Journal of Research Administration
Society of Research Administrators International

# EFFECTIVENESS OF INTERACTIVE DIGITAL CROSSWORD MEDIA FOR READING SKILLS COMPREHENSION OF HISTORICAL STORIES

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## ABSTRACT

This research aims to prove the effectiveness of using Interactive Digital Crossword media in improving reading skills and comprehension of historical stories in elementary school students. In the current digital era, educational technology has become an integral part of the learning process, and various types of digital media have been used to help students understand historical texts which are often complex and full of details not only related to 5W1H elements. This research used a quasi-experimental approach, with one control group and one experimental group. The research participants consisted of fifth grade elementary school students in Surakarta City. The experimental group was given access to Interactive Digital Crossword media specifically designed to help them understand historical stories, while the control group used traditional textbook-based learning methods. The results of this research show that the group that used the Interactive Digital Crossword media experienced a significant increase in their reading skills and comprehension of historical stories compared to the control group. This improvement can be seen in students' ability to identify 5W1H information and posttest in understanding historical texts. The results of this research indicate that the Interactive Digital Crossword media can be an effective tool in improving reading skills, understanding historical stories, as indicated by scores. Fine amounting to 0.5889 in the quite effective category. The implication of these findings is that an educational approach that combines digital technology with history learning can provide significant benefits in increasing students' understanding of historical material.

**Keywords:** Interactive Digital Crossword Media, Reading Skills, Understanding Historical Stories, Experiments, History Education

## 1. INTRODUCTION

The development of digital technology has had a significant impact on education (Ibda et al., 2023). Learning media is very important in the knowledge transfer process. Moreover, during the pandemic process, the role of technology in the online learning process made it a main and important factor for successful learning in emergency situations (Ramadhani et al., 2023). Learning media can increase interest in learning and facilitate the learning process in conveying information (Budiarto et al., 2021). The quality of multimedia tools that can improve the interactive representation of an educational process that is presented with speed and ease of obtaining information or resources (Zulherman et al., 2023).

Currently, interactive learning media is really needed for learning activities to make it easier to convey material to students and make it easier for students to understand the material quickly (Safira et al., 2021). The results of a preliminary study in 3 elementary schools in the city of Surakarta show that there is no digital media used in the learning process. Apart from that, only certain subjects are used to using concrete learning media. Science and mathematics subjects often use media to convey material. Meanwhile, for social humanities subjects such as Social Sciences, Indonesian and Civics, they still rely on textbooks and occasionally use audio-visual media from the internet.

The problem currently facing the Indonesian people is the low level of understanding and awareness of history, even though like it or not, humans must at least learn from the past or history (Fadli et al., 2021). Reading skills have a very important meaning in everyday life. People who do not have proper skills will be left behind by the very rapid development of science and technology. Based on the results of an international study by the International Education Achievement organization, the reading skills of elementary school students in Indonesia are ranked 38th out of 39 participating countries studied (Maulana & Akbar, 2017). This shows that the reading skills of elementary school students in Indonesia are very low. Other research by (Halawa, 2020) also proves that based on the results of test data from PIRLS (Progress in International Reading Literacy Study) which is an international study in the field of reading in children around the world sponsored by The International Association for the Evaluation Achievement (IAEA), shows data that Indonesia is ranked 41st out of 45 countries in 2016. Apart from Indonesia, research conducted by (Guzmán et al., 2021) shows data that in Haiti, 49% of students cannot read a single word. In Creole by the time they start grade 3. This reflects a broader crisis in reading skills. Many high class students apparently still have minimal reading comprehension skills demonstrated in research data (Gedik & Akyol, 2022). Many elementary school students still have difficulty understanding long texts in teaching materials and this automatically affects their reading and writing skills further.

