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“DOWN: VERY IMPORTANT, ACROSS: MODAL VERB OF ABILITY”: CROSSWORD PUZZLE IN TEACHING ENGLISH

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Abstract

The innovation of this research is to fill in the gap of scheming “crossword puzzle” software to give grounding in English vocabulary of secondary L2 pupils in Aceh Besar. By way of the experimental quantitative approach, this study originated of finding in which shows that the score improvements of the mean of pre-test that was 44 improved up to 77 on post-test. The crossword puzzle has carried out the spirit of innovation to the classroom. Deprived of the teacher’s competence in comprehending the English text, the puzzle would not assist the students’ mastery in reading skill especially vocabulary expertise. This study recommends the use of crossword puzzle becomes an aid to teach English words in class of secondary level. Furthermore, it is suggested that further research study attempting to device the crossword puzzle to the higher education level or university students.

Key words: crossword puzzles, vocabulary achievement, ICT learning.

INTRODUCTION

Irrevocably, vocabulary is an indispensable factor in learning a language since it is knowledge of words and words meaning. Without adequate vocabulary, it is difficult to express the ideas. Every language exists with words and it is one of the vigorous parts of language. It means that we almost cannot communicate without knowing any words. Yaratana and Kural (2010) propose that vocabulary instruction should be trained effectively and should be a high priority for the educational system. It is also stated in the 2013 Curriculum that vocabulary learning is one of the scopes of teaching and learning English (Al-Seghayer, 2014).

Vocabulary learning is a vital portion of English education in forming expertise in the four language skills: reading, writing, speaking and listening. Davis and Shepherd (2009) emphasizes that one of the most important skills that the teachers of English can give to learners is a wide range of rich vocabulary, especially in teaching the terms of reading comprehension. Limited vocabularies would not help the students to comprehending a text (Iqbal, *et al.*, 2016). It is necessary in the sense that words are the basic building blocks of language, the units of meaning from which larger structures such as sentences, paragraphs and whole texts are formed (Coombe, 2013).

Based on the 2013 Curriculum in Indonesia, one of the scopes of teaching and learning English in senior high school is the students understand short essay monologs in hortatory exposition text, and the selection of teaching material can be gradated by using within 5000 to 7500 of vocabulary level as cited in Komariah (2012). However, in reality, most of students do not master the vocabulary at that size. As a result, they find difficulties in comprehending the text.

Crossword puzzle is an interactive teaching aid to develop vocabulary achievement in which it is one kind of teaching media that presents words into game and create fun learning activity as stated by Lusardi and Kent (2006) that it is enjoyable and educational. According to Azimi (2009), introducing new words to students through puzzles can enrich their vocabulary as it requires exact spelling in which for students may mean practicing dictionary skills. Crossword puzzle is not only a game but also a teaching technique which can provide the best exercise for confirming the meaning of words in the students' mind.

There are a number of studies conducted under the topic of crossword puzzle in enhancing students' performances (Weisskirch, 2006; Childers, 1996; Franklin, *et al.*, 2003). First, Weisskirch (*ibid*) states that students identify answers of crossword puzzle accordingly; they may have an increase in confidence. This can have a positive effect on grades, as self-efficacy has been shown to be connected to performance. Furthermore, the research was also supported by Childers (*ibid*) who states that the satisfaction of the students in answering crossword puzzle has been shown to reinforce learning skill. However, when students have difficulty with the puzzles, they are prompted to ask questions and search to find the correct answers (Franklin, *et al.*, *ibid*). Overall, Weisskirch points out that research has shown crosswords to have a positive effect on learning, and students found this method of study to be helpful and useful as a tool for both learning and review. Research has also shown that these puzzles increase motivation and students' interest in the topic at hand (Franklin, *et al.*, *ibid*). In fact, the novelty of this research is to fill in the gap of designing crossword puzzle to teach English reading vocabulary of senior high school L2 learners in Aceh.

