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Paper Puppets as an Interactive Learning Medium in Third Grade Elementary Schools

Anindhitya Yudhanta Prasetya[1*], Sri Sukasih[2]

[1,2] Elementary School Teacher Education Department, Universitas Negeri Semarang, Semarang, Indonesia

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ABSTRAK

Di era globalisasi saat ini, tantangan pendidikan menjadi semakin kompleks dan memerlukan inovasi dalam proses pembelajaran untuk meningkatkan kualitas hasil belajar siswa. Salah satu inovasi yang saat ini berkembang pesat adalah penerapan media pembelajaran. Permasalahan yang ditemukan peneliti di lapangan adalah kurangnya penerapan media pembelajaran yang digunakan sehingga mempengaruhi hasil belajar siswa. Tujuan penelitian ini adalah untuk menganalisis pengaruh media pembelajaran wayang kertas terhadap tingkat kelas III Sekolah Dasar. Jenis penelitian yang digunakan adalah penelitian kuantitatif dengan desain penelitian pre-experimental design dengan desain pretest-posttest control group design. Subyek penelitian ini adalah siswa kelas III Sekolah Dasar (SD) dengan sampel sebanyak 53 siswa dan teknik pengambilan sampel yang digunakan adalah random sampling. Teknik pengumpulan data yang digunakan adalah wawancara, angket, dan tes. Teknik analisis data yang digunakan adalah analisis deskriptif dan analisis inferensial. Hasil penelitian yang diperoleh adalah terdapat pengaruh terhadap hasil belajar siswa setelah dilakukan pengujian dan perbandingan penerapan media wayang kertas. Kesimpulan penelitian yang diperoleh adalah terdapat pengaruh terhadap hasil belajar siswa antara sebelum dan sesudah penerapan media pembelajaran wayang kertas.

ABSTRACT

In the current era of globalization, educational challenges are becoming increasingly complex and require innovation in the learning process to improve the quality of student learning outcomes. One innovation that is currently developing rapidly is the application of learning media. The problem found by researchers in the field is the lack of application of the learning media used which affects student learning outcomes. The purpose of this research is to analyze the influence of paper puppet learning media has on the third grade elementary school level. The type of research used is quantitative research with a pre-experimental designs research design with pretest-posttest control group design. The subjects of this research were third grade elementary school students at elementary school with a sample of 53 students and the sampling technique used was random sampling. The data collection techniques used were interviews, questionnaires, and tests. Data analysis techniques used are descriptive analysis and inferential analysis. The research results obtained were that there was an influence on student learning outcomes after testing and comparing the application of paper puppet media. The conclusion of the research obtained were that there was an influence on student learning outcomes between before and after implementing paper puppet learning media.

1. INTRODUCTION

Education is an effort to obtain knowledge through school, both formal and non-formal. Education is a key factor in the development of a nation. As time progresses, studies in the field of education cannot be separated from science and technology in their application (Koehler, M. J., & Mishra, 2005; Thannimalai & Raman, 2018). This is evident in various aspects, from teaching methods to learning tools. For example, information and communication technology has transformed the way teachers teach and students learn. The use of computers, tablets, and the internet allows access to a wider and more diverse range of learning resources (Sabates et al., 2021; Shi & Han, 2019). Consequently, the interaction between education, science, and technology creates a more dynamic and adaptive learning environment, which can better meet the individual needs of students and prepare them to face future challenges. One innovation that is currently developing rapidly is the application of learning media. Learning media has a very important role in increasing the effectiveness of learning. Learning media is not only a teaching aid, but can also increase students' motivation and interest in learning. Learning media has an important role in increasing elementary school students' interest in learning, especially in the lower grades (Ghofur & Youhanita, 2020; Susanti & Hamama Pitra, 2019). The use of learning media will greatly influence student learning outcomes, through changes in behavior, attitudes, knowledge and other aspects. Learning

*Corresponding author.
E-mail addresses: yudhantaprasetya@student.unnes.ac.id (Anindhitya Yudhanta Prasetya)

outcomes are real achievements of what students have learned while following lessons from the teacher (Candra & Retnawati, 2020; Putri et al., 2022).

