

THE EFFECTIVENESS OF e-COMIC MEDIA ON STUDENT LEARNING OUTCOMES TO COMPREHEND JAVANESE STORY TEXTS IN 3RD GRADE

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Article Info	Abstract
<p><i>Article History:</i></p> <p>Accepted September 2024</p> <p>Revised Agustus 2024</p> <p>Approved July 2024</p>	<p>One way to help preserve the Javanese language is through learning. To preserve the Javanese language, a deeper introduction is necessary so that it can be effectively applied in the surrounding environment. The issue faced is that students find Javanese language learning boring because teachers need to use instructional media that can enhance the quality of Javanese language education. The purpose of this research is to evaluate how effectively e-comic media improves the knowledge of 3rd-grade students in understanding Javanese folktales. This research employs a quasi-experimental and quantitative methodology. The non-equivalent control group design is the type of quasi-experimental approach used. The data collection method utilized is testing. Instrument tests used include validity tests, reliability tests, difficulty level analysis, discriminative power, and distractor function. The prerequisite tests used are normality tests and homogeneity tests. The hypothesis test used is the T-test. According to the data, the experimental class outperformed the control class in terms of improvement. The experimental class achieved an average post-test score of 76.6, while the control class averaged 64.3. The experimental class showed a score increase of 21 points, or 37.77%, whereas the control class improved by 16.27%. These findings support the hypothesis that e-comic media positively affects student learning outcomes. Additionally, the school will adopt this media so it can be adapted to the narratives present in the relevant curriculum.</p> <p>Keywords: E-Comic; Student Learning Outcomes; Javanese Story Text.</p>

A. Introduction

The Javanese language must be preserved as part of the cultural heritage. Teaching Javanese in schools is one approach to keeping the language alive. Learning Javanese aims to improve one's knowledge and proficiency in the language as well as one's attitude towards the language in general (Arafik, 2013).

Previous research related to the factors studied was conducted by Siregar (2017), showing that, both before and after children received health education, the average self-efficacy score for avoiding violence in children was significantly influenced by comic books. Apart from that, Riwanto & Wulandari (2018) and Wahyudi (2022) stated that comic books increase students' enthusiasm for learning and make learning material more interesting. Researching Pratiwi (2018) admitted that the ability to compose essays is easily improved through comic strip media. The research by Made (2022) claims that children's motivation and interest in learning can be raised through comic books. Furthermore, Marliana (2023) stated that reading comprehension abilities can be improved by using comic books. Therefore, further research is needed to find out how well Javanese fairy tale texts can be studied using e-comic media.

This research is further research from previous research that used comic media packaged in electronic form in the form of links that can be sent via the Whatsapp application so that students can use this comic media for independent or guided learning.

Based on the explanation above, this research aims to describe the effectiveness of using e-comics media on student learning outcomes to comprehend Javanese story texts of 3rd grade at SDN 2 Arjosari.

B. Methods

This research uses quantitative methods. This research uses a quasi-experimental design as a quantitative approach, namely an experimental method with an experimental design. The non-equivalent control design group is the design type used. The sample consisted of 20 students in the 3rd grade of SDN 2 Arjosari Kec. Kalipare, Kab. Malang 2022–2023 school year. 3rd grade students were

divided into an experimental class and a control class was used as the sample class. The Probability Sampling approach is the sampling method used (Darmawan, 2013). The written exam is the research tool used in this research. There are 40 multiple-choice questions with 4 possible answers in the written exam. The scores obtained from the pretest and posttest questions were used to analyze the data. Scores are determined by statistical and quantitative data analysis using multiple test administrations. It consists of the T-test, normality test, homogeneity test, level of difficulty, distinguishing power, distractor function, and validity and reliability tests.

C. Results and Discussion

Learning media is needed for learning to take place (Nurdiyanti, 2019). There are various kinds of learning media, including visual media. Visual media is an essential part of the learning process, and images are said to be the most accessible visual media to obtain because they can replace verbal words, create summaries, and overcome human observation (Nurhayati et al., 2019). Visual media can improve student learning outcomes by presenting images of everyday life regarding people, humans, events, objects, places, and others (Hildayah, 2019).

Visual media has various types, one of which is comic media. Teachers effectively use comic media to develop vocabulary and can increase students' interest in reading (Sudjana, 2013). Comic learning media can also increase students' interest in reading, making them able to understand well, which can increase their understanding (Daryanto, 2013). The effectiveness of using comic media is measured using test equipment that has passed a series of tests.

