Popoin Media Based on Interactive Powerpoint for Primary Students' Dance Arts Education Practice

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ABSTRAK

Pelaksanaan pembelajaran masih belum optimal dalam memanfaatkan dan menggunakan media pembelajaran, sehingga motivasi dan hasil belajar peserta didik dalam pembelajaran masih rendah. Tujuan dari penelitian ini adalah untuk mengembangkan Media POPOIN dalam upaya meningkatkan hasil belajar pada Materi Pola Lantai siswa kelas V. Penelitian ini menggunakan metode Research and Development (R&D) dengan menggunakan model pengembangan ADDIE. Subyek penelitian ini yaitu ahli materi dan ahli media pembelajaran. Subyek uji coba adalah siswa kelas V dan guru kelas V SD sebanyak 27 orang. Metode yang digunakan untuk mengumpulkan data adalah observasi, wawancara, angket, dan soal tes. Instrumen yang digunakan untuk mengumpulkan data adalah lembar angket dan soal tes. Teknik yang digunakan untuk menganalisis data adalah analisis deskriptif kualitatif dan kuantitatif serta statistik inferensial. Hasil penelitian yaitu media POPOIN pada materi Pola Lantai mendapatkan kualifikasi sangat baik dari para ahli sehingga layak digunakan dalam pembelajaran. Hasil analisis data uji n-gain menunjukan peningkatan nilai antara pretest dan posttest. Hasil dari uji-t menunjukkan terjadi perbedaan nilai pretest dan posttest. Disimpulkan bahwa media POPOIN pada materi Pola Lantai dapat digunakan untuk meningkatkan hasil belajar seni tari pada siswa.

ABSTRACT

The implementation of learning is still not optimal in utilizing and using learning media so students' motivation and learning outcomes in learning still need to be higher. This research aims to develop POPOIN Media in an effort to improve learning outcomes in Floor Pattern Material for class V students. This research uses the Research and Development (R&D) method using the ADDIE development model. The subjects of this research are material experts and learning media experts. The test subjects were 27 fifth-grade students and fifth-grade elementary school teachers. The methods used to collect data are observation, interviews, questionnaires and test questions. The instruments used to collect data were questionnaire sheets and test questions. The techniques used to analyze data are qualitative and quantitative descriptive analysis and inferential statistics. The results of the research, namely POPOIN media on Floor Pattern material, received very good qualifications from experts so that it is suitable for use in learning. The results of the n-gain test data analysis show an increase in scores between the pretest and posttest. The results of the t-test show that there is a difference in the pretest and post-test scores. It was concluded that POPOIN media in Floor Pattern material could be used to improve students' dance learning outcomes.

1. INTRODUCTION

Education is the key to the success of a country, and it has a vital role, primarily through the formal education system in schools, which involves teachers, students, and various supporting facilities. With education, individuals can optimize their potential and be ready to face changes arising from advances in science and technology (Bulan et al., 2020; Chen et al., 2021; Nofriansyah et al., 2020). Learning involves interactions between students, teachers, and teaching materials in a learning context. Learning for elementary school students is a process that includes providing knowledge, skills, and values to children (Hacieminoglu, 2016; Puspitarini & Hanif, 2019). The learning approach for elementary school students needs to pay attention to the developmental characteristics of children at a certain age to design teaching strategies to achieve learning goals optimally (Jones et al., 2022; Mahendra et al., 2021). One of the lessons that elementary school students get is dancing. In the process of learning to dance, the activities carried out are determined by the existing situation. Dancing is an art form that utilizes body movements and additional elements, such as performances and music as supports, to express expressions, ideas, emotions, desires, messages, aesthetics (beauty), or human experiences (Dinata, 2021; Hermayanti,

2015; Irani et al., 2021). In dance learning activities, a medium is needed that can facilitate students in learning. However, in reality, the implementation of learning is still not optimal in utilizing and using learning media, so students' motivation and interest in learning still need to be higher. Previous findings also reveal that choosing learning media is certainly not easy because it requires in-depth analysis by considering various aspects so that the use of learning media can be of quality (Angraini et al., 2021; Puspitarini & Hanif, 2019; Sumirat & Alamsyah, 2017). Previous findings also reveal that teachers have not implemented learning media, causing students to have difficulty receiving the material so that the learning outcomes obtained do not reach their maximum potential (Aristiani & Agung, 2022; Ntobuo et al., 2018; Sulaksana et al., 2021). Some students think that material that needs to be more abstract makes them confused. For this reason, it is essential that the development of learning media can be designed in a planned manner and adapted to the needs and characteristics of the teaching material that will be presented (Nasiatin et al., 2021; Puriasih & Trisna, 2022; E. W. Winarni, 2020). Problems were also found related to the use of media in SD Negeri 1 Purwodadi class V. The results of interviews with teachers and documentation in the form of student learning outcomes found problems with SBdP learning content. From the results of the interview, it is known that the teacher uses minimal learning due to time constraints, and the teacher does it according to his ability. Teachers feel that the existing media is less effective to use because students quickly get bored, so their focus and attention could be more stable. Apart from that, the difficulty in SBdP learning is that the teacher has to repeat the material so that students can understand the material presented.

