



Development of Science Learning Media Assisted by Ethno-Vlog Sisingaan and Gembyung Dance to Improve Creative Thinking Skills

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Abstract: This study aims to develop a product in the form of Ethno-Vlog learning media for Class IV SD science learning as an effort to improve students' creative thinking skills. The Ethno-Vlog learning media contains Sisingaan and Gembyung dance with style and motion material content. This research uses the ADDIE development model (Analyze, Design, Development, Implementation, and Evaluation). Thus the realization of the purpose of this research is to determine the feasibility test of the media, the practicality test, and the effectiveness of using Ethno-Vlog learning media. The development of learning media based on Ethno-Vlog Sisingaan and Gembyung dance for grade IV SD obtained the proper category from the two validators. The results of the student response questionnaire on the small-scale test were 90% and the response questionnaire from the teacher obtained 86% results indicating that learning media was very feasible to use. As for the effectiveness of using Ethno-Vlog-based learning media in improving creative thinking skills, the results are 0.60 in the moderate or effective category. The media is following the objectives of learning practices in the Independent Curriculum as well as efforts to shape the character of students and develop creative thinking skills contained in one of the dimensions of the Pancasila learner profile.

Keywords: Creative Thinking; Ethno-Vlog; Gembyung Dance; Learning Media; Science; Sisingaan Dance

Introduction

The development of soft skills in the 21st century needs to create an advanced generation that has high-order thinking skills. The skills that must be mastered include critical thinking skills or problem solving, creative thinking skills, collaboration skills, and communicative skills (Jannah & Atmojo, 2022). Erdoğan (2019) states that of the four skills, one of them is creative thinking skills that can be applied in learning at school. The development of creative thinking skills is one of the objectives of current educational practice (Sun et al., 2019). In line with the implementation of the Merdeka Curriculum, especially in elementary schools, creative thinking skills are one of the dimensions in the profile of Pancasila students which can be balanced with the

formation of students' character. The Merdeka curriculum emphasizes creative thinking skills so that students are able to apply learning with the knowledge acquired at school (Rajagukguk, 2023).

Nogerbek et al., (2022) stated that creativity is seen as a very important product to emerge as a learning outcome. Ritter & Mostert (2017) states that creative thinking skills have a very broad influence. Students can be said to master creative thinking skills by having four indicators of creative thinking, namely (1) originality, (2) flexibility, (3) fluency, and (4) elaboration. In connection with learning Natural Sciences, which supports the achievement of students in thinking creatively through the learning process by involving students to compile and present ideas based on daily experiences with support from the teacher (Gajić et al., 2021). Thus

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creative thinking skills become an important factor that students need to have in producing something new and useful for their lives.

The results of observations obtained by researchers when conducting learning in two schools in Subang indicate that students' creative thinking skills are still limited. When given questions that refer to the context of creative thinking, on average the answers they write are based on the material presented by the teacher and textbooks. In addition, referring to the results of interviews with the homeroom teacher for class IV at the two schools, it was stated that in learning the teacher rarely uses instructional media and still applies lecture learning methods. Students are still passive in expressing ideas, lack willingness of students to express opinions, lack skills of students in giving examples related to material, and creative thinking skills are not trained (Tanjung et al., 2022). The science learning environment, especially at the elementary school level as the first academic experience for students, must be planned in such a way as to present events as a whole and not separate phenomena to present creative thinking processes (Çınar & Çepni, 2021). Therefore, learning innovations that can support students' creative thinking skills are very important to develop.

Technological sophistication can be utilized by teachers to be modified into learning media. The solution to optimizing learning requires appropriate assistance media to support learning according to the material and characteristics of students (Khoiorni et al., 2023). At this time students prefer something that is easily accessible, such as playing social media Instagram, TikTok, Youtube, and Facebook. However, teachers must anticipate the negative impact of technology addiction by providing examples of using technology to be integrated with learning materials packaged in a video vlog (Sulistyo & Hesti, 2019). The utilization of Vlogs to be used as learning media can be developed by incorporating elements of local content or ethnosience. Sudarmin (2014) stated that Indonesia is a country that uses a lot of vlogs in an ethnoscientific context. Based on existing data in the Scopus and Google Scholar ethnosience databases, this is a research trend that will continue to develop in the future (Awal et al., 2022). Previous research findings state that the use of ethno-vlog as a learning medium can provide meaningful understanding and insight for students by introducing local wisdom values (Ermina, 2023). The use of ethnosience-based video learning media can improve students' critical thinking skills by integrating the direct instruction learning model (Galih et al., 2018). The results of the development of learning media which contain material, videos, and images accompanied by evaluations present students learning independently

(Varisa & Fikri, 2022), besides that learning with the application of ethnosience can connect a blend of student culture with scientific culture in schools to create more effective learning (Fitriyeni, 2023).