Schools as a formal education institution have a very important role in educating children so that they have broad knowledge, both in terms of general knowledge and religious knowledge and character. The urgency of this research is that researchers found facts in the field that students at the third grade level actually have high learning motivation when teachers apply learning media, but teachers often only use monotonous learning media in class. Researchers found a gap in previous research conducted stated that wayang learning media influenced student learning outcomes (Al Shammari, 2021; Cahyono et al., 2016). This is not completely true because based on the results of observations obtained by researchers, it was found that student learning outcomes were also influenced by internal factors of the students themselves such as student learning motivation, students' cognitive level, and students' attitudes during learning. Learning will be effective if carried out by professional teachers. Student learning outcomes can be improved through integrated local learning models (Cookson & Stirk, 2019; Thannimalai & Raman, 2018).

The condition that researchers found in class III of SDN Kalibanteng Kidul 01 Semarang was that there were problems in learning, namely low student learning outcomes in the knowledge aspect. This is because students' interest in reading is still low so students tend to be passive when participating in learning. Students' low interest in learning is influenced by several factors such as the learning media used in learning which is less varied and also learning methods which tend to be too monotonous. The application of creative learning media in learning activities can help improve the quality of learning so that learning objectives can be achieved. This understanding refers to teachers, books, the school environment, and other learning resources as innovative and creative learning media (Huwaidi et al., 2021; Syahputri & Murdiono, 2022). This causes students to get bored easily and class conditions become unconducive because students are not focused on learning and are busy playing alone. Students' low interest in learning is influenced by several factors such as the learning media used in learning which is less varied and also learning methods which tend to be too monotonous. This causes students to get bored easily and class conditions become unconducive because students are not focused on learning and are busy playing alone. In addition, language anxiety has been identified as contributing to and influencing student learning outcomes or achievement. The use of technology as a learning medium can certainly help increase student learning motivation because it will make students interested in receiving learning material (Amir, 2020; Senk & Thompson, 2020). Teachers must be able to choose learning tools that are relatively inexpensive and efficient, even though they are simple in form but have a clear objective, namely to achieve the expected learning objectives (Pratiwi, 2016; Siregar et al., 2022). Seeing the real conditions in the field, researchers tried to apply a learning media called "paper puppet". This learning media is made from paper which is then attached to cardboard and given a support like a puppet. Puppet is one of the many original Indonesian cultures that society is starting to abandon. Indonesia has a puppet show which is a puppet imitation of a person made from carved leather or wood which can be used to portray characters in a story performance (Mustaqim et al., 2021; Sari, 2017).

The aim of this research is to apply paper puppet learning media and to improve student learning outcomes in Indonesian language learning content. The novelty of this research presents the novelty of paper puppet learning media which has not been widely used in teaching Indonesian language learning. The hope is that by implementing this learning media, students will become more enthusiastic and motivated to take part in learning activities.

2. METHOD

This research uses quantitative research with experimental methods. Quantitative research is a research method used to examine a certain population or sample with the aim of testing a predetermined hypothesis (Creswell, 2013). Independent and dependent variables are the two categories of variables used in this investigation. It can be concluded that the independent variable is a variable that is the cause or has the theoretical possibility of having an impact on other variables. In this research, the independent variable or independent variable is the application of the "paper puppet" learning media. The dependent variable comes second. In this research, the dependent variable is student learning outcomes in the knowledge aspect. The population of this study was 81 students divided into 3 classes, namely class III A with 27 students, class III B with 26 students, and class III C with 28 students. Meanwhile, the number of samples in this study was 53 students, divided into 27 students in the experimental class group and 26 students in the control class group. Each student will receive a pre-test question sheet and post-test question sheet. Then later the score results from all students will be summarized and grouped according to the distribution of the score levels obtained. The distribution of value levels can be seen in the Table 1.

