Genially Interactive Media: Improving Learning Outcomes of Indonesian Cultural Wealth

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A R T I C L E   I N F O

A B S T R A K

Pendidikan di Indonesia telah menunjukkan kemajuan dalam beberapa dekade terakhir, namun sistem pendidikan di Indonesia masih dihadapkan pada sejumlah tantangan terutama dalam konteks pengajaran Ilmu Pengetahuan Alam dan Sosial di Sekolah Dasar. Penelitian ini bertujuan untuk mengembangkan media interaktif berbasis Genially pada materi Kekayaan Budaya Indonesia dalam Mata Pelajaran Ilmu Pengetahuan Alam dan Sosial. Jenis penelitian ini yaitu penelitian pengembangan dengan menggunakan model ADDIE. Subjek penelitian yaitu ahli materi pembelajaran dan ahli media pembelajaran. Subjek uji coba yaitu siswa kelas IV yang berjumlah 19 siswa dan guru. Metode pengumpulan data menggunakan observasi, angket, dokumentasi, dan tes. Instrumen pengumpulan data menggunakan lembar kuesioner. teknik analisis data menggunakan analisis deskriptif kualitatif dan kuantitatif. N-gain digunakan untuk uji efektifitas media. Hasil uji validitas menunjukkan bahwa media interaktif Genially sangat layak digunakan. Penggunaan media ini juga secara signifikan meningkatkan hasil belajar siswa, respons siswa terhadap penggunaan media ini juga positif. Dengan demikian, dapat disimpulkan bahwa media interaktif Genially efektif dan layak digunakan dalam pembelajaran Ilmu Pengetahuan Alam dan Sosial di kelas IV SD.

A B S T R A C T

Education in Indonesia has shown progress in the last few decades. However, the education system in Indonesia still needs to overcome several challenges, especially in the context of teaching Natural and Social Sciences in Elementary Schools. This research aims to develop Genetically-based interactive media on Indonesian Cultural Wealth material in Natural and Social Sciences Subjects. This type of research is development research using the ADDIE model. The research subjects are learning materials experts and learning media experts. The test subjects were 19 class IV students and teachers. Data collection methods include observation, questionnaires, documentation, and tests. The data collection instrument uses a questionnaire sheet. Data analysis techniques use qualitative and quantitative descriptive analysis. N-gain is used to test media effectiveness. The validity test results show that genetically interactive media is very suitable for use. The use of this media also significantly improves student learning outcomes; student responses to the use of this media are also positive. Thus, Generative interactive media is effective and suitable for learning natural and social sciences in fourth-grade elementary school.

1. INTRODUCTION

Education plays an important role in the development of a country and is the main foundation for the social, economic, and intellectual development of its people. In Indonesia, education plays a crucial role in shaping a generation that is competent and able to compete at the global level (Madhakomala, 2022; Yuliani & Hartanto, 2020). Although it has experienced significant progress in recent decades, the education system in Indonesia is still faced with several challenges that must be faced, especially in the context of teaching Natural and Social Science subjects at the Primary School level. As an integral part of the Merdeka Curriculum which is the current Indonesian education curriculum, Natural and Social Sciences subjects have a very important role in shaping students' understanding of the surrounding world and developing their critical thinking skills. However, reality shows that there are still several problems that affect the effectiveness of teaching and learning of Natural and Social Sciences in Primary Schools (Alfatonah, 2023; Ida Nur Aini et al., 2024; Sa'adahh, 2023). Natural and Social Sciences are very close to nature and interactions between humans, learning Natural and Social Sciences needs to present a context that is relevant to the natural conditions and the environment around students. In the independent curriculum at the primary school level, the subjects of Natural and Social Sciences are combined into one,

namely Natural and Social Sciences, this merger is carried out because students at primary school age tend to think holistically, as a whole, and concretely (Marwa, 2023; Rusilowati, 2022).

