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The Effect Of Crossword Puzzle Media On Writing Skills In Arabic Language Learning

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Abstract

A common issue faced in efforts to improve Arabic writing skills is the lack of appropriate and engaging learning media models that can effectively facilitate the learning process while making it enjoyable for students. This study is a Pre-experimental study involving two classes as an experimental class and a control class using an experimental design "two-Group Pretest-Postest Design" which aims to determine the effect of crossword puzzle learning strategies on Arabic language learning writing skills with a sample of 52 students. The data analysis techniques used are validity test data analysis, reliability test and hypothesis submission such as normality test, homogeneity test, t-test and N-Gain Score test. The results of this study indicate that the validity test with the results of 20 questions r count <0.05. reliability with results of 0.738> 0.7 which means reliable. The discriminatory power is 80% of questions with a sufficient index, 10% of questions with a good index and 10% with a less index. The level of difficulty is 55% of questions with an easy level of difficulty interpretation, 45% of questions with a moderate level of difficulty interpretation and none with a difficult level of difficulty interpretation. normality with the results of the significance data of 0.200 which means that the normality test is greater than 0.05 or 0.200>0.05. Thus it can be concluded that the data is normally distributed. And the homogeneity of the significance data obtained is 0.514 which means that the significance is greater than 0.05 or 0.514>0.05. This shows that the data is homogeneous. So it can be concluded that the crossword puzzle teaching model for the Hamarah Kitabah class X at SMA 4 Muhammadiyah Jakarta has an effect and can improve learning outcomes.

Keywords: *Instructional Media; Crossword Puzzle; Writing Skills; Arabic Language Learning; Pre-experimental*

Introduction

Education plays a very important role in efforts to improve the quality of human resources. Through education, humans can maintain and improve their standard of living (nama, 2022). Education is a process of influencing students to adapt as well as possible to their environment and thereby bring about changes in themselves that enable them to function strongly in community life (nama, 2023). The need for language and learning a language is a need that can be said to be as ancient as the history of human life itself. Arabic as the language of Muslims occupies an important position, especially in Indonesia (Ritonga, 2001). This is not only because the majority of Indonesian people are Muslim and automatically use Arabic in prayer, Friday sermons, dhikr and so on, but more than that, Arabic is used as the language of instruction in learning Islamic sciences throughout the world, including in Indonesia.(Rizbudiani, 2021)

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Arabic language learning in an educational institution has been implemented in various types of educational units, namely from elementary to tertiary level.(Rachmawati, 2021). Arabic is one of the teaching materials in the education process, so learning Arabic is necessary for various purposes to open other sciences.(Mulyasari et al., 2023). One of the sub-chapters of learning Arabic is writing skills.

Learning strategies are a choice of ways for educators to deliver material in learning so that it is easier for students to receive and understand the material until the learning objectives are achieved. Learning strategies are important in the teaching and learning process (Rahmah, 2019).Learning strategies in the learning process that can determine the quality of learning. Learning is said to be effective if learning can make students active in the learning process, therefore the more active students are, the higher the motivation to learn and the learning outcomes of students. One way to increase student motivation in the learning process is to use active learning strategies (Active Learning) (Rahayu et al, 2023). Writing skills (maharah al-kitabah) are one of the four Arabic language skills. Writing skills are a form of expressing or describing the contents of thoughts from the simple to the complex.(Aila, 2024). The lack of success in learning Arabic subjects in MA has been caused by several factors. One of them is the strategy and method used is not appropriate.(Setiawan, 2020)

The skills needed in writing activities include the ability to think systematically and logically, the ability to express thoughts clearly, the use of effective language, and the ability to apply good writing rules (Baroroh et al, 2020). This ability is acquired through a long process. Before reaching the advanced level of writing ability, students must start from the beginning, namely the introduction and writing of sound symbols.(Zuliyani et al, 2023). The knowledge and skills acquired at the beginning level will be the basis for further development of writing skills (Fajar, 2024). Teachers need the right models and media in the learning process to create an interesting and enjoyable learning atmosphere (Mulyasari, 2023).Good learning models and media can help learning activities run well, so that learning objectives can be achieved.(Darmayanti, 2023)Learning activities can be done with various learning media and teachers can choose learning media that are appropriate to the lesson to be learned. Crossword puzzles can be one of the learning media that can be applied (Yudiati et al, 2022)