One solution to improve student understanding is to use learning media that suits student characteristics. Previous findings stated that the application of learning media causes students to have an interest in actively participating in learning (Astuti & Suryani, 2022; Dinayusadewi et al., 2020). Learning media functions by presenting messages and information to increase the efficiency and progress of the learning process, with the aim that the media can improve and improve learning outcomes (Astuti & Suryani, 2022; Dinayusadewi et al., 2020; Rusli et al., 2023; Yolanda et al., 2022). Learning media also has the potential to increase focus and direct students' attention, which in turn can arouse enthusiasm for learning. Apart from that, it facilitates more intense interaction between students and their environment and provides opportunities for students to develop independent learning abilities according to their interests and abilities (Bayu & Wahyuni, 2019; Pramestika et al., 2020; Winarni et al., 2021). In terms of learning outcomes, the use of learning media really supports increasing learning achievement (Dinayusadewi et al., 2020; Wahyudi et al., 2022). One of the learning media that can be used to practice dance education for elementary school students is PowerPoint-Based Popoin Media. The use of media in the learning process emphasizes the importance of teachers creating learning media using information technology, such as PowerPoint. PowerPoint is a Microsoft Office application that functions as a presentation tool, allowing users to convey information through a series of slides that include images and sound (Tembang et al., 2020; Wulandari, 2022). The use of PowerPoint media is not only efficient in terms of time and cost but also provides teachers with the freedom to develop learning materials that suit class needs (SisteIswanto et al., 2018; Tembang et al., 2020; Wulandari, 2022). This approach has been proven to increase students' interest and learning achievement, according to research findings (Ahmed & Khan, 2021; Fichten et al., 2019; Nagmoti, 2017). Even though learning so far often uses PowerPoint media, this research has significant differences in the development of PowerPoint media. The PowerPoint-based Popoin media that will be developed will be more interactive and will provide menus that are more intuitive and can be used easily. Students can immediately see the accuracy of the training responses given by selecting the available buttons or menus. In other words, PowerPoint media is not only managed by teachers; students can also use POPOIN media.

Previous research findings state that it is essential to develop innovative learning media to increase the effectiveness and involvement of students in the learning process (Maharani Delta Dewi & Izzati, 2020; Fichten et al., 2019; SisteIswanto et al., 2018). Other research also reveals that PowerPoint media can make it easier for students to learn (Tembang et al., 2020; Wulandari, 2022). Previous research findings state that the PowerPoint program is a piece of software specifically designed to display multimedia programs attractively, is easy to create and use, and is relatively affordable. Does not require raw materials other than data storage devices (Maharani Delta Dewi & Izzati, 2020; Uzun & Kilis, 2019). The use of media can make it easier for students to learn. However, there has yet to be a study regarding the use of POPOIN Media to improve student's learning outcomes on floor pattern material. The advantage of the PowerPoint-based learning media (Popoin) that was developed is that it prioritizes students' potential and abilities so that it can make it easier for students to learn SBdP on Floor Pattern Material. Based on these problems, the research aims to develop PowerPoint-based learning media (Popoin) in an effort to improve learning outcomes for Class V Student Floor Pattern Material at SD Negeri 1 Purwodadi.

2. METHODS

This research uses the Research and Development (R&D) method, which refers to the investigation and development process aimed at creating a product and evaluating its performance and effectiveness (Sugiyono, 2017). The development model applied in this research is the ADDIE Model, namely a development approach used to organize the process of designing, developing, and evaluating learning. The ADDIE development model is a more suitable choice for designing learning media because the development stages are structured and easy to understand in the learning media development process (Branch, 2009). The ADDIE development model has five stages: analysis, design, development, implementation, and evaluation (Branch, 2009). At the analysis stage, an analysis of the characteristics of class V students at SD Negeri 1 Purwodadi was carried out. The design stage is carried out by designing PowerPoint-based learning media (Popoin). The development stage carried out the development of PowerPoint-based learning media (Popoin). In the implementation phase, a powerpoint-based learning media product (Popoin) was tested. The evaluation stage is carried out at every stage of product development and effectiveness testing.

The location of this research is SD Negeri 1 Purwodadi, Purwodadi District, Grobogan Regency. The research subjects are material experts and learning media experts. The test subjects were 27 class V students and class V elementary school teachers. The methods used to collect data are observation, interviews, questionnaires, and test questions. Observation and interview methods were used to collect data regarding problems that occurred at SD Negeri 1 Purwodadi. The questionnaire method is used to collect data in the form of input and scores given by experts, students, and teachers. The test method is used to collect data in the form of student learning outcomes after using PowerPoint-based learning media (Popoin). The instruments used to collect data were questionnaire sheets and test questions. The instrument grid is presented in Table 1 and Table 2.