The validity test measures the level of accuracy between the data collected from the research object and the data the researcher can provide (Sugiyono, 2015). If an exam contains the appropriate number of tested questions, then the exam is considered valid (Solichin, 2017). To determine whether test questions that fulfill the standards are valid or invalid. If the test results for the validity of the questions are less than 0.05, then the test is considered valid; if it is more significant than 0.05, the question is considered invalid.

Three questions were declared invalid based on the validity test on 40 questions because their significance value was more than 0.05, while 37 questions were determined to be genuine according to their significance value of less than 0.05. The questions' invalidity is due to the data pattern obtained through the pretest and posttest showing an uneven distribution of results. Inconsistent answer patterns from respondents cause this inequality, leading to low correlation coefficient values.

There are several ways to interpret the 37 valid questions. Based on the Person Correlation findings in the range of 0.41-0.70, there were 17 questions whose interpretation was adequate. Seven questions based on Person Correlation values in the range of 0.71–0.90 have a high level of interpretation. We consider 13 questions with Pearson Correlation values in the range of 0.91-0.99 to have very high interpretation.

Following the validity test results, we selected only 30 questions for the pretest and posttest. We excluded the remaining 7 valid questions because they already represented the basic competencies. These 30 questions have different levels of interpretation. There were 8 questions with very high interpretation, 7 with high interpretation, and 15 with moderate interpretation.

The reliability test states that if a test instrument is given to the same subject by several people at different times or in different locations, the consistency of the test instrument determines its reliability; the findings will not change significantly (Lestari & Yudhanegara, 2017). If a measurement tool uses a reliability coefficient, then the tool may be considered dependent. We consider the statement dependent if the dependency coefficient exceeds 0.70 (Ghozali, 2018).

Based on the reliability test findings from 40 questions, we found a Cronbach's Alpha value of 0.870. Since this result is higher than 0.7, we consider the figure valid. Even though the data was submitted at different times and locations, the findings did not show significant differences. If the resulting data is less than 0.7, then the data will be declared unreliable. Unreliable data can mean that the results appear different at different times and places. The causes of unreliable data can be influenced by several factors, including the number of test

items, group variables, scoring objectivity, group level, test difficulty level, and test homogeneity. Thus, the test instrument used as a test tool is reliable. Ultimately, this research collects accurate data to draw appropriate conclusions about the situation.

Additionally, testing is based on difficulty level. The difficulty level of a question, represented by a number, represents its difficulty level (Lestari & Yudhanegara, 2017). If a question does not fall into the category of too simple or too complex, then the question is considered very good (Arikunto, S., 2018). A question is more straightforward if more students successfully answer it; conversely, if only a few students answer correctly, it becomes more challenging (Hanifah, 2014).

To determine whether a question is easy, medium, or hard, we must first analyze its difficulty level by looking at it from that point of view. Test results categorize questions into three difficulty levels: easy, medium, and hard. We classify questions with an interpretation ranging from 0.70 to 1.00 as easy. We classify questions with interpretations ranging from 0.30 to 0.69 as medium. We classify questions with an interpretation ranging from 0.00 to 0.29 as hard. The SPSS algorithm determines this interpretation number by analyzing how many test questions students answered correctly.

2 questions were determined to be easy to interpret based on the difficulty level test because the resulting interpretation scores fell between 0.70 and 1.00. The interpretation value that appears falls between 0.30 and 0.69, which shows that 32 items have a medium interpretation. 6 questions were determined to be hard because the interpretation values displayed were in the range of 0.00 and 0.29.

After the difficulty level test, we collected 30 questions for the pretest and posttest. These questions exhibited varying difficulty levels: 1 was classified as easy, 24 as medium, and 5 as hard. The percentage of easy questions decreased by 1% because the number of questions used decreased. On the other hand, the percentage of difficult questions increased by 1% even though the number of questions used decreased because the number of difficult questions was still more significant than the number of easy questions.

The discriminating power of a question item refers to its ability to distinguish between students who answer correctly and those who answer incorrectly (Lestari & Yudhanegara, 2017). It differentiates students with high and low abilities (Arikunto, 2018).

The differentiating power of the questions is divided into 4 categories: poor, fair, good, and very good. Questions with the poor category have a range of interpretation in the Person Correlation column of 0.00 – 0.20. Questions with the fair category have a range of interpretations seen in the Person Correlation column of 0.21 – 0.40. Questions with the good category have a range of interpretations seen in the Person Correlation column of 0.41 – 0.70. Questions with the very good category have a range of interpretations seen in the Person Correlation column of 0.71 – 1.00. Person Correlation can be seen in the question validity test table when carrying out calculations using SPSS.

