be learned and memorized certifies vocabulary as one of the basic skills. In addition remembering enormous amount of vocabularies and extracting passive vocabularies then transforming them into active ones is the most tedious and difficult task which requires hard and challenging attempts constancy. A teaching vocabulary through crossword results in a better learning of the words than presenting them using conventional techniques and enhances retention of new vocabulary items (Alqahtani, 2015). Teaching vocabulary through crossword can be an effective factor in helping students remember and use the new words easily in primary school EFL classes. the indicators of vocabulary knowledge or learning outcomes are as follows:

1. Ability to give exact definition of words
2. Ability to indicate the words having same meaning (synonym)
3. Ability to identify to words having different meaning (antonym)
4. Ability to explain use word in a suitable sentence

Methodology

Collecting data in the post test is done after six-time treatments both in experimental group by adopting crossword puzzle strategy and in control group by using conventional one. The data analysis enlists analyzing the data collected from sample groups (experimental and control group) adopting appropriate inferential statistics of independent *t-test* preceded by the normality and homogeneity tests as the prerequisites to data analysis.

This research will use *True* Experimental research method, a method in which the treatment condition allows a control. Research design to be adopted in this research will be post-test only control group, meaning that the research data are collected only through posttest and besides involving experimental group, the researcher also involves control group. The instrument to be administered in this research was of an objective, Multiple Choice test type given to the sample classes (experimental and control class) in the post-test after six-time treatments.

Findings and Discussion

The results in the form of descriptive statistics can be seen below:

		Experimental Class (X.A)	Control Class (X.C)	JKExp	JKCon
N	Valid	40	40	40	40
	Missing	0	0	0	0
Mean		87.08	69.02	1.62	1.65
Std. Error of Mean		1.310	1.420	.078	.076
Median		86.00	60.00	2.00	2.00
Mode		83	50 ^a	2	2
Std. Deviation		8.285	8.980	.490	.483
Variance		68.635	80.640	.240	.233
Skewness		-.115	.257	-.537	-.654
Std. Error of Skewness		.374	.374	.374	.374
Kurtosis		-.942	-.259	-1.805	-1.658
Std. Error of Kurtosis		.733	.733	.733	.733
Range		30	40	1	1
Minimum		70	40	1	1
Maximum		100	80	2	2
Sum		3483	2361	65	66

Based on the score of students' vocabulary learning outcome who were taught by using Crossword Puzzle, the range of score is 30, the lowest score is 70, the highest score is 100, and the Mean (Average Score) is 87.08, with total sample (N) is 40 students.

Independent Samples Test

	Levene's Test for Equality of Variances	t-test for Equality of Means	95% Confidence Interval of the Difference

	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	4.317	.041	3.450	78	.001	3.237	.938	1.367	5.106
Equal variances not assumed			3.450	69.630	.001	3.237	.938	1.365	5.108

The calculation showed that significance (sig.) value is 0.001 and $t_{observed}$ (3.450). The significance value 0.001 is lower than ($<$) 0.05, and the $t_{observed}$ (3.450) is higher than t_{table} with degree of freedom (df) $(N1+N2)-2=78$, namely (2.04). Thus, H_0 was rejected and H_A was accepted. This leads to the conclusion that there is significant effect of variable X on variable Y, In other word, it can be concluded that there is significant effect of Crossword Puzzle on grade ten students' Vocabulary Learning Outcome at SMK Bisnis Indonesia, Cakung, Jakarta Timur in the Academic Year of 2019/2020. Based on the result of statistical analysis, using SPSS-operated ttest applied to the hypothesis testing, it revealed that H_0 is rejected and H_A is accepted. The result of t-test showed that significance value is 0.001. Since significance 0.001 is lower than ($<$) 0.05, and the $t_{observed}$ 3.450 is higher than ($>$) t_{table} 2.04, H_0 is rejected and H_A is accepted. The researcher concluded that there is significant effect of Crossword Puzzle on grade ten students' Vocabulary Learning Outcome. This effect is largely caused by the treatment given by the researcher to the Experimental class adopting Crossword Puzzle on Sudents' Vocabulary Learning activities.