Table 1. Learning Material Expert Grid

No	Indicator	Description
1	Suitability of Learning Achievements	Material in accordance with Learning Achievements
2	Conformity of the Flow of Learning Objectives	The material is in accordance with the Learning Objectives Flow
3	Suitability of Learning Objectives	Material in accordance with Learning Objectives
4	Material completeness	Material about Floor Patterns has been covered in the overall learning media
5	Language Suitability	The language used in the material is clear and easy to understand
6	Suitability to student development	The material is appropriate to the level of development of students
7	In accordance with the reality of life	The material is related to everyday life
8	According to the level of difficulty	The material is adjusted to the level of difficulty of students
9	Knowledge	Material can increase students' knowledge and insight
10	Positive Attitude	Material can increase students' positive attitudes
11	Interest in Reading	Material can increase students' reading interest
12	Image according to material	Pictures and illustrations in learning materials relate to the material
13	Pictures clarify the material	Pictures and illustrations in learning materials are used to clarify the content of the material
14	Pictures help understand the material	Pictures and illustrations in learning materials help students understand the material

Table 2. Grid of Learning Media Experts

No	Indicator	Description
1	In accordance with the goals to be achieved	1. Media contains Learning Outcomes (CP) 2. The media contains learning objectives 3. Suitability of material to objectives 4. Suitability of the image to the existing material
2	Display Quality	1. Images and writing are clear 2. Layout and layout

No	Indicator	Description
		3. Media Design
		4. Combination of components
3	Media according to student characteristics	1. Font selection
		2. Font size
4	Advantages of the media used	1. Media is easy to use
		2. Clear Instructions for Use

The techniques used to analyze data are qualitative and quantitative descriptive analysis and inferential statistics. Qualitative descriptive analysis is used to analyze data in the form of input given to PowerPoint-based learning media (Popoin). Quantitative descriptive analysis is used to analyze data in the form of scores given by experts, teachers, and students using PowerPoint-based learning media (Popoin). Inferential statistical analysis is used to test the effectiveness of PowerPoint-based learning media (Popoin). This study adopted a pre-experimental research design with a one-group before-after design. In this trial, a test was carried out before treatment (pretest) and a test after treatment (posttest) (Sugiyono, 2017). Initial data analysis by conducting normality and homogeneity tests on pretest and posttest learning outcomes. Final data analysis by carrying out the t-test and n-gain test

3. RESULT AND DISCUSSION

Results

This research aims to develop PowerPoint-based learning media (Popoin) in an effort to improve learning outcomes for Class V Student Floor Patterns at SD Negeri 1 Purwodadi using the ADDIE model. First, analyze. The results of the analysis, namely the results of interviews, show that teachers use minimal learning due to time constraints, and teachers do it according to their abilities. Teachers feel that the existing media is less effective to use because students get bored quickly, so their focus and attention can be more stable. Apart from that, the difficulty in SBdP learning is that the teacher has to repeat the material so that students can understand the material presented. Based on this problem, PowerPoint-based learning media (Popoin) was developed in an effort to improve learning outcomes for Floor Pattern Material. Second, design. At this stage, designing powerpoint-based learning media (Popoin) in an effort to improve learning outcomes for Floor Pattern Material. Key elements in the development of POPOIN media for Floor Pattern Material include the Cover which includes information about the title of POPOIN media and developers, and the main part which includes Instructions for Use, Learning Outcomes, Materials, and Media Development Profiles and Supervisors. This learning media presents Floor Pattern material that is tailored to learning achievements (CP) and learning objectives (TP). Fourth, development. At this stage, POPOIN Media for Floor Pattern Materials was developed. The development of POPOIN Media Floor Pattern Material is based on the design that was developed in the previous stage. The development results are presented in Figure 1.

Figure 1. Results of POPOIN Media Development for Floor Pattern Materials

POPOIN Media Floor Pattern Material that has been developed is then tested by experts. The POPOIN media validity test of Floor Pattern Material was conducted by material experts and media experts to determine its feasibility. The purpose of the validity test is to obtain an accurate and reliable evaluation applied in the learning process and to assess the suitability, weaknesses, and advantages of the media that have been developed by researchers. The results of validation by material experts and media experts show that the feasibility of the material obtained a score of 52 with a percentage of 96%, which is