Reading is one way to absorb information. Reading skills for a student are very important because they are one of the basics for understanding and increasing knowledge of the material. (Rahim, 2019) suggests that reading skills are something that is very important in an educated society. Thus, learning to read has a strategic position in education and teaching. A basic part of the reading process is understanding the main ideas in a text and using that knowledge (Noh & Karim, 2021). To achieve this goal, readers use several reading texts that are accessible in their environment. The indicator aspects of reading comprehension skills used are the ability to capture the content of the reading, the ability to summarize the reading, the ability to answer questions based on the content of the reading, and the ability to retell the content of the reading (Setyaningrum, 2016).

This research chose the specification of reading comprehension skills for historical stories with the consideration that history is important to study, especially at the elementary school level. Through learning history, students are encouraged to consider the interconnectedness of life experienced by themselves, their community and their nation, so that they grow into a young generation who have

historical awareness, get positive inspiration from the stories of heroes which ultimately encourages the formation of students' thinking patterns in a rational direction. , critical, empirical, and what is no less important is history learning which develops an attitude of respecting human values (Ningrum et al., 2017). There are many types of history, at elementary school level they are introduced to historical stories related to the events of Indonesian independence. According to (Nastiti et al., 2015) the history of independence is an important part of the national life of a country. Even though the history of independence is a past event that has occurred, the struggle of heroes in the past in fighting for independence should be known to the public, especially elementary school students, as a lesson and it is hoped that they can continue the spirit of the fighters and take advantage of the results obtained, namely, independence.

As an alternative solution to this problem, namely by using learning media facilities. Learning media facilities are used to stimulate students' interest in learning so that they can develop students' competencies in the cognitive, affective and psychomotor domains. One of the learning media used is Crossword Puzzle (TTS) media. (Prima Rias Wana, 2021) produced research that shows that crossword puzzle media can be used as an alternative learning media to improve learning outcomes. Media made in vertical and horizontal checkered shapes. The researcher provides several questions related to the material to be presented. After that, students will answer the questions by filling in the boxes provided. Answers from one to another will be continuous, so that the answers filled in by students are able to hone students' brain abilities. Crossword Puzzle Media (TTS) will be done individually and in groups. The rules of the game for .media in groups are done together with predetermined friends. The group that first completes the Crossword Puzzle (TTS) is considered the winner.

Research conducted by (Merkel, 2016) In academic environments, teachers use crossword puzzles to help students learn or remember terminology. Outside the classroom, usually in daily newspapers, crossword puzzles aid in vocabulary development, are used as study tools, free time activities, or both. Crosswords were chosen because according to (Thomas & Sangeetha, 2020) Automatic resolution crossword puzzles are open-ended natural language challenges that require filling in a puzzle grid with candidate answers, while satisfying constraints. So, by feeling the challenge of playing crossword puzzles with a high score, interest in reading will also increase which leads to more optimal absorption of information from the students' reading comprehension process.

The aim of this research is to determine the effectiveness of interactive digital crossword media on students' reading skills. 21st century human resources who are required to be able to solve everyday problems by thinking critically and creatively should be able to start with the ability to absorb minimal information from each reading through their reading comprehension skills. Based on this, the researcher is interested in raising the variable of reading skills using historical story text-based crossword puzzle learning media in Indonesian language learning for fifth grade elementary school students in the city of Surakarta.

## 2. METHODS

This includes quantitative research with the research method used as a quasi-experimental method with a Pretest-Posttest Control Group Design. In this design, two groups were randomly selected, and the experimental group was students from two elementary schools in Surakarta, and the control group was students from two elementary schools in Surakarta.

**Table 1. Design Pretest Posttest Control Group Design**

| Group | Pre-test | Treatment | Post-test |
|---|---|---|---|
| Experiment | $Q_1$ | $X_1$ | $Q_2$ |
| Control | $Q_1$ | $X_2$ | $Q_2$ |

When daylight:

Q1 : Pretest in the experimental group and control and experimental groups

Q2 : Posttest in the experimental group and control and experimental groups

X1 : Learning using crossword puzzle learning media text-based historical stories

X2 : Learning using learning media textbook from school

Both groups were given a pretest to determine initial abilities. Furthermore, the experimental group received treatment using interactive digital crossword puzzle learning media, while the control group did not use this learning media. After that, measurements were carried out on the two groups through post-tests to measure the learning outcomes of students in both groups.