Table 1. Categories for Student Grade Level

Score	Categories
96-100	Very High
76-95	High
71-75	Medium
55-70	Low
<55	Very Low

In this research, researchers used data collection techniques using observation, interviews, questionnaires and tests. The interview conducted by the researcher was an interview with a teacher in class III. The type of interview used by researchers is unstructured interviews. Then the researcher used a questionnaire technique, namely data collection which was carried out by giving written questions and answered by a relatively large group of people with the aim of concluding a general problem. And finally, researchers use observation techniques, namely data collection techniques used when researchers are concerned with work processes, human behavior carried out directly. The type of observation carried out by researchers is structured observation. The research instrument used is a test in the form of a pre-test and post-test The grid of the questionnaire provided by the researcher can be seen in the Table 2.

Table 2. The Grid of The Questionnaire

No	Variable	Indicator	Number
1.	Student Learning Motivation and Learning Media	1) Students' learning motivation when learning Indonesian language content material	1
		2) Student learning motivation when teachers use learning media	2
2.	Student Learning Follow-up	1) Students' attitudes towards following up on the Indonesian language learning content that has been taught	3
3.	Level of Understanding and Student Learning Outcomes	1) The level of students' understanding regarding the Indonesian language learning content that has been taught	4
		2) Student learning outcomes in the knowledge aspect of Indonesian language learning content	5

Base on Table 2 the validity test results obtained show that the Sig value is <0.05 so it can be concluded that the questionnaire questions given are completely valid. Finally the data analysis techniques used are descriptive data analysis and inferential data analysis. Descriptive data analysis is a technique used to briefly describe and summarize data. The aim is to provide an initial understanding of the basic characteristics of data, such as the mean, median, mode and distribution of data. Additionally, this technique can also be used to look for correlations between variables, make predictions with regression analysis models, and make comparisons between sample data means. Meanwhile, inferential data analysis techniques are techniques used to make conclusions about populations based on samples taken. Inferential data analysis techniques consist of the normality test, Wilcoxon test, homogeneity test, and finally the Mann-Whitney test. The provisions for each data test can be seen in the Table 3.

Table 3. Validity Categories for Inferential Data Analysis Techniques

Test Name	Validity	Categories
Normality Test	Sig > 0.05	Normal
	Sig < 0.05	Not Normal
Wilcoxon Test	Sig < 0.05	Hypothesis Accepted
	Sig > 0.05	Hypothesis is Not Accepted
Homogeneity Test	Sig > 0.05	Homogeneous
	Sig < 0.05	Non-Homogeneous
Mann-Whitney Test	Asymp. Sig. (2-tailed) < 0.05	Hypothesis Accepted
	Asymp. Sig. (2-tailed) > 0.05	Hypothesis is Not Accepted

In this research, after the data collection process, the data obtained was analyzed using descriptive and inferential statistics. The first data analysis technique is descriptive statistics to calculate

the pretest-posttest scores between the two classes. Then the second test is to use the normality test to see whether the data distribution is normal or not. The reference used is the Shapiro-Wilk reference. If the resulting data is normal, it will continue with the paired sample t test. If the resulting data is not normal then continue with the Wilcoxon test. After that, the third test is to carry out a homogeneity test which aims to see whether the distribution of the questions given is homogeneous or not. If homogeneous results are obtained, then the independent sample t test will be continued and if the data is not homogeneous then the Mann Whitney test will be continued. And the final test is to carry out the Mann-Whitney test to prove whether the hypothesis that has been made can be accepted or not.

3. RESULT AND DISCUSSION

Result

The first result is the results of the pre-test and post-test scores from the experimental class and control class which have been obtained and then grouped based on their value categories. For more details, the data can be seen in the Figure 1.