classified as very feasible to be used in learning. Meanwhile, the feasibility of the media obtained a score of 46 with a percentage of 94%, also classified as a very suitable criteria to be applied in the learning process. POPOIN Media test results for Floor Pattern Material are presented in Figure 2.
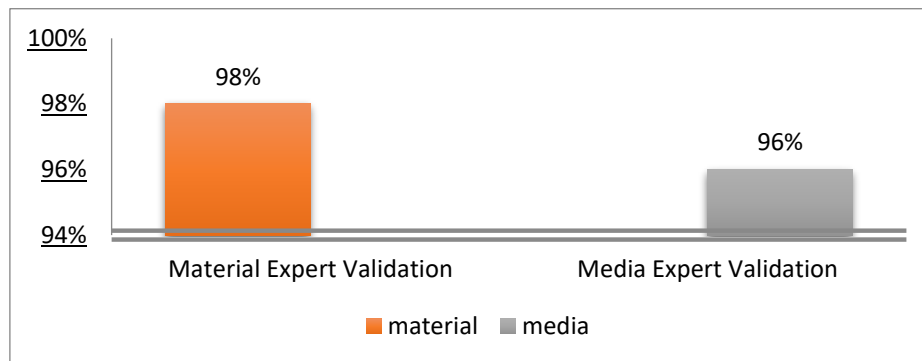

Figure 2. Results of Material and Media Experts

Fourth, implementation. At this stage, the media being developed is implemented. Based on the results of the pretest and post-test scores of students of SD Negeri 1 Purwodadi, the effectiveness of POPOIN media development is proven by the pretest results which show a range of scores between 47 to 68, with an average score of 61.18 before the use of the media. After using POPOIN media, there was an increase in the average student score on the post-test to 90.11, with the highest score reaching 100 and the lowest score of 80. Thus, there was an increase in scores of 28.93 as a result of using POPOIN media. Data analysis includes data on student learning outcomes on SBdP Floor Pattern material. Students' pretest and posttest scores before and after using POPOIN Media on Floor Pattern Material are used to analyze how effective the learning media is in improving students' psychomotor abilities. The normality test is carried out to test whether the distribution of the data used is normal or not. If the data is normally distributed, the data is declared suitable for testing at the next stage. The normality test is used as a reference to determine when to do the t-test using the parametric formula or with the non-parametric formula. The results of the Lilliefors Test calculation using SPSS 23, are based on the results of the pretest and posttest scores. On the use of Interactive PPT Media (POPOIN) on Floor Pattern Material. The results of the normality test are presented in Table 3.

Table 3. The results of the Normality Test

Tabel		Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Hasil	Pretest	0.094	27	0.200*	0.982	27	0.909
	Posttest	0.118	27	0.200*	0.944	27	0.153

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Normality testing is carried out with a significance level of 5%. or 0.05 with testing criteria if Sig > 0.05 then the data is normally distributed, otherwise if Sig <0.05 is obtained then the data is not normally distributed. In Table 3 Normality Test on the Pretest Sig value is 0.909> 0.05 and the Posttest value is 0.153> 0.05 which means normally distributed. So based on the results of the Lilliefors test above, it shows that the data is normally distributed so that the t-test uses a parametric formula. The homogeneity test is used to determine whether the pretest and posttest scores come from similar variances or not. not. The following results of the calculation of the Two-Sample F-Test for Variances with SPSS 23 are shown in Table 4.

Table 4. Homogeneity Tests

		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	0.127	1	52	0.723
	Based on Median	0.136	1	52	0.714
	Based on the Median and with adjusted df	0.136	1	51.999	0.714
	Based on trimmed mean	0.132	1	52	0.718

Homogeneity Test if the significance value is greater than 0.05, then the data groups are considered homogeneous. However, if the significance value is less than 0.05, then the data group is not homogeneous. Based on Table 2 Homogeneity Test, the Sig value is 0.723 where 0.723> 0.05, the pretest and posttest data results are said to be homogeneous. The paired t-test, often referred to as the paired sample t-test, is a statistical technique used to compare the means of two related samples. If the data from the pretest and post-test scores meet the assumption of normality, then the formula used in the t-test is parametric. The basis for decision-making is After the calculation of the t value has been obtained, the results of the calculation of the t value will be compared with *ttabel*. If t count < *ttabel* then *H*0 is accepted, but if *thitung* > *ttabel* then *H*0 is rejected In Table 5, the Sig (2-tailed) value is 0.000, it indicates a significant difference because the value is lower than 0.05, which is a commonly used significance level. When the Sig value is greater than 0.05, it indicates a difference; conversely, if the Sig value is smaller than 0.05, it indicates no difference. Therefore, the findings indicate an improvement in learning outcomes. Therefore, the results of the t-test related to the learning achievement of grade V students of SD Negeri 1 Purwodadi before and after the application of POPOIN media Floor Pattern Material that has been carried out and developed there is a difference in the average pretest and posttest scores where the average value of student learning outcomes increased to 90.11 from the previous value of 61.19 the increase amounted to 28.9%.