The data in this stage is quantitative data originating from the results pre-test and post-test. Comparison value pre-test and post- test from the control and experimental classes all in the form of numerical data. The test is given before and after using interactive digital crossword media. The sampling technique uses a cluster random sampling technique, cluster random sampling is random sampling not from individuals, but from small groups of units. Researchers made a lottery for five sub-districts in Surakarta. Then the researchers took two sub-districts. From two sub-districts, one elementary school was randomly selected. The elementary school used is SDN Cemara 2 No. 13 Surakarta as an experimental class and SDN Mangkubumen Lor No. 15 Surakarta as the control class.

The data collection technique used in this research is a test. The test in the form of 25 multiple choice questions is given with the aim of finding out the extent to which students' reading comprehension results absorb 5W+1H information from the historical story texts they have read. The test sheet is prepared with more emphasis on indicators of reading comprehension skills and absorbing 5W+1H information from historical story texts. The test was carried out twice with the same questions, namely consisting of the first test given to the control and experimental classes at

the beginning before receiving treatment using interactive digital crossword media, namely the pretest and the second test, namely the posttest, given to the control and experimental classes at the end after receiving treatment using interactive digital crossword media.

Before the analysis is carried out, it is necessary to test the prerequisites for the analysis. The normality test in this study uses the Kolmogorov-Smirnov test technique, namely data is considered normal if the calculated value is greater than 0.05. Calculations were carried out with the help of SPSS for Windows version 20 software. Homogeneity test used the Levene-Test. This test assumes that different test samples come from the same population, even though they have different means, but have the same variance. This balance test was carried out on the pretest experimental class and control class. This test aims to find out whether the abilities of the experimental class and control class are balanced. The data used are pretest scores. After the analysis prerequisite tests are met, a hypothesis test (difference test) is carried out. The different test used in this research is the Independent Sample t-test with a significance level of 5%. The Independent Sample t-test was carried out using the SPSS for Windows version 20 application. After carrying out the independent sample t-test, an effect size test was carried out using the NGain formula to determine the magnitude of the influence of historical story text-based crossword puzzle learning media on participants' reading skills Students in learning.

## 3. RESULTS

The product effectiveness test was carried out in June-July 2023 at two elementary schools in Surakarta City. One class is the control class, and one class is the experimental class. The control class is a school that uses student books from the government during the learning process of reading skills to understand historical stories in class V. The experimental group was given interactive digital crossword media during the learning process of reading skills to understand historical stories in class V.

The control class was held at SD Mangkubumen Lor No. 15 (28 students), while the experimental class was held at Cemara Dua Elementary School (28 students). The results of testing the effectiveness of interactive digital crossword media are described as follows.

### 3.1 Test Prerequisites

Looking at the table below, a brief overview of the results of the general description test of statistical data that has been carried out in the pretest and posttest research process for control class reading comprehension skills shows mixed data. The general statistical description of the control class at Mangkubumen Lor Elementary School number 15 shows that pretest data from 28 students obtained a minimum score of 40 and a maximum score of 84 with an average of 56.79 and a standard deviation of 11.53. General statistical description of the control class of SD Mangkubumen Lor No. 15 shows that post test data from 28 students obtained a minimum score of 40 and a maximum score of 100 and an average of 63.29 with a standard deviation of 11.990.

**Table 2. Control Class Prerequisite Test Results**

| | N | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|
| Reading_pre-test | 28 | 40 | 84 | 56.79 | 11.539 |
| Reading_post-test | 28 | 40 | 100 | 63.29 | 11.990 |
| Valid N (list wise) | 28 | | | | |

Looking at the table below, a brief overview of the results of the general description test of statistical data that has been carried out in the pretest and posttest research process on reading comprehension skills for the experimental class shows mixed data. The general statistical description for the experimental class at SD Cemara 2 shows that pretest data from 28 students obtained a minimum score of 16 and a maximum score of 72 with an average of 41.36 and a standard deviation of 12.778. The general statistical description of the experimental class at SD Cemara 2 shows that post test data from 28 students obtained a minimum score of 60 and a maximum score of 100 and an average or mean of 75.21 with a standard deviation of 9.605.