Learning media consists of two words, namely "media" and "learning", the word media literally means to convey or present, while the word learning is interpreted as a condition that can make someone know from previously not knowing to knowing (Darmayanti, 2023). Learning media is anything that can be used to convey messages (learning materials), so that it can attract the attention, interest, thoughts, and feelings of students in learning activities to achieve learning goals. Interactive learning media is Crossword Puzzles (TTS). Crossword puzzles are games that fill in the answers in the box column with letters according to the questions to be able to sharpen the brains of students.(Rambe et al, 2024). Crossword puzzle media is one of the media in the form of a game with an empty white box space filled with appropriate letters to form words based on the instructions given. Game instructions are divided into horizontal and vertical categories depending on the direction of the word that must be filled. In this crossword puzzle media, it can help students develop their creativity. Students will seek alternative ways to answer and choose answers that are easy for others to understand when discussing (Gumay et al., 2024).

Based on the views of the experts above, the author concludes that a teacher must create an interesting atmosphere and create interactive learning media. Through this analysis activity, teachers can gain a better understanding of building and creating interesting and interactive

learning. Previous researchers have conducted many studies on the influence of crossword media. The first study is titled "The Influence of Crossword Puzzle Media on the Interests and Cognitive Learning Outcomes of Students on the Classification of Living Things Material for Class X at SMA Negeri 9 Makassar." This study aims to determine whether there is an influence of crossword puzzle media on the interests and learning outcomes of biology subjects for Class X students at SMA Negeri 9 Makassar, Tamalate District, Makassar Regency/City. The second study is titled "Crossword Puzzle Media for Learning English for Deaf Students." This study aims to develop a crossword puzzle game as a medium for learning English for deaf students in Class VII. The third study is titled "The Influence of the Use of Learning Media on Student Learning Motivation at SMK Negeri 71 Jakarta." This study aims to measure and determine how much influence the use of crossword puzzle learning media has in Islamic Religious Education learning, as well as to create new innovations for teachers so that they can use it optimally in the learning process and are expected to increase student learning motivation due to the uniqueness of the crossword puzzle media.

From the three examples of research above, we found similarities about this research. All three conducted research on the influence of using crossword media. The difference is that we will conduct research at SMA 4 Muhammadiyah Jakarta and the sub-discussion is Arabic which focuses on kitabah skills.

Method

This research uses a quantitative approach with an experimental method. According to (Gumay et al., 2024), experimental research aims to determine whether an intervention has an effect on the research subjects. This experiment uses a "pretest-posttest control group" design. This design involves two groups, namely the experimental group and the control group. Researchers can evaluate the impact of the intervention by comparing the pretest and posttest results and ensuring that the changes occurring in the experimental group are indeed caused by the intervention, not other factors.

Population is all objects of research consisting of humans, objects, animals, plants, symptoms, test scores, or events that function as data sources with certain characteristics in a study. In this study, the population consisted of all students of class X of SMA Muhammadiyah 4 Jakarta totaling 319 students. The sampling technique used was purposive sampling, which is a method in which researchers deliberately select individuals or groups that have special characteristics according to the objectives of the study. A sample is part of a population that has certain characteristics. In this study, the sample studied was 52 students of class X of SMA Muhammadiyah 4 Jakarta, which were divided into two classes, namely the control class and the experimental class.

The data collection techniques used include: (1) Observation, namely direct observation of the research object. (2) Tests, in the form of written tests carried out during the pretest and posttest to measure the extent of students' understanding of the Arabic language book skills material before and after learning. The feasibility testing of the instruments is conducted through validity tests, reliability tests, question difficulty levels, and test discrimination. This is done to ensure that the instruments used are appropriate and can serve as the right measuring tools in collecting the data needed to answer the research problems. (3) Documentation, namely collecting data from documents relevant to the research.

Before the instrument was used, criteria validation was carried out through field trials and analyzed using the SPSS 26.00 application. Validity testing was carried out using the *Pearson Product Moment* method, while reliability testing used *Cronbach's Alpha*. Analysis of learning outcome data includes descriptive data analysis that presents the distribution of maximum, minimum, average (mean), and standard deviation values, as well as inferential data analysis involving the *Paired Sample T-Test*. Before data analysis was carried out, prerequisite tests were first carried out which included normality tests using *Kolmogorov-Smirnov* and homogeneity tests with *Levene's Test*. The data were then analyzed by researchers with the help of the SPSS 26.00 application, and the effectiveness of the average student learning outcomes was assessed using the N-Gain interpretation category.