In addition, this subject also aims to improve students' science literacy to strengthen their understanding of more complex natural and social sciences at the junior high school level (Kadek Nugi Karnajaya & Wulandari, 2023; Wijayanti, 2023). Based on the learning outcomes of students in class IVB SDN Tambakaji 05 Semarang city, the content of Natural and Social Sciences lessons in Chapter 6 Indonesiaku Kaya Budaya Topic B Indonesian Cultural Wealth is still low, where the learning outcomes show 13 students (68%) of 19 students have not reached the criteria for achieving learning objectives. The lack of student learning outcomes in Natural and Social Sciences subjects with Indonesian Cultural Wealth material is caused by the lack of utilization of learning media and the use of inappropriate learning methods, namely teachers still often use lecture and discussion methods. This method places the teacher as the center of learning and students only as listeners, besides that student involvement in learning is also reduced, resulting in boredom and lack of student interest in learning which affects the low learning outcomes on the material. Meanwhile, for learning media, the teacher has not utilized technology-based media, where the teacher only uses media in the form of a Map of Indonesian Cultural Wealth this material. Teachers admit that the use of learning media is not effective because the material on Indonesian Cultural Wealth is quite extensive and complex. The existence of learning problems found it is necessary to have an alternative solution that encourages researchers to develop learning media used in learning Natural and Social Sciences on the material of Indonesian Cultural Wealth. The media is used to increase students' understanding of learning material, during the learning process it is hoped that students can learn pleasantly and their interest in learning increases so that it has an impact on overall learning outcomes. The Genially-based interactive multimedia is feasible to use in the context of learning (Enstein, 2022b; Putra, 2023). In contrast to some previous studies, this research places special emphasis on the material of Indonesian Cultural Wealth in Natural and Social Sciences subject matter, while previous studies focused more on general subjects without paying attention to aspects of local culture. In addition, this research not only focuses on developing learning media but also on measuring its effectiveness in improving student learning outcomes.

Learning media is anything that can convey messages from the source in a planned manner and can create a conducive learning environment where the recipient of the information can carry out the learning process efficiently and effectively (Sunardi, 2021; Winarto Winarto et al., 2020). When associated with the learning context, media has a significant role in processing information to create new knowledge and serves as an intermediary or means of communication between teachers and students (Puspitarini, 2019; Sudarsana, 2020). The use of learning media that is not varied and less interesting can affect student enthusiasm for learning which has an impact on student learning outcomes (Marlina, 2021; Rahman, 2022). Even though the teaching and learning activities carried out by the teacher are by existing procedures, if the teacher does not maximize the use of learning media that is interesting varied, and technology-based, it can make students easily feel bored and have difficulty accepting the material provided (Putriana, 2021; Romualdi, 2023) The utilization of learning media can make students understand learning material more easily and can help students observe material so that learning activities become effective because students can come up with concepts from their thinking (Fatma, 2019; Tri Wulandari & Mudinillah, 2022). The development of information technology has led to many applications that can be used to create interactive learning media that can be stored on a computer or uploaded on an internet site. Interactive media is a combination of various media such as images, text, audio, animation, and simulations that are designed in an integrated manner and can be used in the learning process to clarify abstract material or concepts, by providing supporting tools so that information becomes more (Deliany, 2019; Djamas, 2021; Nata, 2021). Interactive learning media refers to everything related to software and hardware that can function as an intermediary to transmit learning materials from learning resources to learners, this media uses learning methods that can respond to users based on the input that has been entered into it (Asela, 2020; Engerman, 2021). Interactive learning media can also be called interactive multimedia because both terms refer to the use of a combination of media, such as text, images, audio, and video, in a tool or system to increase user interaction and involvement in the learning process (Komalasari, 2019; Maria, 2019).

In addition, information technology-based interactive learning media can provide a visualization with still and moving images with the addition of navigation as a media control facility when explaining material and evaluation (Batubara, 2020; Rachmavita, 2020). The use of interactive learning media like this is expected to create a varied, interesting, and not boring learning process. One application that can be utilized in developing interactive learning media is Genially. The Genially website will be designed as interesting as possible by the characteristics of elementary school-age students so that students can understand and do active and responsive learning. Genially is a website that enables the creation of

interactive learning media. Genially is an online learning platform that supports teachers in creating creative and innovative teaching materials, such as presentations, games, learning videos, and various other types of content (Enstein, 2022a; Nuryah, 2023; Permatasari, 2021). Genially is a free online application that allows the creation of digital magazines, e-papers, e-modules, presentations, and interesting infographics (Nuryah, 2023; Permatasari, 2021). Through Genially, teachers can adapt learning content according to student's needs and learning styles, thus creating a more enjoyable and relevant learning experience. In addition, Genially allows teachers to share materials easily and can be accessed online, this supports collaboration between teachers and students and facilitates project-based learning and group work. With the combination of these features, Genially can be an effective tool to create a more dynamic, engaging learning environment that is in line with technological developments and educational needs in the digital era. Genially has the advantage of providing interesting features, which aims to prevent the teaching and learning process from becoming monotonous and boring with the platform's ability to present material that is not only limited to writing and images(Afifah, 2022; Putri, 2023). In addition to its ability to create games that match the learning material, the Genially platform also allows users to include external media from sites such as YouTube, Spotify, and others. Since Genially can be accessed online, access to presentations only requires the use of links without the need to manually transfer presentation data (Septianingsih, 2023; Yolanda, 2023). Genially has several advantages including a variety of templates, animations, and texts that can be easily customized for use (Nuryah, 2023; Putra, 2023). Based on the description above, it can be concluded that Genially-based interactive learning media can be used as an effective learning media to overcome the problems of learning Natural and Social Sciences on the material of Indonesian Cultural Wealth in class IVB SDN Tambakaji 05 Semarang City. Therefore, this study aims to develop Genially-based interactive media in the subject of Natural and Social Sciences with the material of Indonesian Cultural Wealth as an effort to improve the learning outcomes of students in class IVB SDN Tambakaji 05 Semarang City. The utilization of this technology is expected to create a more interesting, fun, and effective learning atmosphere for students to understand and appreciate the wealth of Indonesian culture.