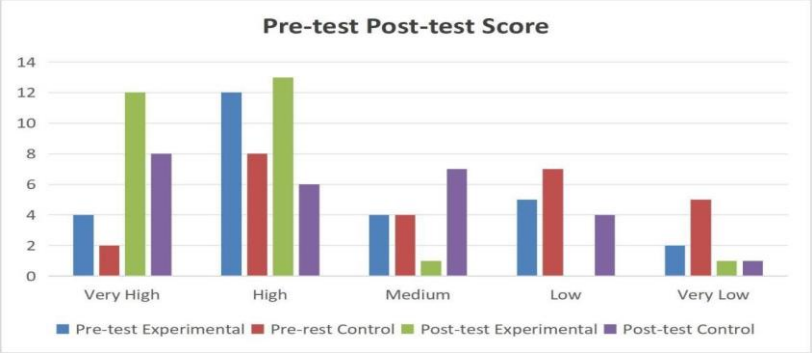

Figure 1. Pretest-posttest Score Diagram

Base on Figure 1 show the results were that for the experimental class it was class III A and for the control class it was class III B. After that, the researcher gave pre-test questions to classes III A and III B and then got the results, namely the average pre-test score for class III A was 80.30 while the average pre-test score for class III B is 71.46. After that, the researcher gave treatment in the form of applying paper puppet media in the experimental class twice. Finally, the researcher gave post-test questions to classes III A and III B and then got the results, namely the average post-test score for class III A was 92.37 while the average post-test score for class III B was 83.04. For more details, the data can be seen in the Figure 2.

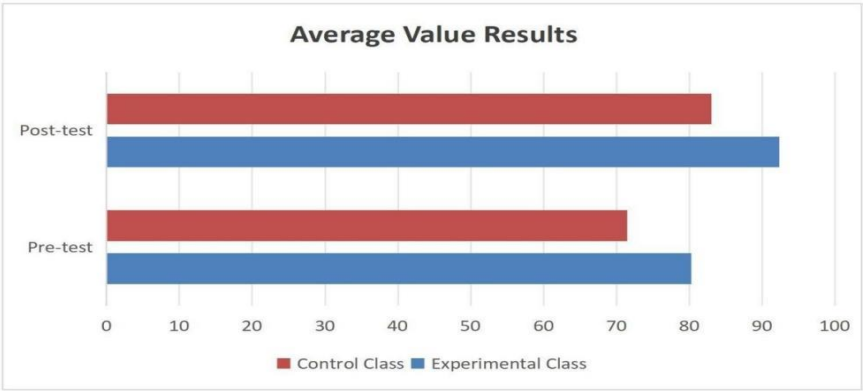

Figure 2. Average Value Results

Figure 2 shows a considerable rise in the average score of students in the experimental class. This is evident in the average pre-test and post-test scores for the experimental class, which grew by 12.07, but the average pre-test and post-test scores for the control class increased by just 11.58. Aside from that, the number of students who received a score above the average, namely above 75, increased as well. In the experimental class, the number of students who received a complete score increased from 8 to 25 students, whereas in the control class it only increased from 10 to 14 students. Next are the results for

descriptive analysis which presents complete data containing mean, mode, median, standard deviation, range, and others which can be seen in the Table 4.

Table 4. Results of Descriptive Analysis.

Based On	Pre-test Experimental	Post-test Experimental	Pre-test Control	Post-test Control
Valid	27	27	26	26
Missing	0	0	1	1
Mean	80.30	92.37	71.46	83.04
Std. Error of Mean	2.953	2.088	3.400	2.905
Median	83.00	92.00	75.00	83.00
Mode	83	100	83	100
Std. Deviation	15.342	10.849	17.335	14.812
Variance	235.370	117.704	300.498	219.398
Range	58	50	58	50
Minimum	42	50	42	50
Maximum	100	100	100	100
Sum	2168	2494	1858	2159

The data analysis technique that is then carried out is to carry out a normality test to see whether the data is normally distributed. The results of the normality test can be seen in the Table 5.