Results

The data obtained from the pretest and posttest provide an overview of the influence of the *crossword* learning model on learning the Arabic language maharah kitabah. Based on the pretest and posttest data, there is an increase in student abilities. Descriptions of pretest, posttest data, and improvements in student abilities were analyzed using the SPSS 26.00 computer program.

Pretest and Posttest Data

Pretest and posttest data provide an overview of the initial and final abilities of students in the control and experimental classes. This data was obtained through written tests with the same type and number of questions for both tests. The pretest results show students' initial abilities before the learning intervention, while the posttest describes their final abilities after the intervention. The following are students' pretest and posttest data that can be presented in a table to facilitate comparison:

Tabel 1. Experiment table

No	Mark	frequency	Information
1	40	1	Pre-ex
2	45	1	Pre-ex
3	50	1	Pre-ex
4	55	3	Pre-ex
5	60	6	Pre-ex:5/post-ex:1
6	65	6	Pre-ex
7	70	7	Pre-ex:6/post-ex:1
8	75	7	Pre-ex:3/post-ex:4
9	80	7	post-ex
10	85	4	post-ex
11	90	1	post-ex
12	95	1	post-ex
13	100	7	post-ex

Table 1 shows the distribution of scores from the experimental group, indicating that most participants in the experimental group scored between 40 and 70. Only a few participants scored above 80. The majority of participants experienced the "pre-ex" (pre-experimental) condition, while a few participants experienced the "post-ex" (post-experimental) condition after the intervention.

Table 2. control

No	Mark	frequency	Information
1	20	2	Pre-cont

2	25	1	Pre-cont
3	30	4	Pre-cont:2/post-cont:2
4	35	6	Pre-cont:5/post-cont:1
5	40	6	Pre-cont
6	45	4	Pre-cont:3/post-cont:1
7	50	7	Pre-cont:2/post-cont:5
8	55	9	Pre-cont:3/post-cont:6
9	60	2	post cont
10	65	3	Pre-cont:1/post-cont:2
11	70	4	Pre-cont:1/post-cont:3
12	75	2	post cont
13	80	1	post cont
14	85	1	post cont

Table 2 shows the distribution of scores from the control group. The analysis of the table indicates that the control group has lower scores compared to the experimental group. Most participants in the control group scored below 50, with only a few participants scoring above 60. The "pre-cont" (pre-control) and "post-cont" (post-control) conditions are also distributed within this group.

Data analysis

The analysis of research data is intended to find out the quantitative data that has been obtained during the research. The steps of data analysis in this research are as follows:

Tabel 3. Validity Test

No	Category	Question Number
1	Valid	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20
2	Invalid	

Source: Results of data processing with SPSS 2600.

Based on the table, it can be seen that all 20 pretest and posttest question items are declared valid. Validity test is conducted with the provision that if the value of *r* count is greater than *r* table at a significance level of 0.05, then the instrument is considered valid. Based on the existing table, it shows that all 20 questions (100%) of the pretest and posttest are declared valid.

Tabel 4. Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
,738	20

Table 4 shows the results of the reliability test calculation using IBM Statistics for Windows software, indicating that the *Alpha Cronbach* value is 0.738. With an alpha coefficient greater than 0.70, it can be concluded that the test instrument consisting of 20 questions is reliable, demonstrating good internal consistency.

Tabel 5. Distinguishing Power

Item-Total Statistics		
No	Category	Question Number
1	Good	5 and 19
2	Enough	1,3,4,6,7,8,9,10,12,13,14,15,16,17,18 and 20
3	not enough	2 and 11

Based on the results of the discriminating power test, it can be concluded that 80% of the questions have a sufficient index, 10% have a good index, and 10% have a poor index. Thus, it can be said that the *crossword* questions for the Arabic language maharah kitabah are effective in distinguishing between students who have good abilities and students who are less intelligent.

Tabel 6. Difficulty Level

No	Category	Question Number
1	Easy	1,7,8,10,11,12,15,17,18,19 And 20
2	Currently	2,3,4,5,6,9,13,14 And 16
3	Difficult	

Based on the results of the difficulty level test that has been conducted, it can be concluded that the majority of the questions posed in this test have a relatively easy level of difficulty, amounting to 55%. Meanwhile, 45% of the questions fall under the medium level of difficulty, indicating that most test participants can answer them well. Interestingly, no questions were categorized as difficult, which suggests that the questions formulated are quite appropriate for the participants' abilities. This provides an indication that the test is designed to assess fundamental understanding without placing excessive pressure on the participants.