This research develops ethno-vlog learning media for Sisingaan and Gembyung dance, which are native arts of Subang, and contain style and motion material. Style and motion are material that is studied in the context of science lessons in grade IV SD and has a connection with every movement in the Sisingaan and Gembyung dance movements. Every movement in the two dances, starting from bubuka to the end contains scientific concepts related to the accuracy of the style. Force is a pull or push that is given to an object so that the object can move (Agustina & Desstya, 2022), in the Sisingaan and Gembyung dances there is a pull and push that requires energy to move the position of the movement (Resbiantoro et al., 2017). Therefore, the development of Ethno-Vlog learning media learning can support style and motion material by supporting the learning process which can train students' creative thinking skills.

In particular, this study aims to determine the validity and practicality of the Ethno-Vlog learning media for the Sisingaan and Gembyung dances and to determine the effectiveness of using the Ethno-Vlog learning media for the creative thinking skills of fourth graders in elementary school.

Method

This research was conducted at SDN Kiarasari with research and development research methods. The research subjects was 60 class IV students. This study aims to develop Ethno-Vlog learning media products for the Sisingaan and Gembyung dances and to measure students' creative thinking skills.

Research Design and Procedures

This research uses the development method with the ADDIE development model (Analyze, Design, Development, Implementation, and Evaluation) developed by Dick and Carey (Yang & Congzhou, 2019). In the ADDIE development model, each step has results that support the next step (Spatioti et al., 2022). This research and development method produces products and tests their effectiveness after using the product. The steps for the ADDIE development model are presented in Figure 1.

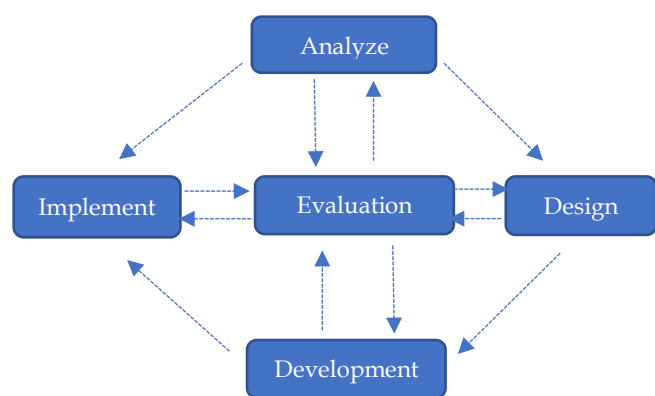


Figure 1. The ADDIE Development Model Steps

Participant

The subjects of this study were 90 Grade IV elementary school students from 2 schools in Subang Regency. The small-scale trial phase was carried out on 30 students, while the large-scale trial was carried out on 60 students.

Data Analysis Technique

The data analysis technique begins with the validation of questionnaires by media experts, material experts, teacher responses, and student responses. In addition, to obtain student learning outcomes, it is carried out by giving pretest and posttest questions after being given treatment with Ethno-Vlog learning media. Thus, quantitative data will be obtained in the form of suggestions and input from experts as well as data on student learning outcomes on the Ethno-Vlog learning media.

The results of the validation questionnaire data analysis by media and material experts are used to determine the feasibility of Ethno-Vlog learning media. Teacher and student response questionnaires were used to determine responses to the Ethno-Vlog learning media that had been developed. The results of the questionnaire data analysis will be interpreted using a Likert scale of 1-4. The scores obtained will be assessed based on analysis with the assessment criteria in Table 1.

