



KOMIKA Media (Children's Comics) Improves Learning Outcomes in Indonesian Cultural Wealth Material for Fourth Grade Elementary School

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ABSTRAK

Kegiatan pembelajaran yang dilakukan guru menggunakan metode hafalan sehingga banyak siswa yang tidak tertarik dan memerlukan bantuan dalam mempelajarinya. Selain itu, kurangnya media pembelajaran juga berdampak pada hasil belajar IPAS pada siswa sekolah dasar yang rendah. Berdasarkan hal tersebut maka tujuan penelitian ini yaitu untuk menganalisis pengaruh media KOMIKA (Komik Anak) terhadap hasil belajar materi IPAS Kelas IV kekayaan budaya Indonesia di sekolah dasar. Jenis penelitian ini adalah penelitian kuantitatif. Metode yang digunakan dalam penelitian ini adalah metode eksperimen dengan desain quasi eksperimen. Populasi penelitian ini yaitu 32 orang siswa kelas IV SD. Metode yang digunakan untuk mengumpulkan data adalah tes. Instrumen yang digunakan untuk mengumpulkan data adalah lembar soal tes. Teknik yang digunakan untuk menganalisis hasil penelitian adalah statistik inferensial. Hasil penelitian yaitu hasil uji-t menunjukkan bahwa terdapat perbedaan rata-rata antara nilai post-test kelas eksperimen dengan nilai post-test kelas eksperimen dan nilai tes kelas kontrol. Hasil uji-n gain menunjukkan N-Gain Score kelas eksperimen masuk ke dalam kriteria tinggi dan untuk kelas eksperimen masuk ke dalam kriteria sedang. Disimpulkan pembelajaran menggunakan media KOMIKA (Komik Anak) lebih efektif dibandingkan pembelajaran hanya menggunakan buku siswa.

ABSTRACT

The learning activities carried out by teachers use the rote method, so many students need to be more interested and help learn them. Apart from that, the lack of learning media also has a low impact on science learning outcomes for elementary school students. Based on this, this research aims to analyze the influence of KOMIKA (Children's Comics) media on the learning outcomes of Class IV science material and the richness of Indonesian culture in elementary schools. This type of research is quantitative research. The method used in this research is an experimental method with a quasi-experimental design. The population of this study was 32 fourth-grade elementary school students. The method used to collect data is a test. The instrument used to collect data is a test question sheet. The technique used to analyze research results is inferential statistics. The research results, namely the t-test results, show an average difference between the experimental class post-test scores and the control class test scores. The results of the N-gain test show that the N-gain score for the experimental class falls into the high criteria, and for the experimental class falls into the medium criteria. It was concluded that learning using KOMIKA (Children's Comics) media was more effective than using only student books.

1. INTRODUCTION

Education plays a big role in the development of society. Education can be interpreted as a person's process of forming their personality by the values or rules of society (Efendi, 2020; Rahardja et al., 2019; Setiyowati et al., 2018). By providing education, a person will grow to compete and motivate themselves to be much better in all areas of life. Learning is a process that starts from knowledge and leads to change (Fahrudin et al., 2018; Shastina et al., 2020). Teaching and learning activities are activities to help students develop their potential. In this activity, educators and students interact, which can increase students' insight regarding certain learning aspects (Rusmini et al., 2021; Schles & Robertson, 2019). Elementary school education is a formal education in Indonesia that aims to prepare students so they are ready to continue to a higher level of education. The aim of implementing learning in elementary schools is because of the benefits of gaining knowledge provided by educators to students (Sudaryono & Aryani, 2021; Suratmi et al., 2020). The relationship between teachers and students requires elements that can create diversity in the fields of science, psychomotor, and affective as a series of knowledge