Table 5. Normality Test Results.

Name	Statistic	df	Sig
Pre-test Experimental	0.926	27	0.055
Post-test Experimental	0.681	27	0.000
Pre-test Control	0.951	26	0.240
Post-test Control	0.893	26	0.011

Base on Table 5 it is possible to examine the results of the normality test, which corresponds to the Shapiro-Wilk calculation. The table shows that the pretest scores for the control and experimental classes are normally distributed (sig value > 0.05), but the posttest results for the same classes are abnormal (sig value <0.05). As a result, the normality test data distribution cannot be considered normal. Because the normality test results indicate that the data distribution is not normal, the Wilcoxon test will be employed to assess whether the hypothesis may be accepted or not. The outcomes of Wilcoxon can be seen in the Table 6.

Table 6. Wilcoxon Test Results.

Wilcoxon Test		
Name	**Z**	**Asymp. Sig. (2-tailed)**
Experimental Class	-3.234	0.001
Control Class	-2.939	0.003

According to Table 6, the sig value for the control class is 0.003, whereas the sig value for the experimental class is 0.001. Next, based on the Wilcoxon test requirements, the hypothesis can be accepted. The control and experimental classes have sig values of 0.003 and 0.001, respectively, which are less than 0.05, indicating that the hypothesis may be accepted. Following the Wilcoxon test, the next step is to do a homogeneity test. This homogeneity test calculates variance homogeneity, and data is considered homogeneous if the sig value is based on a mean greater than 0.05. The outcomes of the homogeneity test may be seen in the Table 7.

Table 7. Homogeneity Test Results.

Based on	Lavene Statistic	df1	df2	Sig.
Mean	6.837	1	51	0.012
Median	6.874	1	51	0.012
Median and with adjusted df	6.874	1	50.416	0.012
Trimmed mean	6.841	1	51	0.012

According to Table 7, the sig result based on the mean is 0.012. The homogeneity test fails because the sig value based on mean is less than 0.05. The Mann Whitney test was then used as the final data test because the results were not homogeneous. If the results are not homogenous, the Mann Whitney test is used. The Mann Whitney Test determines whether there is a significant difference between the learning results of the control class and the experimental class. If the Asymp score is greater than zero, the study findings can be considered an accepted hypothesis. Sig. (2-tailed) <0.05. Based on the results, the size of Asymp. Sig. (2-tailed) is 0.018. The hypothesis can be accepted if the Asymptotic value (two-tailed) is less than 0.05. The obtained value is 0.018, which is less than 0.05. Based on data analysis, the value of Asymp. Sig. (2-tailed) < 0.05 supports the Ho hypothesis, indicating a significant influence on student learning outcomes in the knowledge aspect before and after the application of learning media.

Discussion

Education is required to keep up with rapidly developing technological developments and utilize technology as a more sophisticated means to facilitate the learning process. Training students' ability to think from elementary school age is very important because critical thinking skills are one way that can contribute to solving various problems experienced in everyday life (Hart et al., 2021; Haryanto et al., 2022). Elementary school is an important educational unit. The role of elementary schools in educating students is very large. However, typically students in elementary schools generally have a low level of concentration (Hanik et al., 2018; Saarnio et al., 2010). Other relevant research also found problems in the learning process between students, teachers and parents. If we look at the existing relevant research, it can be explained that the implementation of Indonesian language learning has not been implemented optimally (Subakti & Prasetya, 2022). If we look at existing relevant research, it can be explained that the implementation of Indonesian language learning has not been implemented optimally. The results of interviews with learning teachers in elementary schools, especially in lower grades, should use learning media in the form of games. Game media will create an exciting atmosphere of learning while playing for students (Fitriyana et al., 2020; Saputri et al., 2018).