This research concerns with the study of the effect of Crossword Puzzle on students' vocabulary learning outcome. This research intends to prove empirically whether the theories put forward by Martin, Ruth, and Moses (2013) are true. They all agreed that crossword puzzles could be beneficial for the teaching of vocabulary. The findings of the present research conducted by the researcher at SMK Bisnis Indonesia, Cakung, Jakarta Timur, proved true the assumption made. The research concludes that better vocabulary learning outcomes using crossword puzzles were obtained compared to those using conventional techniques of vocabulary instruction. The research proves that teaching vocabulary through crossword has helped students remember and use the new words easily. The research conducted in that school verified the previous Suprpto 's study in 2017, which proved the effectiveness of the use of the Crossword Puzzle for vocabulary acquisition by students learning a foreign language. It was found that the Crossword Puzzle-trained students maintained a significant and substantial advantage in recalling word definitions over control students. The effect of Crossword Puzzle on Vocabulary Learning outcome was evidenced from differences of means between experimental class and control class in which the mean in experimental class is higher than that in the control class. Statistical analysis adopting t-test to investigate whether the differences in the above-mentioned two means are significant enough to accept H_A and to

reject H_0 has proved true ($0.001 < 0.05$), and t -observed (t_o) $3.450 > t_{table} 2.04$. Treatment by using Crossword Puzzle to students of grade ten in the experimental group at SMK Bisnis Indonesia, has produced very significant effect. Their vocabulary learning outcome increased in size and improved in depth. This is due to the fact that the students in experimental class were more enthusiastic and more highly motivated in learning vocabulary because they did not only learn and memorize the words but they should insert the words into the appropriate places and correct blank spaces. They were interested, motivated and challenged, making it more enjoyable for them to memorize the new words and their meanings.

On the other hand, the students in control class found the vocabulary learning so boring and monotonous because what they did was only memorizing the words and their meanings without any help whatsoever. Therefore, they did not get much from the process they were engaged in. Indeed, it is true that there were in the experimental class who got lower scores than those in the control class. However, such differences were due to individual characteristics which cannot be generalized. More importantly, it still holds true that the students in experimental class performed much better than those who were in control class. This better performance was largely caused by the treatment they received with Crossword Puzzle. Therefore, Crossword Puzzle proved to be much better than conventional ways of teaching.

Conclusion

The present research with the research question or formulation of the problem disclosed in chapter one asking whether there is significant effect of crossword puzzle on grade ten students' vocabulary learning outcome has answered affirmatively, "yes". The affirmative answer to the question in the form of research findings produced at the end of the study (chapter four), i.e. rejecting H_0 and accepting of H_A , has turned the temporary answer (hypotesis) in chapter two into permanent answer (thesis) made in the chapter four in accordance with the result of data analysis using statistics *t-test*. Finally, the researcher drew the conclusion that there is significant effect of crossword puzzle on grade ten students' vocabulary learning outcome at SMK BISNIS INDONESIA, Cakung, Jakarta Timur. According to the research findings, it can be seen that the vocabulary scores obtained by the students who were taught by means of crossword puzzles (experimental group) are higher than those who were not (control group). In other words, the vocabulary learning outcome of the students who were received treatment with crossword is higher than those treated with conventional ways of vocabulary learning and teaching. The difference is presumably caused by some such factors as:

First, crossword puzzles are interesting and encouraging. The students treated with crossword, moreover with theme-based crosswords were more interested and encouraged to answer the words, their meanings and definitions learned and asked during the learning process. The encouragement given to the students made them more active during the instructional processes as they were challenged to find the words which fit the cross and down clues. Asking them about the topic discussed and asking them to fill in the blank spaces with the appropriate words were two activities which were very helpful to promote their learning motivation.

Second, the crosswords that were adopted by the researcher in the treatment of experimental group participated in by grade ten students at SMK Bina Indonesia, Cakung, Jakarta Timur, were very useful for melting the frozen learning atmosphere in the class. The students were active as they were involved in the competition among peers

or classmates to find the suitable words and when they found the words they were looking up, they were satisfied.

In contrast, based on the findings of this research, the vocabulary learning outcome obtained by the students who were not treated with this technique (control group) was lower than that gained by the students who were taught vocabulary by means of crosswords (experimental group). Based on the researcher's observation of the control class during the research, she saw some factors which contributed to this unfortunate situation:

First, the instructional processes in control class tended to be boring and unlively as the teacher only asked the students to find the difficult words asked with the help of bi-lingual dictionary and discussed the answers in brief without any other subsequent activities. As soon as the answers were found, the class came to an end.

Second, most students tended to work individually as each of them were concentrating on looking up the words and their meanings in the dictionaries which took much time, and on trying to understand and to answer the given questions, thereby creating an unpleasant and monotonous learning activities

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