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acquisition. Teachers are the most crucial element in determining the achievement of a learning process because educators will transfer knowledge to students (Fisnani, YeniFisnani et al., 2020; Kusumayuni & Agung, 2021). Other research also reveals that teachers are one of the main elements in educational success in elementary schools (Lee, 2019; Muadin & Prihatni, 2017; Wullschlegler et al., 2020). Teachers have various roles, such as knowledge, mentors, managers, facilitators, and innovators (Hasanah et al., 2023; Muadin & Prihatni, 2017; Nurjanah & Sofiwati, 2019). The role of teachers in elementary school learning is to optimize learning, facilitate collaboration between teachers, utilize technology, and build positive relationships with students and parents (Sudaryono & Aryani, 2021; Suratmi et al., 2020). Apart from that, teachers are also responsible for delivering lesson material in a fun and interactive way, as well as helping students develop social and academic skills (Syahrial et al., 2019; Vebrianto et al., 2020). Teachers must be able to design good learning, especially in science and science learning. In elementary school, science subjects study animate and inanimate objects in the universe and their relationships, studying human life as social creatures and individuals interconnected with their environment. Science and science learning help students build critical thinking skills essential in everyday life (Dewi & Suniasih, 2023; Silvia et al., 2023). Critical thinking skills help students solve existing problems and help them make good decisions.

However, the current problem is that learning material uses the rote method, so many students are uninterested and need help learning it. This is reinforced by previous research findings, which state that learning using the lecture method can make students feel bored when participating in learning (Afrianti & Musril, 2021; Nikmah et al., 2019; Yulia & Ervinalisa, 2017). Other findings also reveal that students who are not motivated to learn have an impact on low student learning outcomes (Hapsari & Zulherman, 2021; Ricardo & Meilani, 2017; Syachtiyani & Trisnawati, 2021). Based on interviews with fourth-grade teachers at SD Gugus Ahmad Dahlan, Sruweng District, Kebumen Regency, several problems were found in science and science learning at SD Negeri 2 Tangerang and SD Negeri 2 Sruweng. One of the problematic science materials for students to understand is "Indonesian Cultural Riches". This is due to students' low literacy skills, making it difficult to understand and remember learning material. Apart from that, the teacher said that the absorption and memory of the "Indonesian Cultural Riches" material was not optimal because students did not pay enough attention to the material during learning. Based on the results of the interviews, information was also obtained that teachers had yet to use varied and innovative learning methods and models in implementing science and science learning. The learning methods teachers use are lecture, discussion, and question-and-answer methods. Apart from that, in the learning process, teachers have not maximized the use of learning media; teachers have yet to be able to use conventional or IT media well. This results in less innovative learning and less optimal student learning outcomes in science subjects.

One way to overcome this problem is to use media in teaching and learning activities. Using appropriate learning media in the classroom learning process can bring achievements for educators and students (Liyana & Kurniawan, 2019; Muyaroah & Fajartia, 2017; Puspitasari, 2021). Learning media makes it easier for students with difficulty receiving and understanding lesson material delivered via text or orally (Heryandi & Nur'aini, 2022; Kurniawati & Koeswanti, 2021). Educators can create various ways of delivering learning material by using learning media. Learning media can help students to be more active and creative during the learning process. One learning media that can be used is comics (Kurniawati & Koeswanti, 2021; A. F. Lestari & Irwansyah, 2020). Comic media is something in the form of cartoon images that convey certain characters with unique images intended to provide entertainment to every child who reads them (Saputro & Soeharto, 2015; Sedana Putra & Semara Putra, 2021). Comics are an imaginative and effective medium to be applied in learning. This media can foster a learning situation that is fun and exciting. Students learn while looking at the dancing story illustrations (Syahmi et al., 2022; Wicaksono et al., 2020). When students are enthusiastic about using comic media, the student, not the learning process, feels excited; as a result, this can influence student learning outcomes to the maximum. The comic media that will be developed is book-based comic media called KOMIKA media (Children's Comics), which aims to facilitate students' learning process in schools, especially elementary schools for children. Previous research findings reveal that comic media can make it easier for students to learn because of the exciting nature of the media in the form of picture illustrations (Febriyandani & Kowiyah, 2021; Mujahadah et al., 2021; Ngazizah & Laititia, 2022). Other research also reveals that e-comics can increase motivation to improve learning outcomes (Aeni & Yusupa, 2018; Hidayah & Ulva, 2017; Siregar et al., 2019). However, there has yet to be a study regarding KOMIKA (Children's Comics) media on the learning outcomes of Class IV science material on the richness of Indonesian culture. The advantage of the KOMIKA media that will be developed is that it contains several exciting images, as well as various images about the complete richness of Indonesian culture. In this way, KOMIKA media can help educators and students carry out learning activities that are more interesting and not boring. The application of media as