**Table 3. Experimental Class Prerequisite Test Results**

| | N | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|
| Reading Skills Pretest Results | 28 | 16 | 72 | 41.36 | 12.778 |
| Reading Skills Posttest Results | 28 | 60 | 100 | 75.21 | 9.605 |
| Valid N (list wise) | 28 | | | | |

**a. Normality test**

In the normality test, the basis for decision making is as follows:

Ho = If the significant value is > 0.05, then the data is normally distributed

H1 = If the significant value <0.05 then the data is not normally distributed

Look at the table below for a brief overview of the normality test results using the Kolmogorov Smirnov formula. Of the 28 students in the pretest and posttest reading comprehension skills in the control class at SDN Mangkubumen Lor No. 15, the pretest data obtained was Sig 0.200. The

significance obtained is greater than α (0.05) so that H0 is accepted, so the data can be said to be control class pretest data with a normal distribution. Meanwhile, post test data from 28 students obtained normality test results of Sig 0.200 in the control class at SDN Mangkubumen Lor No. 15. The significance obtained is greater than α (0.05) so that H0 is accepted, so that the control class posttest data can be said to be normally distributed. Comparing it with the Shapiro Wilk formula, the results of the control class normality test at SDN Mangkubumen Lor No. 15 showed that the pretest class results obtained a Sig of 0.366. Meanwhile, for the post test class, Sig was obtained at 0.186. The significance obtained is greater than α (0.05) so that H0 is accepted, so the control class pretest and posttest data are said to be normally distributed.

**Table 4. Control Class Normality Test Results**

| | | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | Class | Statistic | df | Say. | Statistic | df | Say. |
| Reading Skills Results | Pretest | .105 | 28 | .200* | .961 | 28 | .366 |
| | Posttest | .127 | 28 | .200* | .949 | 28 | .186 |

Look at the table below for a brief overview of the normality test results using the Kolmogorov Smirnov formula. Of the 28 students in the pretest and posttest reading comprehension skills in the experimental class at SDN Cemara Dua, the pretest data obtained was Sig 0.200. The significance obtained is greater than α (0.05) so that H0 is accepted, so the data can be said to be normally distributed experimental class pretest data. Meanwhile, post test data from 28 students obtained normality test results of Sig 0.199 in the experimental class at SDN Cemara Dua. The significance obtained is greater than α (0.05) so that H0 is accepted, so the data can be said to be normally distributed experimental class posttest data. When compared with the Shapiro Wilk formula, the results of the experimental class normality test at SDN Cemara Dua showed that the pretest class results obtained a Sig of 0.856. Meanwhile, for the post test class, Sig was obtained at 0.141. The significance obtained is greater than α (0.05) so that H0 is accepted, so the experimental class pretest and posttest data are said to be normally distributed.

**Table 5. Experimental Class Normality Test Results**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Say. | Statistic | df | Say. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Reading Skills Pretest Results | .090 | 28 | .200* | .980 | 28 | .856 |
| Reading Skills Posttest Results | .136 | 28 | .199 | .944 | 28 | .141 |

**b. Homogeneity Test**

In the homogeneity test the basis for decision making is as follows:

Ho = If the significant value is > 0.05, then the data is considered homogeneous

H1 = If the significant value <0.05 then the data is considered homogeneous

Look at the table below for a brief overview of the homogeneity test results using the Levene Test formula. In the control class at SDN Mangkubumen Lor No. 15 pretest and posttest data results for reading comprehension skills show a Sig based on mean of 0.892. Meanwhile, the results of the pretest-posttest data on reading comprehension skills for the control class at SDN Mangkubumen Lor No. 15 for the homogeneity test based on median shows a Sigma of 0.915. The significance obtained is greater than α (0.05) so that H0 is accepted, so that the control class pretest and posttest data are considered homogeneous data.