Tabel 7. Normality Test

Kolmogorov-Smirnova	Sig.
pretest control	,090
post control test	,152
experimental pretest	,051
new_postexperiment	,200*

Based on the table above, the significance value obtained is 0.200, which is greater than 0.05 (0.200 > 0.05). This indicates that the data being analyzed has a normal distribution, which is an important requirement in statistical analysis. Therefore, it can be concluded that this data meets the criteria for use in further data testing. The existence of a normal distribution provides confidence that the subsequent analyses, such as t-tests or ANOVA, will yield accurate and reliable information. Consequently, researchers can proceed with the analysis process without concerns about the validity of the results obtained.

Tabel 8. Homogeneity Test

Based on Mean	Sig.
Based on Mean	,514
Based on Median	,590
Based on Median and with adjusted df	,590
Based on trimmed mean	,519

Based on the homogeneity test table above, a significance value of 0.514 was obtained, which is greater than 0.05 (0.514 > 0.05). This indicates that the data being analyzed is homogeneous, meaning that the variances of the compared groups have significant similarities. This condition of homogeneity is important to ensure that the statistical analyses to be performed, such as t-tests or ANOVA, can provide valid and reliable results. In other words, because the data meets the homogeneity assumption, researchers can be more confident that comparisons between different groups will be conducted fairly and accurately. The next steps in the analysis can be carried out without concerns about the influence of unwanted variability from those groups.

Tabel 9. T-Test

Based on Mean	Sig.
posttest_experiment - pretest_experiment	,000
posttest_control pretest_control	,000

Table 9 shows that the significance value obtained is 0.000, which is smaller than 0.05 (0.000 < 0.05). This indicates a significant relationship between the variables being studied, allowing us to reject the null hypothesis. With this very low significance value, it can be concluded that the results of the analysis have strong power and provide solid evidence to support the presence of significant differences or influences. This condition opens up opportunities for further exploration of the relationships between variables and their implications within the context of this research. Therefore, these results are very important for drawing conclusions and making recommendations based on the research findings.

Tabel. 10 N-Gain Test

CLASS	Statistics
EXPERIMENT	59,1416
CONTROL	28,5751

Based on Table 10, it shows that the experimental class has a higher N-Gain value compared to the control class. This indicates that the approaches or methods applied in the experimental class have been more successful in improving students' understanding and skills. The experimental class demonstrates greater effectiveness in enhancing student learning outcomes, which can be a positive sign for future teaching efforts. These findings not only reinforce the importance of selecting appropriate teaching strategies but also provide valuable insights for educators to develop more innovative and responsive methods that cater to students' learning needs. The experimental class can serve as a model or reference for other classes that aim to achieve better learning outcomes.

Discussion

This study was conducted at SMA Muhammadiyah 4 Jakarta to evaluate the effect of learning media *Crossword Puzzle* on the ability of maharah kitabah in class X students. The study involved two classes with different treatments, namely class X1 as the experimental class I and class X2 as the experimental class II. Before the study was conducted, a trial test was conducted to ensure the validity and reliability of the instrument in class X of SMA Muhammadiyah 4 Jakarta. After the data was obtained, testing was carried out on the test data, including validity, reliability, test discrimination power, and test difficulty level. A valid instrument means that the measuring instrument is right for measuring what should be measured. Validity in this context refers to measurements that show the extent to which the instrument can measure the intended aspect (Banawi, 2022). The validity test applied is internal validity, where the instrument is developed based on relevant theories. Validity describes the level of accuracy or validity of an instrument in measuring the desired variables (Amahoroe, 2022).

The validity of the data was tested using SPSS 26.00 software. The results of the validity test showed that of the 20 questions tested, all were proven valid. Reliability refers to the degree of consistency of the instrument used, namely the extent to which the instrument can be trusted according to the established criteria (Fajar et al., 2022). The reliability test applied is

internal reliability, which is carried out by trying the instrument once and then analyzing the data obtained using certain techniques. The technique used for this reliability test is *Alpha Cronbach* (Setyowati, 2020). The results of the reliability test show that the questions are declared reliable because the calculated *r* value is 0.738, which is greater than the *r* table, which is 0.7. Thus, the questions can be used in research.