a means of learning certainly has a role in learning, including creating a practical learning situation. Based on the problems that have been described, this research aims to analyze the influence of KOMIKA (Children's Comics) media on the learning outcomes of Class IV science material on the richness of Indonesian culture at Gugus Ahmad Dahlan Elementary School, Sruweng District.

2. METHODS

This type of research is quantitative research. Quantitative research is a method based on positivist thinking that is used to determine populations and specific samples. Data collection requires research instruments, and data analysis is quantitative, with the aim of testing predetermined hypotheses (Sugiyono, 2019). The method used in this research is the experimental method. The experimental research method is carried out by testing, called a quantitative method, which is needed to determine the influence of independent variables (treatment) on variables (Sugiyono, 2019). The experimental research method is a systematic method that aims to establish relationships that contain cause-and-effect phenomena (Sugiyono, 2019). The research method used is a quasi-experimental design method, with the strategy used as a Non-equivalent Control Group Design. This research was conducted at SD 2 Negeri Tangerang with 15 class IV students as the experimental class and at Sruweng 2 State Elementary School with 17 class IV students as the control class. The method used to collect data is tests. The test method obtains learning results before and after using KOMIKA media. The test method used is multiple choice. The treatment used in the experimental class/group was KOMIKA media, while the control class/group was taught using conventional learning. After completing the treatment 4 times, a post-test was carried out with the same test questions as the pre-test. After that, a questionnaire was used to measure students' interest in participating in science and science learning using KOMIKA (Children's Comics) media for experimental class students. The instrument used to collect data was the test question sheet. The instrument grid is presented in Table 1.

Table 1. Research Instrument Grid in the Form of Test Questions

No	Material	Indicator	Cognitive Level
1	The richness of Indonesian culture	Presented with a picture, students are asked to match the problems	C6
2	Local wisdom	Presented with a story illustration, students are able to analyze local cultural wisdom	C4
3	The richness of Indonesian culture and local wisdom	Presented with a story illustration, students are able to name an example of local and Indonesian cultural wisdom	C2
4	The richness of Indonesian culture and local wisdom	Presented with a short description, students are able to mention how to maintain Indonesian and local culture	C2

Data analysis in this research is by processing pre-test and post-test data through instrument and statistical requirements tests. This instrument was tested for validity and reliability; in addition to testing the difficulty level and differentiating power of each question, it was carried out to test each question's feasibility and good level. This test is carried out by giving students 20 questions through a test; there are 6 invalid questions and 14 valid questions. This is done so that the questions given to students are suitable for measuring student learning outcomes. The technique used to analyze research results is inferential statistics. This research will carry out descriptive tests, normality, homogeneity, hypothesis (t-test), and N-Gain using SPSS version 22.

3. RESULT AND DISCUSSION

Results

The data in this study consisted of pre-test data conducted before treatment, post-test data conducted after treatment and questionnaires conducted after the post-test. The comparison between the pre-test and post-test scores of the experimental and control classes showed in Table 2. Based on Table 2, it shows that the completeness of student learning outcomes with a minimum completeness qualification is 70. The percentage of completeness of the pre-test results in the experimental class was 6.6%, there were 1 out of 15 students who reached KKM (70), while the completeness of the control class pre-test results showed 11.7%, there were 2 out of 17 control students who reached KKM (70). The experimental

class post-test results reached 100% completeness, namely there were 15 out of 15 students, while the control class post-test results showed the achievement of 47% completeness, namely there were 8 out of 17 students who reached KKM (70). It can be seen that the lowest *pre-test value* in the experimental class is 21, while the highest is 71, seen from the average value of 45.27. For the *post-test score*, there was an increase, the lowest score was 71 and the highest score was 100, seen from the average value of 88.73, the experimental class of 15 students had met the minimum completeness qualification (KKM). While in the control class for the *pre-test* the lowest score was 14 and the highest score was 79, with an average score of 42.00. As for the *post-test*, the lowest score is 50 and the highest score is 86, with an average of 66.76.