The results of this research show that the application of paper puppet learning media has an effect on improving student learning outcomes. Students can better understand learning material according to their level of ability because they use concrete learning media. But without an object they still have physical difficulties. So in the learning process a physical object is needed that can make it easier for students to understand the material lesson (Ade-Ojo et al., 2022; Muarifin, 2022). Based on the analysis of written test results and interviews, students can understand the problem in the questions. Students are able to identify the information in the question by writing down what they know and asked. Students can also understand the problem in the question but there are answers that are not correct in solving it. This research began by distributing questionnaires to students. Then student learning outcomes are analyzed using descriptive and inferential statistical tests. For descriptive and inferential analysis, use the SPSS version 23 application. Inferential data analysis consists of the normality test, then the Wilcoxon test, followed by the homogeneity test, and finally the Mann-Whitney test.

According to the findings of the questionnaire distributed to 81 students, as many as 39 students chose to always feel happy when learning Indonesian language learning content material, and as many as 58 students felt always happy when the teacher used learning media when teaching Indonesian language learning material content. Based on this, it is possible to conclude that more than half of the public is always pleased when instructors utilize learning media, implying that if teachers use or implement learning media in the classroom, students will be highly happy and motivated to participate in learning. Meanwhile, only 14 of 81 students said they always achieved good learning results from Indonesian language study content. Thus, student learning results in Indonesian language learning material remain very poor. At this point, the researcher also developed research tools in the form of data collecting instruments, such as instructor activity observation sheets, student activity observation sheets, and student worksheets (Islam et al., 2022; Lindenbauer, 2020).

The use of paper puppets as an interactive learning medium can enhance student engagement and participation in the learning process. Students tend to be more interested and motivated to actively participate when they can interact with appealing and enjoyable learning media. Through the use of paper puppets, students can develop their social and communication skills. Interaction among students involved in paper puppet activities can help them learn to work in teams, speak in public, and convey their ideas more effectively. The limitation of this research is that there is a difference in the number of samples in the control and experimental classes, resulting in the resulting data being less valid when compared to the number of control and experimental classes which have the same number of samples. Advice that researchers can give to other researchers is to conduct experiments in classes that have the same number of samples so that the data obtained will become more valid.

4. CONCLUSION

Based on the findings of the research, it is possible to accept the H_0 hypothesis, which states that there is a significant influence on student learning outcomes before and after the learning media is used, and that paper puppet learning media can be used to solve the problems that researchers encounter in the field. The use of paper puppets as an interactive learning medium can enhance student engagement and participation in the learning process. Students tend to be more interested and motivated to actively participate when they can interact with appealing and enjoyable learning media.

5. REFERENCES

Ade-Ojo, G. O., Markowski, M., Essex, R., Stiell, M., & Jameson, J. (2022). A systematic scoping review and textual narrative synthesis of physical and mixed-reality simulation in pre-service teacher training. *Journal of Computer Assisted Learning*, *38*(3), 861–874. https://doi.org/10.1111/jcal.12653.

Al Shammari, M. H. (2021). Devices and Platforms Used in Emergency Remote Learning and Teaching During Covid-19: A Case of English Major Students in Saudi Arabia. *Arab World English Journal (AWEJ*, *1*, 80–94. https://doi.org/10.24093/awej/covid.6.

Amir, A. (2020). Public Policy Implementation: Study on Educational Budgeting of Palopo. *Journal La Sociale*, *1*(1), 5–11. https://doi.org/10.37899/journal-la-sociale.v1i1.19.

Cahyono, B. Y., Mukminatien, N., & Amrina, R. (2016). Indonesian Students Writing Proficiency in Using Complex Sentence. *International Journal on Studies in English Language and Literature (IJSELL)*, *4*(9), 22–32. https://www.researchgate.net/profile/Bambang-Cahyono-3/publication/311707316.