Table 5. T-test on Paired Samples

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	**Std. Deviation**	**Std. Error Mean**	**95% Confidence Interval of the Difference**				
					Lower	**Upper**			
Pair 1	Pretest – Posttest	-28.926	9.555	1.839	-32.706	-25.146	-15.730	26	0.000

The n-gain test was conducted to determine the criteria for increasing student learning outcomes based on pretest scores before media use and post-test after media use. Assessment of the difference between pretest and post-test scores is measured by analyzing the gain index. In the N-gain value criteria, there are several criteria, namely the N-gain Coefficient Interval < 0.3 is a low criterion, the Coefficient Interval 0.3 ≤ N-gain < 0.7 is a medium criterion, the N-gain Coefficient Interval ≥0.7 is a high category. Based on the results of Table 4, the n-gain test is high because it has a value of 0.7360 where n-gain 0.7360> 0.7 and is categorized as High. Based on data analysis, the difference in the mean scores on the pretest and posttest was 25.23. In this study, using an n-gain of 0.7360 which is included in the high criteria. The increase in the average shows that the use of POPOIN media on SBdP Floor Pattern material is considered effective.

Discussion

The results of the data analysis show that POPOIN Media for Floor Pattern Material received very good qualifications. Therefore, it is suitable for use in learning regional dance material in SPdB class V elementary school learning. POPOIN Media for Floor Pattern Material is suitable for use in learning due to the following factors. First, POPOIN Media is suitable for use in learning because it can improve student learning outcomes. The results of the n-gain test also show that there is a difference in averages. It was concluded that POPOIN Media Floor Pattern Material can improve the learning outcomes of SD V students on regional dance art material. The development of Popoin media can be used in SBdP learning, especially in Dance Learning. Student learning outcomes can also be improved through learning media (SisteIswanto et al., 2018; Tembang et al., 2020). The success of learning in the teaching process is very important because its effectiveness can be measured through the achievement of student learning outcomes. PowerPoint media displays images, audio, video and animation, which can make learning more exciting and clarify the material to be studied (Ahmed & Khan, 2021; Fichten et al., 2019; Suartawan et al., 2021). Previous research findings also state that PowerPoint media can display information in the form of slides, which can make it easier for students to understand the material to be studied (Maharani Delta Dewi & Izzati, 2020; Uzun & Kilis, 2019). Second, POPOIN Media is suitable for use in learning because it can increase students' motivation to learn. PowerPoint media can be stored and carried anywhere, which can make it easier for students to access the material to be studied (Maharani Delta Dewi & Izzati, 2020; SisteIswanto et al., 2018). This has an impact on increasing student learning motivation. PowerPoint media can strengthen students' understanding because it can present information in the form of images, audio, video and animation, which can clarify the material to be studied (Uzun & Kilis, 2019; Wijayanti &

Christian Relmasira, 2019). This makes it easier for students to learn so that students are more interested when studying. PowerPoint media can increase students' interest in learning because it can display information in the form of images, audio, video and animation, which can make learning more enjoyable. Previous research findings also state that PowerPoint media can overcome student boredom because it can be accompanied by narratives and sound illustrations, music and videos that are played during presentations (Damayanti & Qohar, 2019; Mawaddah et al., 2019; Muflikah et al., 2022). Other findings also reveal that PowerPoint media can strengthen students' memories because it can display information in various forms, making information more accessible to understand and display (Aziz et al., 2020; Elpira & Ghufron, 2015). Third, POPOIN media is suitable for use in learning because it can increase student activity. Children's movements can also be a stimulus to improve their motor skills. When teachers apply a learning model, the use of learning media becomes essential as a tool in the teaching process (Aisyah et al., 2019; Wahyuni, 2022; Zulbryanti et al., 2022). The POPOIN media developed can stimulate students' motor skills so that they can increase student activity. POPOIN Learning Media can encourage students to be more active in learning. Previous findings also state that PowerPoint media can increase students' learning motivation, which can make learning more interesting (Dewi & Izzati, 2020; Elpira & Ghufron, 2015; Nugraha et al., 2021). The use of PowerPoint media can help students understand the material to be studied, clarify the material, strengthen understanding, increase interest in learning, overcome boredom, strengthen memory, and increase learning motivation. The limitation of this research is that the POPOIN media developed can only be used for dance learning for class V elementary schools. This research implies that the POPOIN media developed can be used in dance learning for class V elementary schools.

4. CONCLUSION

The results of data analysis show that POPOIN Media for Floor Pattern Material received very good qualifications. Therefore, it is suitable to be used in learning regional dance material in SPdB class V elementary school learning. The t test results also showed that there were significant differences before and after the application of POPOIN media. The results of the n-gain test also show that there is a difference in averages. It was concluded that POPOIN Media could improve the learning outcomes of SD V students in regional dance art material, especially in Floor Pattern material.

5. REFERENCES

Ahmed, S., & Khan, I. (2021). Use of PowerPoint presentation by the teachers for instruction in selected dental colleges of Bangladesh. *Bangladesh Journal of Medical Education*, *12*(1). https://doi.org/10.3329/bjme.v12i1.52304.

Aisyah, E. N., Iriyanto, T., Astuti, W., & Yafie, E. (2019). Peliharaan Sebagai Media Stimulasi Kemampuan Kognitif Anak Usia Dini. *Jurnal Kajian Teknologi Pendidikan*, *2*(3), 174–180. https://doi.org/10.17977/um038v2i32019p174.