Table 2. Table of Pres-Test and Post-Test Learning Outcomes of Experimental and Control Classes

No	Details	Pre-Test		Post-Test	
		Experiment	Control	Experiment	Control
1	The number of students	15	17	15	17
2	Lowest Value	21	14	71	50
3	The highest score	71	79	100	86
4	Average	45.27	42.00	88.73	66.76
5	Number of Completed Students	1	2	15	13
6	Completeness	6,6%	11,7%	100%	47%

The purpose of the normality test is to understand whether there is data that is normally distributed or not normally distributed. Because statistical tests can be used if the data obtained is normally distributed. In this normality test, the researcher uses the Shapiro Wilk formula, a data is said to be normally distributed if the sig value obtains a result ($>$) 0.05 and if the significance value obtains a result ($<$) from 0.05, it means that the data is declared not normally distributed. Normality Test Results for Pre-Test Values showed in Table 3.

Table 3. Table of Normality Test Results for Pre-Test Values

Class	Statistic	Shapiro-Wilk		
		Df	Sig	
Student learning outcomes	Pre-Test Experiment	0.950	15	0.532
	Pre-Test Control	0.950	17	0.461

Based on Table 3, it can be seen from Shapiro Wilk which is used to test whether there is normally distributed data or not, when viewed from the significance value (sig) of the normality test results for the experimental class pre-test 0.532, otherwise for the control class the significance is 0.461. Based on the normality table above, the significance value for both classes using the Shapiro Wilk test, significance (sig) $>$ 0.05. So it can be known that the pre-test data of the experimental class and control class are normally distributed. Then the data is declared normal, the next process is the homogeneity test, this test is one of the statistical test processes that has the aim of seeing whether this data has the same variant. This decision-making guideline is if the significance $>$ 0.05 so that the data is said to be homogeneous, otherwise if the significance (sig) $<$ 0.05 so that the data is said to be inhomogeneous. Homogeneity Test Results for Pre-Test Values showed in Table 4.

Table 4. Table of Homogeneity Test Results for Pre-Test Values

	Levene Statistic	df1	df2	Sig	
					Student learning outcomes
	Median	0.326	1	30	0.572
	Median and with adjusted df	0.326	1	28.743	0.572
	Trimmed Mean	0.371	1	30	0.547

Based on Table 4, the significance value (sig) of the homogeneity test results for the experimental class *pre-test* Based on Mean 0.565 $>$ 0.05, which states that the data from the experimental and control class *pre-test* scores produce homogeneous data. Normality Test Results of *Post-Test* Values showed in Table 5.

Table 5. Table of Normality Test Results of Post-Test Values

	Kelas	Shapiro-Wilk		
		Statistic	Df	Sig.
Student learning outcomes	Post-Test Experiment	0.923	15	0.211
	Post-Test Control	0.923	17	0.164

Based on Table 5, the significance value (sig) of the post-test normality test results in the experimental class shows a significance of $0.211 > 0.05$, while the significance of the results in the control class is $0.164 > 0.05$, thus the post-test normality test results for the experimental class and control class are normally distributed. Homogeneity Test Results of Post-Test Values showed in Table 6.

Table 6. Table of Homogeneity Test Results of Post-Test Values

		Levene Statistic	df1	df2	Sig.
Student learning outcomes	Mean	2.340	1	30	0.137
	Median	1.300	1	30	0.263
	Median and with adjusted df	1.300	1	27.776	0.264
	Trimmed Mean	2.254	1	30	0.144

Based on Table 6, shows that the significance (sig) Based on Mean shows $0.137 > 0.05$. Based on the results of the post-test homogeneity test, it is declared homogeneous. The results of the normality test and homogeneity test for the post-test of the experimental class and control class stated that both resulted in normally distributed and homogeneous data. Based on the results of the normality test and the homogeneity test, the pre-test and post-test values of the experimental and control classes produced normal and homogeneous data, then the next step is to test the research data with a hypothesis test (t test), namely the Independent Sample Test. The test has the aim of knowing whether there is an average difference between the experimental class and the control class. With the criteria if the value of $t_{count} > t_{tabel}$ then declared H_0 rejected, and vice versa if the value of $t_{count} < t_{tabel}$ then declared H_0 accepted. T-Test Results (Average Difference) of Experimental and Control Classes showed in Table 7.