METHODS

In this research, the writer used experimental quantitative method to prove the hypothesis. Quantitative method is about explaining phenomena by collecting quantitative data. The sample was 25 students of second grade students at MAN (State Islamic Senior high) in Aceh Besar by having random sampling design. The crossword puzzles that the writer used in this study were not ready crosswords, but the puzzles were designed by using software application named Crossword Compiler. The writer wanted to see if the crossword puzzle designed gave improvement to the students in gaining English vocabulary achievement, especially the vocabulary used in hortatory exposition text. In this study, the writer created crossword puzzle by using Crossword Compiler software based on the procedures as suggested by Azimi (2009).

RESULTS AND DISCUSSION

The writer calculated the score that students got in the pre-test. It was found that the result of r_{11} was 2.8. Afterwards, the writer calculated the students' score of post-test, and the writer found that the result of r_{11} was 2.5. The interpretations of r -score; If r_{11} is higher than 0.70, it means that the test examined has revealed a high reliability (=reliable). Reliability is an essential characteristic of a good test. Because of this reason, the writer tried to analyze the tests used to measure students' vocabulary achievement through reading hortatory exposition text to check its reliability. The writer analyzed both pre-test and post-test scores. So, it could be concluded that the pretest and posttest used in this research was reliable.

From the pretest score, it is clear that the lowest score is 25 obtained by three students, while the highest score is 70 achieved by one student. Therefore, it can be assumed that the students' vocabulary achievement before treatments was low. Meanwhile, it can be seen that the lowest of the posttest is 60; it shows a significant change up to 35 points from the lowest score of pretest, i.e. 25. Moreover, the highest score was 90 which increased 20 points from the highest score of pretest, i.e. 70. It can be assumed that the score of the posttest is higher than the score of the pretest. It means that after the students were taught using crossword puzzle, the students' vocabulary achievement improved.

Moreover, the writer compared the students' score to Minimum Adequacy Criteria (MAC) required by the school, i.e. 76; there was a significant improvement from the students. In the pretest, there was none of the students or 0% who reached the minimum adequacy criteria, while in the posttest; it was found that there was an increase of 14 students or about 51.9%. The conclusion is that the students' vocabulary achievement through reading hortatory exposition text increased significantly; from none of students who passed the MAC requirement score in the pretest to 51.9%

of students in the posttest. Furthermore, the mean scores of pretest and posttest was also different. The mean of pretest score is 44 and the mean of posttest score is 77. If the two of mean is compared, it is clear that the mean of posttest score is higher than the mean of pretest score. The difference between the two means is 33. In short, the students' vocabulary achievement through reading hortatory exposition text has improved after being taught by the application of crossword puzzle during the teaching and learning process.

From the pretest and posttest comparison score above, the writer obtained the total score of all the students. For further analysis, the writer used some statistical formulas in order to analyze the students' score in pretest and posttest. To prove the hypothesis, the writer used the formula of the degree of freedom (df) and the critical value (tt). Based on the calculation of pre-test and post-test scores, the mean of pretest is 44 and the mean of posttest is 77. While the standard deviation of pretest is 11.26 and the standard deviation of posttest is 9.06. The total score of pretest and posttest t-score is 11.8 and the degree of freedom is 26.

In this research study, the writer only focused on one sub skill of reading that is vocabulary. It was because vocabulary emerged as the cause of the most difficulty for students in understanding the texts. Fata et al. (2015) argued that vocabulary in the skill of reading develops a lot of students' comprehension. Before conducting the pretest, the writer had told the students about the kind of test that would be given for them. From the students' performance in the pretest session, the writer found that students' felt difficult in answering both completion and multiple choice test.

In the treatment, the writer taught the students by using crossword puzzle as the media in teaching vocabulary. The writer explained what kind of crossword they had to solve and how to complete it. In the teaching/learning process, the writer found that crossword puzzle was interesting media for them since they looked very enthusiastic to do the activity. Moreover, it encouraged them to think in context because the clues given took form of definition, synonym, and word form. It also made them use the dictionary to find out the unknown words from the questions given.

Furthermore, unlike the result of pretest, in the posttest the students' performance was better. Almost all items in the completion and multiple choice tests could be answered. After collecting and analyzing the data of pretest and posttest by using some steps of statistical formulas, the writer found the differences in learning outcomes in vocabulary achievement through reading hortatory exposition text before and after treatments. It shows that students' posttest scores were better than students' pretest scores. It means after being taught by using crossword puzzle, the students got better learning outcomes in vocabulary achievement.