Angraini, S., Fitria, H., & Setiawan, A. A. (2021). The Effect of Teacher Performance and Learning Media on Learning Outcomes of Elementary School Students. *Journal of Social Work and Science Education*, *2*(2), 137–146. https://doi.org/10.52690/jswse.v2i2.237.

Aristiani, N. K. R., & Agung, A. A. G. (2022). E-Book : Innovative digital learning media for social science lessons for fifth-grade elementary school. *Journal for lesson and learning studies*, *5*(3), 410–419. https://doi.org/10.23887/jlls.v5i3.54833.

Astuti, R., & Suryani, E. (2022). The Effect Of Cooperative Script Learning Model Assisted By Flashcard Image Media On The Ability To Understand Natural Science (Ipa) Concept Of Students In Class Iv Elementary School. *Jurnal Pendidikan Dasar Nusantara*, *8*(1), 128–139. https://doi.org/10.29407/jpdn.v8i1.18124.

Aziz, I. N., Ani, Y., & Dewi, S. (2020). The Use of Powerpoint As Media of Language Teaching on Students' Speaking Skill . *Humanities & Social Sciences Reviews*, *8*(1), 344–358. https://doi.org/10.18510/hssr.2020.8145.

Bayu, G. W., & Wahyuni, L. G. E. (2019). Efektivitas Implementasi Strategi Enjoyable Learning Berbantuan Media Audio Visual Terhadap Hasil Belajar Bahasa Inggris Permulaan Peserta Didik Sekolah Dasar. *Jurnal Ilmiah Sekolah Dasar*, *3*(3), 335–341. https://doi.org/10.23887/jisd.v3i3.16015.

Branch, R. M. (2009). Approach, Instructional Design: The ADDIE. In *Department of Educational Psychology and Instructional Technology University of Georgia* (Vol 53, Number 9).

Bulan, P., Sudharto, P. H., Irina Safitri, Z., Teuku, A., & Dinalestari, P. (2020). Education for Sustainable Development as Diffusion of Innovation of Secondary School Students. *Journal of Teacher Education for Sustainability*, *22*(1), 84–97. https://doi.org/10.2478/jtes-2020-0007.

Chen, B., Wang, Y., Xiao, L., Xu, C., Shen, Y., & Qin, Q. (2021). Effects of mobile learning for nursing students in clinical education: A meta-analysis. *Nurse Education*, *97*. https://doi.org/10.1016/j.nedt.2020.104706.

Damayanti, P. A., & Qohar, A. (2019). Pengembangan Media Pembelajaran Matematika Interaktif Berbasis Powerpoint pada Materi Kerucut. *Kreano, Jurnal Matematika Kreatif-Inovatif*, *10*(2), 119–124. https://doi.org/10.15294/kreano.v10i2.16814.

Dewi, M. D, & Izzati, N. (2020). Pengembangan Media Pembelajaran PowerPoint Interaktif Berbasis RME Materi Aljabar Kelas VII SMP. *Delta: Jurnal Ilmiah Pendidikan Matematika*, *8*(2), 217. https://doi.org/10.31941/delta.v8i2.1039.

Dewi, Maharani Delta, & Izzati, N. (2020). Pengembangan Media Pembelajaran PowerPoint Interaktif Berbasis RME Materi Aljabar Kelas VII SMP. *Delta: Jurnal Ilmiah Pendidikan Matematika*, *8*(2), 217. https://doi.org/10.31941/delta.v8i2.1039.

Dinata. (2021). Peningkatan Kepercayaan Diri Melalui Kegiatan Menari Kreatif Paud Bintang Besar. *EDUKIDS : Jurnal Inovasi Pendidikan Anak Usia Dini*, *1*(1), 36–42. https://doi.org/10.51878/edukids.v1i1.374.

Dinayusadewi, N. P., Ngurah, G., & Agustika, S. (2020). Development Of Augmented Reality Application As A Mathematics Learning Media In Elementary School Geometry Materials. *Journal of Education Technology*, *4*(2), 204–210. https://doi.org/10.23887/jet.v4i2.25372.

Elpira, N., & Ghufron, A. (2015). Pengaruh Penggunaan Media Powerpoint Terhadap Minat dan Hasil Belajar IPA Siswa Kelas IV SD. *Jurnal Inovasi Teknologi Pendidikan*, *2*(1), 94–104. https://doi.org/10.21831/TP.V2I1.5207.

Fichten, C. S., Jorgensen, M., Havel, A., King, L., Harvison, M., Lussier, A., & Libman, E. (2019). More than meets the eye: A Canadian comparative study on PowerPoint use among post-secondary students with and without disabilities. *International Research in Higher Education*, *4*(2). https://doi.org/10.5430/irhe.v4n2p25.

Hacieminoglu, E. (2016). Elementary School Students ' Attitude toward Science and Related Variables. *International Journal of Environmental & Science Education*, *11*(2), 35–52. https://doi.org/10.12973/ijese.2016.288a.