Table 1. Media Eligibility Assessment Criteria Data Adapted from Purwanto (2016)

Percentage (%)	Criteria
76 - 100	Very Decent
51 - 75	Decent
26 - 50	Less Worth
0-25	Unsuitable

The effectiveness of using the Ethno-Vlog learning media for Sisingaan dance and Gembyung dance in improving creative thinking skills using the N-Gain

formula proposed by Hake (1998). Using the formula, as follows:

$$N-gain = \frac{S_{post} - S_{pre}}{S_{max} - S_{pre}} \times 100 \tag{1}$$

Information

S_{post} : Posttest score

S_{pre} : Pretest score

S_{max} : Maximum score

After obtaining the results of the N-Gain value, the next step is to find out the grouping of students' creative thinking skills categories based on Table 2.

Table 2. Interpretation of the N-Gain Score adopted from Hake (1998)

Value (g)	Classification
$(<g>) \geq 0,7$	Very Effective
$0.7 > (<g>) \geq 0.3$	Effective
$(<g>) < 0.3$	Less Effective

Research Stage Based on ADDIE Development Model

The analysis stage is carried out by conducting a preliminary study of problems related to students' creative thinking skills and analyzing the need for digital-based learning in supporting 21st-century skills. The design stage is carried out by designing flowcharts and storyboards based on needs. Develop instruments that will be used to create learning media in the form of questionnaires and test instruments to determine students' creative thinking skills. The development stage is carried out to get suggestions, input, and validation from media experts and material experts on the learning media that have been developed.

The implementation phase is carried out through small-scale tests and large-scale tests with a total of 90 students. A small-scale trial was conducted on 30 students by giving a response questionnaire to the Ethno-Vlog learning media and the teacher providing responses related to the Ethno-Vlog learning media using a questionnaire. In the large-scale trial conducted on 60 students, they were given a pretest and posttest questions to find out the effectiveness of using Ethno-Vlog learning media to find out the increase in students' creative thinking skills. The evaluation phase can be carried out throughout the implementation of the five steps of the ADDIE development model.

Result and Discussion

In the implementation of the Merdeka Curriculum in class IV SD by utilizing Ethno-Vlog-based learning media, it is hoped that students will be able to develop creative thinking skills both in presenting ideas or ideas or solving problems. Based on the results of the analysis of the problems in the two elementary schools, the next

step is planning the development of instructional media. The development of learning media can provide motivation, and meaningful experiences, and make learning more interesting for students so that they can easily understand the learning material (Leasa et al., 2021). Especially in science learning, the selection of learning media is very important because students' understanding of science must be built through the basic education level so that when they become adults they can make decisions related to various kinds of problems and can solve these problems scientifically (Gumilar et al., 2022).

Ethno-Vlog-based learning media for Sisingaan and Gembyung dance were chosen as the right effort for learning in the 21st-century era by developing soft skills. The content on the Ethno-Vlog-based learning media displays several dance movements accompanied by explanations of scientific reconstructions as well as knowledge about the local culture of the Sisingaan and the Gembyung dance. Through a series of video shows that are presented, learning becomes more meaningful and interesting. The development of Ethno-Vlog learning media was designed using the Adobe Premiere Pro 2020 application. The titles in the learning media that were developed were "Ethno-Vlog Tari Sisingaan" and "Ethno-Vlog Tari Gembyung". Views regarding the opening of the Ethno-Vlog learning media are presented in Figure 1 and Figure 2.



Figure 1. Display of the Ethno-Vlog Title of Sisingaan Dance



Figure 2. Display of Gembyung Dance Ethno-Vlog Title

After the display of Capaian Pembelajaran (CP) and Tujuan Pembelajaran (TP), the next is the appearance of interviews with speakers regarding the Sisingaan and Gembyung dance which are native arts performers from Subang presented in Figure 5 and Figure 6.