Before learning began in both the experimental and control classes, students were given a pre-test to measure their initial abilities in the two sample groups used. The discriminatory power of questions indicates the ability of a question item to distinguish between students who have mastered the material being tested and students who have not mastered the material (Zakaria, 2024). Good discriminatory power is useful for improving the quality of each question item through its empirical data. Based on the results of the discriminatory power test, it can be concluded that 80% of questions have a sufficient discriminatory power index, 10% of questions have a good discriminatory power index, and 10% of questions have a poor discriminatory power index. The level of difficulty of the question measures the possibility of a correct answer for a question at a certain level of ability, usually expressed in the form of an index (Zakir et al, 2024). This difficulty level index generally ranges from 0.00 to 1.00. The calculation of the difficulty level index is carried out for each question, with the average score obtained by students on the question item indicating its level of difficulty. Based on the calculation results, there are 55% of questions that are categorized as easy difficulty level, 45% of questions as medium difficulty level, and there are no questions with hard difficulty level.

The normality test is a statistical procedure used to determine whether a set of data follows a normal distribution (Zakir et al, 2024). This test compares the cumulative distribution of the sample with the expected cumulative distribution of the normal distribution. , obtained a significance of 0.200 which means that the normality test is greater than 0.05 or 0.200>0.05. Thus it can be concluded that the data is normally distributed. The homogeneity test is a statistical procedure used to determine whether two or more groups of data have the same variance or are homogeneous. Variance is a measure of how much the data in a group varies or spreads from the average of the group (Zuliyani et al, 2023). The homogeneity test is important in various statistical analyses, such as ANOVA (Analysis of Variance), where the assumption of homogeneity of variance must be met for the validity of the results. In experiments involving multiple groups or treatments, the homogeneity test helps ensure that differences in results are not due to differences in variance between groups, but rather to the treatments themselves. obtained significant data of 0.514, which means that the significance is greater than 0.05 or 0.514>0.05. This indicates that the data is homogeneous.

The *t-test* is a statistical method used to determine whether there is a significant difference between the means of two groups. This test is often applied in research to compare the means of two samples (Islamiyah et al., 2023). The *t-test* is an effective tool for comparing the means of two groups and is very useful in various types of research, such as scientific experiments, surveys, and data analysis in psychology, medicine, and economics. In this study, a significance value of 0.000 was obtained, which is smaller than 0.05 (0.000 <0.05). This shows that there is a significant difference between the means of the two groups being tested.

The results of the study showed that the influence of *crossword* media on Arabic language learning at SMA Muhammadiyah 4 Jakarta was significant. N-gain or *Normalized Gain* is a measure used to evaluate the effectiveness of learning or performance improvement of a group before and after treatment, such as after participating in learning or

training (Zakir et al, 2024). N-gain measures the extent to which a person's knowledge or ability increases from the initial condition (pre-test) to the final condition (post-test), compared to the maximum possible increase (Zuliyani et al, 2023).

N-gain is often used in educational research to assess the effectiveness of teaching methods or training materials. With N-gain, researchers can compare the level of improvement between different groups or methods, and assess which is more effective. In this study, the average N-Gain score for students in the experimental class was **59.1416** (or 59%), while for students in the control class it was **28.5751** (or 28%). This shows that the experimental class experienced greater improvement and the methods used were more effective than the control class.

Conclusion

Based on the results of the research conducted, it can be concluded that this study is an experimental research aimed at determining the effect of the crossword learning model on students' Arabic reading comprehension. The pre-test and post-test questions were tested for validity, with 20 questions showing rhitung < rtable. The researcher also tested reliability, obtaining a result of 0.738 > 0.7, indicating reliability. Additionally, the examiner assessed the difficulty level and discriminatory power, finding that 80% of questions had a sufficient index, 10% had a good index, and 10% had a poor index. The difficulty level revealed that 55% of questions were easy, 45% were moderate, and none were difficult. The researcher tested the normality and homogeneity of the data, obtaining a significance of 0.200, which means the normality test was greater than 0.05 (0.200 > 0.05). Thus, the data can be considered normally distributed. The homogeneity test yielded a significance of 0.514, also greater than 0.05 (0.514 > 0.05), indicating homogeneous data. After confirming the data's suitability, the researcher assessed the effectiveness of the crossword method using the paired sample t-test and the n gain test. The results showed a significance of 0.000, which is less than 0.05 (0.000 < 0.05), indicating an effect. The n gain for the experimental class was 59.1416 (59%), while the control class was 28.5751 (28%). This indicates that the effectiveness of the crossword method is significantly greater than that of the control class. This study is expected to serve as an example for future researchers, who could explore the combination of crossword media with other teaching methods, such as group discussions or creative writing tasks, to examine their influence on students' writing skills.

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