Hermayanti, T. (2015). Peningkatan Kepercayaan Diri Melalui Kegiatan Menari. *Kreatif: Jurnal Pendidikan Usia Dini*, *9*(2).

Irani, I., Adhani, D. N., & Yuniar, D. P. (2021). Kepercayaan Diri Anak Usia 4-5 tahun yang Mengikuti Ekstrakurikuler Tari Melalui Tari Karapan Sapi. *Jurnal PG-PAUD Trunojoyo : Jurnal Pendidikan dan Pembelajaran Anak Usia Dini*, *8*(2), 34–45. https://doi.org/10.21107/pgpaudtrunojoyo.v8i2.11558.

Jones, M. G., Chesnutt, K., Ennes, M., Macher, D., & Paechter, M. (2022). Measuring science capital, science attitudes, and science experiences in elementary and middle school students. *Studies in Educational Evaluation*, *74*(April), 101180. https://doi.org/10.1016/j.stueduc.2022.101180.

Mahendra, M. R., Supriansyah, S., & Zulherman, Z. (2021). Development of Macromedia Flash-Based Mathematics Learning for Elementary School Students. *Journal of Physics: Conference Series*, *1783*(1), 012006. https://doi.org/10.1088/1742-6596/1783/1/012006.

Mawaddah, W., Ahied, M., Hadi, W. P., & Wulandari, A. Y. R. (2019). Uji Kelayakan Multimedia Interaktif Berbasis Powerpoint Disertai Permainan Jeopardy Terhadap Motivasi Belajar Siswa. *Natural Science Education Research (NSER*, *2*(2), 174–185. https://doi.org/10.21107/NSER.V2I2.6254.

Muflikah, B., Kusuma, V. A., & Aman, A. (2022). The Use of Powerpoint-Based Interactive Plywood Gamelan in Learning Local Sound Art in Elementary Schools. *Journal of Innovation in Educational and Cultural Research*, *3*(3), 463–470. https://doi.org/10.46843/JIECR.V3I3.124.

Nagmoti, J. M. (2017). Departing form PowerPoint Default Mode: Applying Mayer's Multimedia Principles for Enhanced Learning of Parasitology. *Indian Journal of Medical Microbiology*, *35*. https://doi.org/10.4103/ijmm.IJMM_16_251.

Nasiatin, T., Pertiwi, W. E., Setyowati, D. L., & Palutturi, S. (2021). The roles of health-promoting media in the clean and healthy living behavior of elementary school students. *Gaceta Sanitaria*, *35*(1). https://doi.org/10.1016/j.gaceta.2020.12.015.

Nofriansyah, D., Ganefri, & Ridwan. (2020). A new learning model of software engineering in vocational education. *International Journal of Evaluation and Research in Education*, *9*(3), 572–582. https://doi.org/10.11591/ijere.v9i3.20482.

Ntobuo, N. E., Arbie, A., & Amali, L. N. (2018). The Development of Gravity Comic Learning Media Based on Gorontalo Culture. *Jurnal Pendidikan IPA Indonesia*, *7*(2), 246–251. https://doi.org/10.15294/jpii.v7i2.14344.

Nugraha, F. A., Nur'aeni, E., Suryana, Y., & Muharram, M. R. W. (2021). Efektivitas Media Powerpoint dalam Pembelajaran Materi Luas Daerah Segitiga untuk Meningkatkan Minat Belajar Peserta Didik di Sekolah Dasar. *Edukatif : Jurnal Ilmu Pendidikan*, *3*(5), 2760–2768. https://doi.org/10.31004/EDUKATIF.V3I5.931.

Pramestika, N. P. D., Wulandari, I. G. A. A., & Sujana, I. W. (2020). Enhancement of Mathematics Critical Thinking Skills through Problem Based Learning Assisted with Concrete Media. *Journal of Education Technology*, *4*(3), 254. https://doi.org/10.23887/jet.v4i3.25552.

Puriasih, K. N., & Trisna, G. A. P. S. (2022). Digital Comics Learning Media Based on Problem Based Learning in Science Subjects for Fourth Grade Elementary School. *MIMBAR PGSD Undiksha*, *10*(2), 367–375. https://doi.org/10.23887/jjpgsd.v10i2.48575.

Puspitarini, Y. D., & Hanif, M. (2019). Using Learning Media to Increase Learning Motivation in Elementary School. *Anatolian Journal of Education*, *4*(2), 53–60. https://doi.org/10.29333/aje.2019.426a.

Rusli, R., Nalanda, D. A., Tarmidi, A. D. V., Suryaningrum, K. M., & Yunanda, R. (2023). Augmented Reality for Studying Hands on the Human Body for Elementary School Students. *Procedia Computer Science*, *216*, 237–244. https://doi.org/10.1016/j.procs.2022.12.132.