Before the treatments were given to the class, the highest score in the pretest is 70 while the lowest score is 25. In general, students achieved the score under 70. On the contrary, after the treatments were given, the highest score that students achieved in the posttest is 90 while the lowest score is 60. Generally, students achieved above 70.

The average of students' score is 44 in the pretest. In relation to the minimum adequacy criteria (MAC) which is 76; all of the students did not reach the MAC. The writer concluded that the percentage of students who reached the MAC is 0%. However, after the writer did some treatments by using crossword puzzle, the students' average score increased to 77 in the posttest. There were fourteen students who reached the MAC while thirteen students did not. The writer concluded that the percentage of students who reached the MAC is 51.9%. Meanwhile, the percentage of students who did not reach the MAC is 48.1%. It is clearly seen that the students who reached the MAC increased from 0% to 51.9%.

In analyzing the hypothesis, it is referred to the t-table at significance level α 0.05. According to Ary et al. (2006), the testing criterion used for hypothesis result is; if $t\text{-test} > t\text{-table}$, it means that the alternative hypothesis (H_a) is accepted and null hypothesis (H_o) is rejected. Furthermore, Ary et al. (ibid) explained that the t-table with the level of significance of α 0.05 with the degree of freedom (df) $\rightarrow n-1 = 27-1 = 26$ is 2.056.

In order to make the analysis more reliable, the writer analyzed it by using t-test formula. Based on the analysis, she found that the standard deviation of pretest is 11.26, while posttest is 9.06. Furthermore, the writer used t-test in testing the hypothesis. After getting the t-value, the writer referred the score to the critical value on the t-score measurement table to find out whether the difference is significant or not. The result of t-test is 11.8 and t-table is 2.056.

Table 1. Results of tests.

Test	Score	Mean	Standard Deviation	T-Value	T-Table
Pre Test	1180	44	11.26	11.8	2.056
Post Test	2080	77	9.06		

Based on the results above, the writer compares the research findings to previous studies. Oraiwatnakul (2013) found a good impact on the use of crossword puzzle. The data obtained from the participants provided sufficient reply for the research question that the use of crossword puzzles was most likely to enhance the students' vocabulary learning in the three proficient groups due to higher mean scores from the pre-and post-tests (high = 16.69: 21.30, intermediate = 11.91: 21.68, low = 8.91 : 17.91). So, it may be concluded that crossword puzzle was suitable to all students. No matter what level of vocabulary proficiency students had before the intervention, they could improve their vocabulary knowledge as well. Moreover, based on the previous study conducted by Dunphy and Whisenand (2010), the result of the treatments through crossword puzzle significantly improved the students' vocabulary achievement. The value of t-test was 2.54 and it was higher than 1.67 (2.54 >1.67). From the explanation above, it can be concluded that this study has similar results to the previous studies, that teaching vocabulary by using crossword puzzle enhances the students' vocabulary achievement.

There are number of reasons for the students' improvement. First, presenting crossword puzzle in teaching vocabulary has motivated the learners to remember and understand the meaning of the words. As stated by Franklin and Lewis (2003), crossword puzzles can increase motivation and students' interest in the topic at hand. Second, the students must be able to identify and understand the clues given; it makes them acquire new vocabulary. It is in line with Azimi (2009) who mentioned that introducing vocabulary list to students through puzzles may advance their comprehension of vocabulary as it demands the exact spelling in which students may practice dictionary skills; in this strategy, the mind is entangled. To solve any crossword puzzle, a student must be able to identify and understand the terms being used. This often involves acquiring new vocabulary. Third, the students are encouraged to consult dictionary. Dhand (2008) proposes that crossword puzzle is useful to improve the students' spelling knowledge of information, and encourage the use of dictionary. Finally, by using crossword puzzle, learning can be more enjoyable and social because students have the chance to discuss with their friends.

CONCLUSION

It is likely to say that crossword puzzle is able to develop students in learning English, especially vocabulary enhancement integrated in reading skill. The writers do acknowledge that this research study applied the small sample as participant. Therefore we could not generalize the result to any other level. The writer suggested that by applying technology in this case crossword puzzle, it may develop teacher effort and creativity and besides it enhances students' critical thinking in English language learning.

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