**Table 6. Homogeneity Test Results Control class**

| | | Levene Statistic | df1 | df2 | Say. |
|---|---|---|---|---|---|
| Reading Skills Results | Based on Mean | .019 | 1 | 54 | .892 |
| | Based on Median | .011 | 1 | 54 | .915 |
| | Based on Median and with adjusted df | .011 | 1 | 52.971 | .915 |
| | Based on trimmed mean | .014 | 1 | 54 | .907 |

Look at the table below for a brief overview of the homogeneity test results using the Levene Test formula. In the experimental class at SDN Cemara Dua, the results of the pretest and posttest data on reading comprehension skills showed a Sig based on mean of 0.103. Meanwhile, the results of the pretest-posttest data on reading comprehension skills for the experimental class at SDN Cemara Dua for the homogeneity test based on median showed a Sigma of 0.099. The significance obtained is greater than α (0.05) so that H0 is accepted, so that the pretest and posttest data for the experimental class are considered homogeneous data.

**Table 7. Experimental Class Homogeneity Test Results**

| | | Levene | df1 | df2 | Say. |
|---|---|---|---|---|---|
| Pretest-Posttest Reading Skills Results of | Based on Mean | 2.756 | 1 | 54 | .103 |
| | Based on Median | 2.816 | 1 | 54 | .099 |
| | Based on Median and with adjusted df | 2.816 | 1 | 52.235 | .099 |
| | Based on trimmed mean | 2.865 | 1 | 54 | .096 |

**c. Balance Test**

The results of the pretest and posttest balance test of reading comprehension skills in the control class at SDN Mangkubumen Lor No. 15 and the experimental class at SDN Cemara Dua obtained an overview of general statistical data from 28 students in the table below. In the control class at SDN Mangkubumen Lor No. The 15 pretests got a minimum score of 40 and a maximum score of 84 with an average or mean of 56.78 with a standard deviation of 11.538. Meanwhile, in the experimental class at SDN Cemara Dua the pretest got a minimum score of 16 while the maximum score was 72 with an average of 41.57 and a standard deviation of 12.976. Based on the average obtained from the two classes, the difference is 15.2143, which is greater than the control class.

**Table 8. Results of Control and Experiment Class Balance Tests**

| | N | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|
| Dick Class Pretest | 28 | 40.00 | 84.00 | 56.7857 | 11.53853 |
| Experimental Class Pretest | 28 | 16.00 | 72.00 | 41.5714 | 12.97698 |
| Valid N (listwise) | 28 | | | | |

**2. Hypothesis Testing**

**a. Test Independent Sample t-test**

The hypothesis proposed in this independent sample t test is:

H0: There is no difference in reading skills between students who are taught using interactive digital crossword media and students who do not use interactive digital crossword media.

H1: There is a difference in reading skills between students who are taught using interactive digital crossword media and students who do not use interactive digital crossword media.

The basis for decision making is if –t table ≤ t count ≤ t table, then H0 is accepted; and if t-count < -t table and t-count > t table then H0 is rejected. Likewise, if we look at the significance value (2-tailed), if the sig value (2-tailed) ≤ 0.05 then H0 is rejected and H1 is accepted and vice versa.

In the table below, the results of the independent sample t test pretest-posttest reading comprehension skills using the Levene Test formula in the control class at SDN Mangkubumen Lor No. 15 obtained a general statistical picture. The results of reading comprehension skills in the control class at SDN Mangkubumen Lor No. 15 which has passed the independent sample t test obtained a df of 54 so that a t table of 2.005 with an alpha of 0.025, a Sig of 0.892 and a 2 tailed Sig of 0.44 > 0.05 is obtained, so from the independent sample t test using the Levene test it can be concluded that H0 rejected and H1 accepted. Likewise, if you look at the t count of 2.067 and the t table of 2.005 it means that t count > t table then H0 is rejected and H1 is accepted. Thus it is concluded that there is a difference in reading skills between students who are taught using interactive digital crossword media and students who do not use interactive digital crossword media.