SisteIswanto, E., Sumiharsono, R., & Hidayat, S. (2018). Pengaruh Penggunaan Media Pembelajaran Berbasis Powerpoint Dan Buku Teks Terhadap Hasil Belajar Ilmu Pengetahuan Alam (IPA) Materi Tata Surya Siswa Kelas VI Semester Ganjil Tahun Pelajaran 2018-2019 di MI Negeri 2 Jember. *Journal of Education Tech*, *1*(2), 7–20. https://doi.org/10.31537/jeti.v1i2.172.

Suartawan, I. D. G., Wibawa, I. M. C., & Dibia, I. K. (2021). Pembelajaran Daring Topik Organ Pencernaan Manusia Dengan Media Powerpoint Interaktif. *Mimbar PGSD Undikhsa*, *9*(3), 432–441. https://doi.org/10.23887/jjpgsd.v9i3.40001.

Sugiyono. (2017). *Statistika Untuk Penelitian*. Alfabeta.

Sulaksana, M. D., Yudiana, K., & Simamora, A. H. (2021). Learning Circumference and Area of Building with Video Media for Fourth Class Students of Elementary School. *Jurnal Ilmiah Sekolah Dasar*, *5*(4), 697. https://doi.org/10.23887/jisd.v5i4.40129.

Sumirat, A. E., & Alamsyah, S. (2017). Natural Science Big Book With Baduly Local Wisdom Base Media Development For Elementary School. *Jurnal Pendidikan IPA Indonesia*, *6*(1), 76–80. https://doi.org/10.15294/jpii.v6i1.8674.

Tembang, Y., Purwanty, R., Palobo, M., & Kabrahanubun, R. I. (2020). Development of Interactive Based Powerpoint Learning Media In The Class Iv Students Of Merauke Basic School. *Proceedings of the 4th International Conference on Learning Innovation and Quality Education*, 1–6. https://doi.org/10.1145/3452144.3452281.

Uzun, A. M., & Kilis, S. (2019). Impressions of preservice teachers about use of PowerPoint slides by their Instructors and its effects on their learning. *International Journal of Contemporary Educational Research*, *6*(1). https://doi.org/10.33200/ijcer.547253.

Wahyudi, W., Nuryani, D., & Setiawan, Y. (2022). Pengembangan Media Smart Land Untuk Meningkatkan Kemampuan Berpikir Kreatif Dalam Penerapan 3CM Learning Untuk Peserta didik Sekolah Dasar. *Scholaria: Jurnal Pendidikan dan Kebudayaan*, *12*(1), 20–30. https://doi.org/10.24246/j.js.2022.v12.i1.p20-30.

Wahyuni, N. L. A. I. (2022). Media Papan Pintar Angka Berbasis Animasi Untuk Stimulus Kognitif Anak Usia Dini. *Jurnal Pendidikan Anak Usia Dini Undiksha*, *10*(1), 120–128. https://doi.org/10.23887/paud.v10i1.47134.

Wijayanti, W., & Christian Relmasira, S. (2019). Pengembangan Media PowerPoint IPA Untuk Siswa Kelas IV SD Negeri Samirono. *Jurnal Penelitian dan Pengembangan Pendidikan*, *3*(2), 77. https://doi.org/10.23887/jppp.v3i2.17381.

Winarni, E. W. (2020). Analysis of Language and Scientific Literacy Skills for 4th Grade Elementary School Students through Discovery Learning and ICT Media. *International Journal of Instruction*, *13*(2), 213–222. https://doi.org/10.29333/iji.2020.13215a.

Winarni, R., Slamet, S. Y., Poerwanti, J. I., Sriyanto, M. I., Yulisetiani, S., & Syawaludin, A. (2021). An Analysis of Preservice Elementary Teacher Ability in Creative Writing Containing Character Education with Local Wisdom Persepective. *Jurnal Ilmiah Sekolah Dasar*, *5*(3), 498. https://doi.org/10.23887/jisd.v5i3.37069.

Wulandari, E. (2022). Pemanfaatan Powerpoint Interaktif Sebagai Media Pembelajaran Dalam Hybrid Learning. *JUPEIS : Jurnal Pendidikan dan Ilmu Sosial*, *1*(2), 26–32. https://doi.org/10.55784/jupeis.vol1.iss2.34.

Yolanda, S., Winarni, R., & Yulisetiani, S. (2022). The New Way Improve Learners' Speaking Skills: Picture and Picture Learning Media Based on Articulate Storyline. *Journal of Education Technology*, *6*(1), 173. https://doi.org/10.23887/jet.v6i1.41452.

Zulbryanti, A. C., Wahyudi, W., & Nurhidayah, D. A. (2022). Ropitri: Media Pembelajaran Matematika Materi Trigonometri Untuk Meningkatkan Motivasi Belajar Siswa. *EDU-MAT: Jurnal Pendidikan Matematika*, *10*(2), 300. https://doi.org/10.20527/edumat.v10i2.14160.