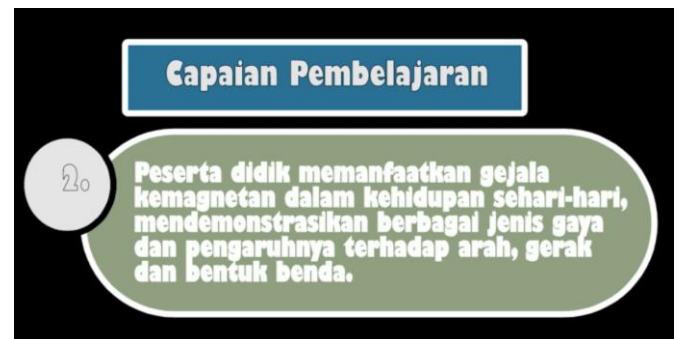


Figure 3. Display of Learning Outcomes

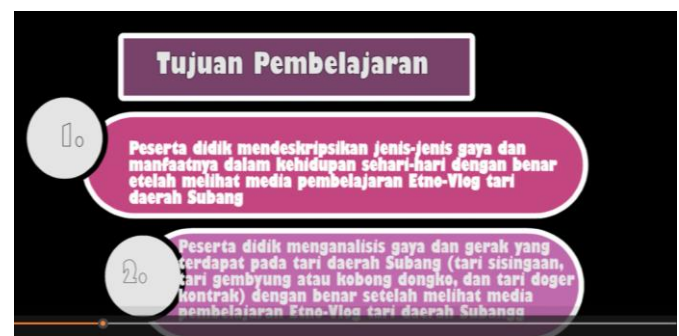


Figure 4. Display of Learning Objectives

After the display of Capaian Pembelajaran (CP) and Tujuan Pembelajaran (TP), the next is the appearance of interviews with speakers regarding the Sisingaan dance and Gembyung dance which are native arts performers from Subang presented in Figure 5 and Figure 6.



Figure 5. Interview with Gembyung Dance Performers



Figure 6. Interview with Sisingaan Dance Performers

Regarding the style material contained in the Ethno-Vlog learning media, a scientific explanation is presented in Figure 7 and Figure 8.

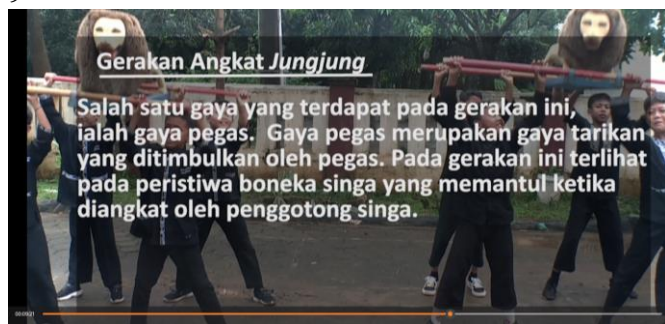


Figure 7. Scientific Explanation of the Movement of the Sisingaan Dance



Figure 8. Scientific Explanation of Style Material in Gembyung Dance Movement

Figure 7 and Figure 8. The final appearance of the Ethno-Vlog is shown regarding questions that refer to creative thinking skills related to the style material in the two dances which are presented in Figure 9 and Figure 10.



Figure 9. Display of Questions Related to Sisingaan Dance



Figure 10. Display of Question Related to Gembyung Dance

Learning media products have been validated by material experts and media experts. Validation is used to obtain appropriate quality material and media for students (Balan et al., 2017). As well as getting suggestions and input regarding the advantages and disadvantages associated with learning media (Aida et al., 2022). Follow-up after scoring and suggestions from the two experts as an effort to improve product quality which forms the basis for the feasibility of learning media for use at the next trial stage is presented in Table 3.

Table 3. Percentage of Media Validation Results based on Media and Material Expert

Indicator	Percentage (%)
Media Expert	
Software Engineering Aspect	81
Audio Visual	81
Communication Aspect	
Aspect of Learning Design	87
Aspect of Independent Study	75
Average	81
Category	Very Decent
Material Expert	
Eligibility Aspect Content	92
Language Feasibility Aspect	83
Presentation Aspect	85
Average	86
Category	Very Decent

Table 3 shows that the results of the assessment with a product percentage of 76% -100% are included in the "very decent" category. Thus, the product developed in the form of Ethno-Vlog-based learning media is declared valid. After validation, the next step is to test the product on students. This stage aims to obtain data based on responses from students related to learning media. Product trials were carried out in two elementary schools with a total of 90 students. The first stage was carried out in small-scale groups with 30 students in one class at a time to find out the initial problems in the application of learning media. The results of the student response questionnaire in the small-scale trial are presented in Table 4.