Based on the discriminating power test results, 3 questions are hard, considering that the interpretation value was 0.00 to 0.20. The validity test determined that these three questions were invalid. The remaining 22 questions had good interpretation, between 0.40 and 1.00. Fifteen questions are considered excellent, with scores between 0.71 and 1.00. It can be concluded that these questions can differentiate students with high and low abilities based on the number of questions that fall into the “very good” category. 30 of the 40 instrument test questions were used as pretest and posttest questions as a follow-up to the discrimination test. 16 questions were interpreted well, and 14 questions were interpreted very well.

The next test is the distractor function, which aims to determine how effective distractions are in a multiple-choice exam, which is the aim of distractor analysis. Students must choose from a series of alternative answers. A given diversion is ineffective if several students like the same trick or if no students like it (Rahmaini & Taufiq, 2018).

In general, test takers choose distraction questions thoughtfully. However, it is problematic if distractor questions are not chosen evenly. The analysis of distractor functions can be categorized into three categories. First, we accept it for

its quality if 5% of test takers choose any distractions in the questions. Second, we reject it if its quality is poor, as indicated by the lack of selection of distractors (0%) during the test. Third, we rewrite it due to its poor quality if less than 5% of the selected distractions fail to meet their expected goals (Arikunto, 2016).

The categories above show that the more distractors selected, the better the distractors function—conversely, the lower the distractor chosen, the less well the distractor functions. The incorrect formulation of this statement is one reason the distractor needs to be fixed. To resolve this, change the language in the distractor and make the appropriate changes (Arikunto, 2013).

The analysis of the distractor function in the tested questions showed that all distractors functioned well, categorizing them as acceptable. It was because at least 5% of students selected each distractor. The distractor function fell into the accepted category even for invalid questions. It was because all students answered the given questions, including the invalid ones. The distractor function was accepted for invalid questions because students chose distractors according to the acceptable criteria, with more than 5% selecting them.

Based on the distractor function test findings, the follow-up was to apply it to the pretest and posttest questions without any changes because all the distractors were in the accepted category, indicating that the distractors were suitable to be applied. Factors that influence whether the distractor function is accepted or rejected include if the respondent chooses it, the top group chooses fewer than the bottom group, and one respondent chooses it from the bottom group.

After giving the pretest and posttest questions, researchers conducted the normality test. This test determines whether the residuals, confounding factors, or regression model are normally distributed (Siregar, 2015). There are two ways to perform a normality test: Shapiro-Wilk and Kolmogorov-Smirnov. The number of samples used in these two approaches is different. If data collection involves more than 100 samples, researchers use the Kolmogorov-Smirnov technique. If the sample size exceeds 100, the Shapiro-Wilk method should be used. In this research, because the sample is only 20 students, the Shapiro-Wilk normality test technique is used because the sample size is less than 100.

The questions used as a data collection tool were 30 questions that were declared valid in the validity test and represented basic competencies and indicators. Based on the normality test on the 30 questions, the significance value showed a result of 0.259 for the test and 0.746 for the posttest. Both results were declared normal. Data is declared normal if the result of the significance value is more than 0.05. The question can be considered abnormal if the data is less than 0.05. If the graph shows symmetrical data and the population is randomly distributed, the data can interpret the data as normal.

Normal data can increase the objectivity of assessments and minimize bias in sample estimates of the population. If abnormal data is found, data with excessive scores are called outliers and may be the source of the problem. Due to extreme scores, the score distribution may be biased to one side (right or left).

The homogeneity test determines whether two or more samples from different populations have the same variants or other characteristic distributions. Statisticians use the homogeneity test as a guide for statistical test decisions (Shari & Azizah, 2021). The two-variance equality test determines whether the data distribution is homogeneous by comparing two variances.

Data can be homogeneous if the significance value shown in the homogeneity test calculation is more than 0.05. If the homogeneity test results show a value of less than 0.05, it means the data is not homogeneous. The homogeneity test shows that the data could be more homogeneous due to an inaccurate sampling process. The distribution of members of the experimental and control groups could be better, which pays less attention to stratification and variance within the group.

The significance value of the pretest and posttest was 0.724 based on the findings of the homogeneity test on 30 questions carried out with SPSS software. The pretest and posttest questions are homogeneous because these findings show that the significance value is more than 0.05. The data used in research must be homogeneous because samples that are not homogeneous will cause the data to be biased. Biased data will cause the data received to be less accurate. Data inaccuracies can result in wrong decisions when concluding research.