Table 7. Table of T-Test Results (Average Difference) of Experimental and Control Classes

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig	t	Df	Sig (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper	
Student learning outcomes	Equal variances Assumed	2.340	.137	5.920	30	0.000	21.969	3.711	14.390	29.547
	Equal variances not assumes			6.051	28.674	0.000	21.969	3.631	14.539	29.389

Based on Table 7, it can be seen that the t_{count} value is 5.920, while the t value is t_{tabel} with degrees of freedom (df) 2.042. which can be concluded that the results of the t test testing with the $t_{count} > t_{tabel}$ value, namely $5.920 > 2.042$. It means that the hypothesis in this study is H_0 (KOMIKA Media (Children's Comics) has no effect on the learning outcomes of IPAS material "Indonesian Cultural Wealth" of grade IV SD Negeri Gugus Ahmad Dahlan Sruweng District), while H_a (KOMIKA Media (Children's Comics) affects the learning outcomes of IPAS material "Indonesian Cultural Wealth" of grade IV SD Negeri Gugus Ahmad Dahlan Sruweng District. Therefore it can be concluded that there is an average difference between the *post-test* value of the experimental class and the *post-test* value of the control class. Furthermore, after knowing the hypothesis from the results of the Independent Sample Test, namely the test of the average increase in the learning outcomes of experimental and control class students which aims to determine whether there is an increase in the average student learning outcomes or no increase in the average

student learning outcomes before treatment and after treatment. This means whether on the material "Indonesian Cultural Wealth" the average learning outcomes of fourth grade students of SD 2 Tanggeran are better by using comic media than the average value obtained by fourth grade students of SD Negeri 2 Sruweng by using student book support. This test is the N-Gain test conducted to determine the effectiveness of using certain treatments or treatments in research. By obtaining the results of the difference between the pre-test value and the post-test value (N-gain Score), researchers are able to find out whether the use of comic media can be said to be effective or not. The N-Gain range category is if $g > 0.7$ then it is in the high category, $0.3 \leq g \leq 0.7$ then it is in the medium category, $g < 0.3$ is in the low category. Test Results of Average Improvement of Learning Outcomes of Experimental and Control Classes showed in Table 8.

Table 8. Test Results of Average Improvement of Learning Outcomes of Experimental and Control Classes

Class	Average Score		N-Gain Value	Criteria
	Pre-test	Post-Test		
Experiment	45.27	88.73	0.79	High
Control	42.00	66.76	0.40	Currently

Based on Table 8, it shows that the mean (average) score of the experimental class pre-test score is 45.27 while the control class is 42.00. As for the average post-test score, the experimental class showed 88.73, while the control class was 66.76. With an average N-Gain score in the experimental class showing a score of 0.79 while the control class showed an average score of 0.40. According to the N-Gain Score criteria the experimental class entered into high criteria and for the experimental class entered into moderate criteria. Based on the results of the above output, learning using KOMIKA (Children's Comics) media is more effective than learning using only student books. Based on data analysis, found that the average student response to the use of comic media is 93.33 with very good criteria.

Discussion

The research results, namely the t-test results, show an average difference between the experimental class post-test scores and the control class test scores. The results of the gain test show that the N-Gain Score for the experimental class falls under the high criteria and that the experimental class falls under the medium criteria. Several factors cause this. First, using KOMIKA (Children's Comics) media in learning Indonesian Cultural Wealth material helps students' understanding of the material. KOMIKA (Children's Comics) media helps students understand the material "Indonesian Cultural Riches". Questionnaire data on student responses to this statement shows the percentage of perfect answers in the outstanding category. KOMIKA (Children's Comics) media allows students to understand the material well. Previous research findings also prove that children's comic story media is effectively applied to students so that they can develop an interest in reading and train their imagination so that they will become creative people in the future (Lestari et al., 2022; Marlina & Subrata, 2023; Muhaimin et al., 2023). Using digital comic media can be an option for delivering learning material so teachers can engage in more variety using digital media (Handayani & Koeswati, 2020; Rusmono & Alghazali, 2019). This also helps students with difficulty answering questions using comic media, as they can quickly review the material (Saputro & Soeharto, 2015; Sedana Putra & Semara Putra, 2021).