Candra, & Retnawati, H. (2020). A meta-analysis of constructivism learning implementation towards the learning outcomes on civic education lesson. *International Journal of Instruction*, *13*(2), 835–846. https://doi.org/10.29333/iji.2020.13256a.

Cookson, M. D., & Stirk, P. M. R. (2019). Developing Students' Writing Skill in English - A Process Approach. *Journal for Research Scholars and Professionals of English Language Teaching*, *2*(6). https://www.researchgate.net/profile/V-Chandra-Rao/publication/325489625.

Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 4th Edition*. Sage Publications, Incorporated.

Fitriyana, N., Wiyarsi, A., Ikhsan, J., & Sugiyarto, K. H. (2020). Android-based-game and blended learning in chemistry: Effect on students' self-efficacy and achievement. *Cakrawala Pendidikan*, *39*(3), 507–521. https://doi.org/10.21831/cp.v39i3.28335.

Ghofur, A., & Youhanita, E. (2020). Interactive Media Development to Improve Student Motivation. *IJECA (International Journal of Education and Curriculum Application)*, *3*(1), 1–11. https://doi.org/10.31764/ijeca.v3i1.2026.

Hanik, N. R., Harsono, S., & Nugroho, A. A. (2018). Penerapan Pendekatan Contextual Teaching and Learning dengan Metode Observasi untuk Meningkatkan Hasil Belajar pada Matakuliah Ekologi Dasar. *Jurnal Pendidikan Matematika Dan IPA*, *9*(2), 127–138. https://doi.org/10.26418/jpmipa.v9i2.26772.

Hart, C., Costa, C., D'Souza, D., Kimpton, A., & Ljbusic, J. (2021). Exploring higher education students' critical thinking skills through content analysis. *Thinking Skills and Creativity*, *41*(May), 100877. https://doi.org/10.1016/j.tsc.2021.100877.

Haryanto, H., Ghufron, A., Suyantiningsih, S., & Kumala, F. N. (2022). The Correlation Between Digital Literacy and Parents' Roles Towards Elementary School Students' Critical Thinking. *Cypriot Journal of Educational Sciences*, *17*(3), 828–839. https://doi.org/10.18844/cjes.v17i3.6890.

Huwaidi, F., Nandiyanto, A. B. D., & Muhammad, N. (2021). The Urgency of Online Learning Media during the Covid-19 Pandemic at the Vocational School in Indonesia. *Indonesian Journal of Educational Research and Technology*, *1*(2), 35–40. https://doi.org/10.17509/ijert.v1i2.33368.

Islam, M. K., Sarker, M. F. H., & Islam, M. S. (2022). Promoting student-centred blended learning in higher education: A model. *E-Learning and Digital Media*, *19*(1), 36–54. https://doi.org/10.1177/20427530211027721.

Koehler, M. J., & Mishra, P. (2005). Teachers Learning Technology by Design. ,. *Journal of Computing in Teacher Education*, *21*(3), 94–102. https://www.tandfonline.com/doi/abs/10.1080/10402454.2005.10784518.

Lindenbauer, E. (2020). Interactive Worksheets Assisting Students' Functional Thinking Conceptions In Lower Secondary Education. *Mathematica Didactica*, *43*(1), 1–23. https://doi.org/10.18716/ojs/md/2021.1162.

Muarifin, M. (2022). Soft skill learning device for elementary school students through the learning of physical education in merdeka curriculum. *Journal of Science and Education (JSE)*, *3*(2), 196–205. https://doi.org/10.56003/jse.v3i2.174.

Mustaqim, W. D., Putra, A. P., & Murti, T. (2021). Development of Bilingual Pop Up Book Media on Javanese Puppet Stories for Elementary School Students. *Sekolah Dasar: Kajian Teori Dan Praktik Pendidikan*, *30*(1), 77. https://doi.org/10.17977/um009v30i12021p077.