Table 4. Percentage of Response Questionnaire Results by Student

Indicator	Percentage (%)
Aspects of Functions and Benefits	89
Visual Media Aspect	91
Media Audio Aspect	91
Typography Aspect	92
Language Aspect	89
Media Programming Aspect	87
Average	90
Category	Very Decent

The application of learning media based on the Ethno-Vlog Sisingaan and Gembyung dance which was carried out in small-scale trials showed that the average results based on the indicators included in the six aspects obtained very feasible criteria with an average value of 90%. As a result, it can make it easier for students to understand the material, as well as evoke a learning atmosphere so that in learning they ask several questions related to the material, and some students can answer these questions with their assumptions. The utilization of video-based learning media can improve creative thinking processes (Rochmania & Restian, 2022).

In the teacher's response questionnaire, very decent results were obtained which were shown in the percentage results obtained from indicators that included aspects of content feasibility, linguistic aspects, material aspects, and media aspects presented in Table 5.

Table 5. Percentage of Teacher Response Questionnaire Results

Indicator	Percentage (%)
Eligibility Aspect Content	81
Language Aspect	92
Material Aspect	83
Media Aspect	88
Average	86
Category	Very Decent

Table 5 shows that the teacher's assessment based on indicators from these four aspects resulted in very decent category results with an average percentage above 80%. One of the teachers gave suggestions to add questions related to creative thinking in the media. The next stage after obtaining the validation results and being suitable for use is to look for the effectiveness of using Ethno-Vlog learning media in improving creative thinking skills for students who are included in large-scale tests by giving questions in the form of pretest and posttest. These results were obtained based on the results of the pretest and posttest conducted in class IV at Kiarasari Elementary School after being given

treatment with a total of 60 students. The pretest and posttest results are presented in Table 6.

Table 6. Pretest and Posttest Result

\bar{X} Pretest	\bar{X} Posttest	N-Gain
30	78	0.60

The level of efficiency in learning activities as a whole from students towards products is determined by 20-item statements based on indicators of creative thinking skills. The recapitulation of student learning outcomes data shows that the Ethno-Vlog learning media for Sisingaan dance and Gembyung dance on style and motion material can be said to be effective with the acquisition of an N-Gain Score of 0.60.

The results showed that the use of the Ethno-Vlog learning media for Sisingaan dance and Gembyung dance was very interesting and improved students' thinking skills. Proven based on the results of small-scale trials and large-scale trials by obtaining the appropriate category. This is to research conducted by Pancawardhani et al., (2022) that media based on blogs, videos, and vlogs can improve learning outcomes, communication skills, and creativity, and provide new experiences for students. Learning by using video as a medium filled with ethnosience, can convey messages and create a conducive learning environment because the learning process is carried out efficiently and effectively (Satria & Egok, 2020). Research Susanti et al., (2023) that vlog-based learning media can increase learning motivation because the presentation provides animation, audio visuals, and explanations related to historical content. In the science learning process, ethnosience-based elementary schools can be collaborated with learning methods according to the needs of the teacher (Widyaningrum, 2018). Teachers can take advantage of the surrounding environment to serve as learning resources (Thala'at et al., 2022). Indirectly using learning media based on Ethno-Vlog Sisingaan and Gembyung Dance can improve creative thinking skills because they can create a meaningful learning atmosphere.

Conclusion

Ethno-Vlog based learning media is media that is packaged in vlogs that contain local wisdom and scientific concepts. The development of learning media based on Ethno-Vlog Sisingaan and Gembyung Dance on the material of style accuracy for grade IV SD obtained the proper category from the two validators. The results of the student response questionnaire on the small-scale test were 90% and the response questionnaire from the teacher obtained 86% results

indicating that learning media was very feasible to use. As for the effectiveness of using Ethno-Vlog-based learning media in improving creative thinking skills, the results are 0.60 in the moderate or effective category. The media is following the objectives of learning practices in the Merdeka Curriculum as well as efforts to shape the character of students and develop creative thinking skills contained in one of the dimensions of the Pancasila learner profile.

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Author Contribution

The lead author, Nyi Mas Ayu Ratna Gumilar, contributed to designing the research, product development, conducting the research, and writing the research articles. The second and third author, Sudarmin and Putut Marwoto, played a role in guiding the research to write the article.

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Conflicts of Interest

The authors declare no conflict of interest.

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