Second, using KOMIKA (Children's Comics) media to learn Indonesian cultural wealth material increases students' enthusiasm for learning. This media helps students not get bored while studying, which is usually quite dull and makes students bored while learning (Syahmi et al., 2022; Wicaksono et al., 2020). This research is in line with other research which states that using comic media can increase motivation and attract students' interest in learning (Abdurrohim et al., 2020; Hobri et al., 2021). Student learning outcomes and learning motivation can be developed in various ways, such as the application of teaching aids, media and learning models that are adapted to class and student conditions. Comic media can illustrate concepts and ideas with pictures and stories, which can help students understand the material more easily (Siregar et al., 2019; Syahmi et al., 2022; Wicaksono et al., 2020). Students in learning will make students more motivated in learning. The use of comic media can help students increase interest in learning, understand concepts and ideas, and improve language skills (Artha et al., 2020; Udayani et al., 2021). Third, using KOMIKA (Children's Comics) media to learn Indonesian Cultural Wealth material creates an exciting learning experience for students. Learning media is the most crucial element in learning to speed up learning and make it easier for students to create a more enjoyable learning experience for students (Saputro & Soeharto, 2015; Sedana Putra & Semara Putra, 2021; Taufiq et al., 2020). Comic learning media can overcome the limitations of space, time, and sensory power, which can

help students with different learning abilities. Comic media in learning is a form of educational media that uses pictures and stories to illustrate concepts, ideas and information (Indriasih et al., 2020; Mahyuddin & Isratati, 2023). This comic media can be used to develop language skills, artistic activities, and creative statements in telling stories (Rochmah & Fahyuni, 2021; Setyaningsih & Canda Sakti, 2020). This can certainly create an exciting learning experience for students. Previous research findings also reveal that comic media has an attractive appearance with appropriate images to increase students' enthusiasm and motivation in learning (Abdurrohim et al., 2020; Febriyandani & Kowiyah, 2021). Other research also confirms that comic media can stimulate students in learning so that they can significantly improve student learning outcomes (Khasanah et al., 2021; Melliyaniti & Suniasih, 2022). Based on this, using KOMIKA (Children's Comics) media to learn Indonesian cultural wealth material can make learning more accessible for students. Another advantage of comic media is that it can help students be interested in learning. Apart from that, comic media can help students become proficient in language. Communication can foster artistic activities such as drawing, increase creativity and support students in remembering the material they have studied. The limitation of this research is that the use of KOMIKA (Children's Comics) media only measures the learning outcomes of fourth-grade elementary school students on Indonesian Cultural Wealth material. This research implies that KOMIKA (Children's Comics) media can improve student learning outcomes and enthusiasm. Teachers are advised to implement learning using comic learning media to make it more attractive for students and improve student learning outcomes. Using comic media can make students more creative, which can help them improve their learning outcomes.

4. CONCLUSION

The results of this research show that there are differences in the average scores of the experimental class and the control class. In increasing the average student learning outcomes in the material "Indonesian Cultural Riches", the experimental class's N-Gain value was in the high category, while the control class's N-Gain value was in the medium criteria. This means that using KOMIKA (Children's Comics) media in learning the "Indonesian Cultural Riches" science material is more effective than learning that only uses student books. Students are thrilled and helped in participating in the science and science learning material "Indonesian Cultural Riches" because they use KOMIKA (Children's Comics) media during learning; this media also adds to students' diverse and enjoyable learning experiences. KOMIKA media can also become the latest innovation for teachers in activating a pleasant classroom atmosphere and making it easier for students to understand the material so that the desired learning objectives can be achieved later.

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