Pratiwi, K. D. (2016). Students ' difficulties in writing English : A study at the third semester students of English education program At University of Bengkulu. *E Journal Universitas Bengkulu*, *1*(2), 1–13. https://doi.org/10.29300/ling.v3i1.106.

Putri, M. A. K., Pambudi, D. S., & Kurniati, D. (2022). Development Of Using Cultural Value Lesson Study-Based Learning Devices For Learning Community To Improve Numeration [In Bahasa]. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *11*(4), 2567. https://doi.org/10.24127/ajpm.v11i4.6164.

Saarnio, K., Aurela, M., Timonen, H., Saarikoski, S., Teinilä, K., Mäkelä, T., Sofiev, M., Koskinen, J., Aalto, P. P., Kulmala, M., Kukkonen, J., & Hillamo, R. (2010). Chemical composition of fine particles in fresh smoke plumes from boreal wild-land fires in Europe. *Science of the Total Environment*, *408*(12), 2527–2542. https://doi.org/10.1016/j.scitotenv.2010.03.010.

Sabates, R., Carter, E., & Stern, J. M. B. (2021). Using educational transitions to estimate learning loss due to COVID-19 school closures: The case of Complementary Basic Education in Ghana. *International Journal of Educational Development*, *82*(February), 102377. https://doi.org/10.1016/j.ijedudev.2021.102377.

Saputri, D. Y., Rukayah, R., & Indriayu, M. (2018). Need Assessment of Interactive Multimedia Based on Game in Elementary School: A Challenge into Learning in 21st Century. *International Journal of Educational Research Review*, *3*(3), 1–8. https://doi.org/10.24331/ijere.411329.

Sari, D. (2017). Meningkatkan Keterampilan Menyimak Melalui Media Boneka Tangan (Hand Puppet) Pada Pelajaran Bahasa Indonesia Siswa Kelas II SDN Blimbing Jombang. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, *5*(3), 543–555. https://media.neliti.com/media/publications/254470-none-d39af52a.doc.

Senk, E. B. L., & Thompson, D. R. (2020). *Standards-based School Mathematics Curricula : What Are They? What Do Students Learn?* (A. H. Schoenfeld (ed.); E-Book). Taylor & Francis Group. https://doi.org/https://doi.org/10.4324/9781003064275.

Shi, W., & Han, L. (2019). Promoting Learner Autonomy Through Cooperative Learning. *English Language Teaching*, *12*(8), 30. https://doi.org/10.5539/elt.v12n8p30.

Siregar, L. F., Sumanik, N. B., & Christianto, H. (2022). Analysis of Teacher's Ability in Setting Learning Objectives, Flow of Learning Objectives, And Modules in The Merdeka Curriculum. *SHS Web of Conferences*, *149*, 01005. https://doi.org/10.1051/shsconf/202214901005.

Subakti, H., & Prasetya, K. H. (2022). Permasalahan dalam Pembelajaran Bahasa Indonesia Masa Pandemi Covid-19 Siswa Sekolah Dasar di Kota Samarinda. *Jurnal Basicedu*, *6*(6), 10067–10078. https://doi.org/10.31004/basicedu.v6i6.3029.

Susanti, L., & Hamama Pitra, D. A. (2019). Flipped Classroom Sebagai Strategi Pembelajaran Pada Era Digital. *Health & Medical Journal*, *1*(2), 54–58. https://doi.org/10.33854/heme.v1i2.242.

Syahputri, N. R., & Murdiono, M. (2022). The Impact Of Digital-Based Mind Map On Creative Thinking Skills In Civic Education Learning. *JPI (Jurnal Pendidikan Indonesia)*, *11*(1), 78–85. https://doi.org/10.23887/jpi-undiksha.v11i1.34154.

Thannimalai, R., & Raman, A. (2018). Principals technology leadership and teachers technology integration in the 21st century classroom. *International Journal of Civil Engineering and Technology*, *9*(2), 177–187. https://www.academia.edu/download/56075554/IJCIET_09_02_018.pdf.