**Table 9. Independent Sample T-Test Test Results for Control Class**

| | | 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 | Low | Up |
| Reading Skills Results | Equal variances assumed | .019 | .892 | -2.067 | 54 | .044 | -6.500 | 3.145 | -12.805 | -.195 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Equal variances not assumed | | | -2.067 | 53.921 | .044 | -6.500 | 3.145 | -12.805 -.195 |

There is a table below the results of the independent sample t test pretest-posttest reading comprehension skills using the Levene Test formula in the experimental class at SDN Cemara Dua to obtain a general statistical picture. The results of reading comprehension skills in the experimental class at SDN Cemara Dua which had passed the independent sample t test obtained a df of 54 so that a t table of 2.005 was obtained with an alpha of 0.025, a Sig of 0.103 and a 2 tailed Sig of 0.000. ≤ 0.05 then from the independent sample t test using the Levene test it can be concluded that H0 is rejected and H1 is accepted. Likewise, if you look at the t count of 11.027 and the t table of 2.005, it means that t count > t table, then H0 is rejected and H1 is accepted. Thus it is concluded that there is a difference in reading skills between students who are taught using interactive digital crossword media and students who do not use interactive digital crossword media.

**Table 10. Independent Sample T-Test Results for Experimental Class**

| | | 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 |
| Pretest-Posttest Results of Reading Skills | Equal variances assumed | 2.756 | .103 | 11.027 | 54 | .000 | -33.643 | 3.051 | -39.760 | -27.526 |
| | Equal variances not assumed | | | 11.027 | 49.753 | .000 | -33.643 | 3.051 | -39.772 | -27.514 |

**b. Effect Size Test**

In the table below the effect size test results using the formula Fine pretest-posttest reading comprehension skills for the control class at SDN Mangkubumen Lor No. 15 get a general statistical picture in the form of minimum maximum average values and standard deviation. Of the 28 students in the control class at SDN Mangkubumen Lor No. 15 received a minimum score of 0.40 and a maximum score of 1.00 with an average of 0.1597 and a standard deviation of 0.228.

**Table 11. Test Results Fine Control Class**

| | N | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|
| Fine | 28 | -.40 | 1.00 | .1597 | .22880 |
| Valid N (listwise) | 28 | | | | |

In the table below the effect size test results use the formulaFine pretest-posttest reading comprehension skills for the experimental class at SDN Cemara Dua to get a general statistical picture in the form of minimum, maximum, average and standard deviation scores. Of the 28 students in the experimental class at SDN Cemara Dua, they received a minimum score of 0.35 and a maximum score of 100 with an average of 0.5889 and a standard deviation of 0.14449.

**Table 12. Test Results Fine Experimental Class**

| | N | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|
| NGain_Score | 28 | .35 | 1.00 | .5889 | .14449 |
| Valid N (listwise) | 28 | | | | |

## 4. DISCUSSION

This research aims to evaluate the effectiveness of interactive digital crossword media in increasing students' understanding of certain material. To achieve this goal, this research was carried out by testing data requirements, checking the balance of the experimental and control groups, and applying the independent sample t-test to identify whether there were significant differences between the two groups. Apart from that, an effect size test was also carried out to measure how big the impact of this intervention was.

Before carrying out further analysis, researchers checked data prerequisites such as normality and homogeneity of variance for both groups using normality tests, namely the Kolmogorov-Smirnov test and Shapiro-Wilk test as well as the homogeneity of variance test with the Levene test. Then, to ensure that the experimental group and control group were initially balanced, the researcher used the independent sample t-test or chi-square test to compare the initial values before the intervention. After ensuring that the prerequisites were met and the groups were balanced, the

researcher continued by conducting an independent sample t-test. This test was used to compare the average score of students' understanding between the experimental group that used interactive digital crossword puzzle media and the control group that did not use this media but instead used textbook media.