The T-test assesses whether there is a relationship or significance between the independent factors and the dependent variable (Purba, et al., 2020). Based on the characteristics of the samples obtained, the T-test has three different types of tests: one sample t-test (one sample), two sample t-tests (two samples), and paired t-tests (paired). Researchers use a one-sample t-test for T-tests involving a single sample. For T-tests involving two independent samples, they conduct a two-sample t-test. The T-test, which uses two paired samples, is carried out using the paired t-test.

Paired Sample Test is the T-test used in this research to calculate hypothesis testing. Researchers used the Paired Sample Test to pair the sample groups, namely the control and experimental classes. They deem the T-test relevant if the significance value is less than 0.05 and irrelevant if it is more than 0.05. The smaller the significance value of the T-test, the better or more influential the results are. However, the more significant the significance value, the closer the T-test results are to inadequate or closer to having no effect. The T-test results have no effect because the data distribution pattern differs between the variables tested.

After 30 questions, the significance value of the pretest and posttest in the control and experimental classes at SDN 2 Arjosari was 0.000. This value is displayed in the 2-sided Sig column. The significance value from the data is less than 0.05, indicating that e-comic learning media influences student learning outcomes.

Thirty questions were declared to have passed the test to be used as pretest and posttest instruments based on the findings of five series of tests: validity, reliability, level of difficulty, distinguishing power, and distractor function. After testing them, the next step is to apply the question instruments to the pretest and posttest. The weight of the questions on the pretest and posttest is the same. Before the posttest, e-comic media was used as research material and learning media in the learning process.

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testing them. The weight of the questions on the pretest and posttest is the same. Before the posttest was carried out, e-comic media was used as research material and learning media in the learning process.

The control class, which was learning Javanese with story text material, received no treatment. This means the control class does not use e-comic media during learning. Meanwhile, the experimental group learning Javanese with story text material received treatment using e-comic media in the learning process. Students in the experimental class must-read comics displayed via the LCD projector during the learning process because the students' learning resources come from these comics. Apart from that, the content in the questions comes from the comic media displayed.

There was an improvement in both courses when using e-comic media to teach Javanese fairy tale texts. The experimental class that used e-comic media experienced a more significant increase. The disparity in scores mentioned above proves that e-comic learning materials can influence students' understanding of narrative content. The average pretest score for the experimental class was 55.6, while the control class was 55.3; this shows a variation of 0.3 in the mean pretest score between the experimental and control groups. The average post-test score for the experimental class increased higher than that of the control class after using e-comic media.

The experimental class obtained a post-test average of 76.6, while the control class obtained an average of 64.3. The control class and experimental class have different average post-test scores of 12.3. The experimental class experienced an increase in score of 21 points or 37.77%, while the control class experienced an increase of 9 points or 16.27%.

The tests carried out showed that both classes had improved. The experimental class that used e-comic media experienced a more significant increase. The variation in scores above shows that e-comic learning materials can influence students' understanding of narrative content.

The effect obtained from e-comic learning media is that students in the experimental class become more enthusiastic in reading stories because they can

attract students' attention, in order to facilitate students' understanding of the questions given in the experimental class. Unlike the control group, students seemed very burdened because they had to read a lot of reading and questions. In the final hours of working on questions, some students ran around to disturb their friends because they felt bored.

The resulting influence proves that using e-comic media in learning Javanese supports increasing students' understanding. The appearance of the comic attracts their attention to observe the pictures on the comic slides, as well as short conversations using simple language commonly used in everyday life (Kustianingsari, 2015).

Using comics in the classroom can improve students' reading fluency and prevent them from getting bored and lazy (Suhardi & Mappedasse, 2022). Students' enthusiasm for learning increases because they can see cartoon characters in pictures other than reading (Riwanto & Wulandari, 2018). To create a comic that combines visuals and dialogue, the images in the comic slides also have a storyline commonly carried out in daily activities (Handayani & Koeswanti, 2020).

D. Conclusion

Based on the results of data analysis, e-comic media is effectively used as a learning medium for Javanese story text material. There needs to be follow-up action to update this e-comic learning media so that it can be implemented in other Javanese language materials that do not yet use e-comic media, such as getting to know Javanese script, wayang stories, etc. Teachers should use e-comic media as an alternative media for Javanese learning. It is hoped that future researchers can develop e-comic learning media research using the latest applications and materials.

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