The results of the normality test show that the data in the experimental and control groups meet the requirements for normal distribution, namely a significance value of > 0.05. The homogeneity of variance test also shows that the variances of the two groups are comparable, namely a significance value of > 0.05. The results of the balance test showed no significant differences between the experimental and control groups in the average results of the comparison of pretest scores. The results of the independent sample t-test showed a significant difference in the scores for understanding historical stories between the experimental group and the control group. So the results of the t test show differences in reading skills between students who are taught using interactive digital crossword media and students who do not use interactive digital crossword media. The effect size test results show the average valueFine of 0.5889. This shows that the use of interactive digital crossword media is quite effective in improving reading skills and comprehension of historical stories for fifth grade elementary school students. In accordance with the normalized Gain table modified by (Sundayana, 2015):

**Table 13. Modified Normalized Gain Interpretation**

| Tune Normalized | Interpretation |
|---|---|
| -1.00g | There was a decline |
| g = 0,00 | Still |
| 0,00 < g < 0,30 | Low |
| 0,30 g < 0,70 | Currently |
| 0,70 g 1,00 | Height |

In modern developments, many technology-based learning media have been created for Indonesian language subjects such as games books, scrapbooks, e-modules, and interactive learning media (Rahmat, 2017) (Anggraeni Putri Pertiwi, 2018)(Utami, 2021) (Hijjah & Bahri, 2022). The 2013 curriculum requires students to be active through direct practice to gather information from various types of reading. Considering that the only learning media available in class are textbooks, which according to (Smith, A., & Jones, 2020) physical textbooks are limited in flexibility and mobility. In accordance with the opinion of (Meepung et al., 2021) that the learning media chosen is at least -less can improve the learning experience of students and teachers. Students who learn by using textbook media have shortcomings as revealed by (Johnson, 2018) that the learning experience

that students get is less interesting if they use textbook media. Research conducted (Aziza, 2019) regarding interactive digital media with different forms of media in the form of flipbooks found that interactive digital media can increase students' interest and desire to learn certain material.

The results of this study show that the use of interactive digital crossword media significantly improves students' reading skills and comprehension of historical stories. Average valueFine which also shows the big impact of using interactive digital crossword media. Based on the results of the prerequisite test, balance test, independent sample t-test, and effect size test, it can be concluded that interactive digital crossword media can effectively improve the reading skills and understanding of historical stories for fifth grade elementary school students. In line with the opinion (Degner et al., 2022) that interactive digital learning media is multimedia that can store information and be transmitted in digital form. Then (Achryati et al., 2022) argue that with media students will more easily understand the meaning contained in teaching materials. From this opinion, it is clear that this interactive digital crossword media is effective and shows a big impact on improving the reading skills and understanding of historical stories for fifth grade elementary school students.

## 5. CONCLUSION

This study aims to test the effectiveness of Interactive Digital Crossword Media in improving reading skills and comprehension of historical stories in fifth grade elementary school students. In the adopted quasi-experimental design, the experimental group used the media as a learning supplement, while the control group received no specific intervention. The results of data analysis showed that there were significant differences between the experimental group and the control group after the intervention period. The average score of historical story comprehension reading skills in the experimental group experienced a greater increase compared to the control group. These results support the hypothesis that the use of Interactive Digital Crossword Media can effectively increase students' understanding of historical stories. The results of this research show that the group that used the Interactive Digital Crossword media experienced a significant increase in their reading skills and comprehension of historical stories compared to the control group. This improvement can be seen in students' ability to identify 5W1H information and posttest in understanding historical texts. The results of this research indicate that the Interactive Digital Crossword media can be an effective tool in improving reading skills, understanding historical stories, as indicated by scores.Fine amounting to 0.5889 in the quite effective category. These findings provide positive implications for the development of interactive learning methods, especially in the context of history learning. Interactive Digital Crossword Media can be considered an effective tool for enriching learning and improving students' reading skills, understanding historical stories. However, it should be noted that this study has several limitations, such as limited sample size and intervention duration that may not capture long-term effects. Therefore, suggestions for further research are to expand the sample size and conduct research with a longer intervention period to explore this more deeply. Thus, this conclusion provides positive insight into the application of Interactive Digital Crossword Media as a learning tool that

has the potential to improve reading skills and understanding of historical stories, but also emphasizes the need for further research to strengthen these findings and answer questions that may still remain.

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