2. METHODS

The research method used in this research is the Research and Development (R&D) method. The Research and Development (R&D) method is an approach used to create a product and test its effectiveness (Sugiyono, 2018). In this study, the development model used is the ADDIE model, the ADDIE model is a systematic approach in which the learning planning process is divided into several logically sequenced steps, where the output of each step becomes input for the next step. These steps consist of analysis, design, development, implementation, and evaluation (Cahyadi, 2019). The Analysis stage will identify learning objectives, identify student learning needs, evaluate the material to be delivered, and evaluate the available resources. At the Design stage, activities will be carried out to design research instruments, structure and flow of learning media, create user interface designs, compile learning content and scenarios, and design relevant and interesting interactions. At the Development stage, the media design that has been designed and other research instruments will be validated by material experts and media experts using a questionnaire that has been made with a grid that in Table 1 and Table 2. The next stage is the Implementation stage where the learning media that is ready to use will be implemented in the learning activities that have been designed. The final stage, Evaluation, is carried out to see the effectiveness of learning media in achieving learning objectives, collecting feedback analyzing usage data, and identifying areas of improvement for the next literacy.

Table 1. Material Expert Assessment Instrument Grid

Aspects	Indicator	Number of Questions
Competence	Natural and Social Science content material by learning outcomes	5
Compatibility	Natural and Social Science content material by Genially interactive media	6
	Natural and Social Science content material by the learning evaluation	2
Language	Language is clear and easy to understand	4

Table 2. Media Expert Assessment Instrument Grid

Aspects	Indicator	Number of Questions
Compatibility	Suitability of learning materials with learning media.	3
View	The appearance of the design appeals to the user.	3
	The quality and appearance of the media.	3
Usage	Students and teachers can easily use the media.	3
Excellence	Users can easily understand the content of the media.	3

The subjects of this study were 19 students of class IVB SDN Tambakaji 05 Semarang City, where these students will be the focus of observations, measurements, or interventions conducted by researchers. In addition to students, this study also involved teachers, a team of expert validators, and researchers. The teacher acts as a data source, in this study, the teacher of class IVB SDN Tambakaji 05 plays a role in obtaining data about the needs and assessment of Genially interactive media through a questionnaire. The team of expert validators who act as validators of Genially interactive media assessments are media experts and material experts. Researchers play a role in collecting data, developing products, and analyzing the data that has been obtained. Data collection methods include observation, questionnaires, documentation, and tests. For observation, researchers will directly see the implementation of genially interactive media in class IVB SDN Tambakaji 05, interviews will be conducted with class IVB teachers of SDN Tambakaji 05 to obtain data on the needs and constraints of students in learning Natural and Social Sciences, as well as filling out questionnaires that will be given to students and teachers to see their assessment of Genially interactive media, as well as documentation to complete the research results. In this study, researchers analyzed data using two methods, namely qualitative and quantitative data analysis. Qualitative data is obtained from interviews and observations, while quantitative data is obtained from media assessments, questionnaires, and pre-test and post-test tests which are then analyzed with the help of Microsoft Excel 2019.

3. RESULT AND DISCUSSION
Results

This research produces a product in the form of Genially-based interactive learning media on Indonesian Cultural Wealth IPAS material. Genially-based interactive learning media contains an explanation of material about Indonesian Cultural Wealth which includes several submaterials, namely Factors of Indonesian Cultural Diversity, Forms of Indonesian Cultural Diversity, and Positive and Negative impacts of Indonesian Cultural Diversity which are interactively designed with attractive images, videos, and color compositions. First, *Analysis Stage*. Based on the results of interviews with class teachers, it is known that IPAS learning that has been carried out has experienced obstacles, namely the lack of student understanding of the material of Indonesian Cultural Wealth which has an impact on student learning outcomes, this is caused by several factors, one of which is the use of learning media that is less varied and interesting. So it can be concluded that students of class IVB SDN Tambakaji 05 need interactive learning media that can help strengthen student understanding and student activeness and facilitate the delivery of complex Indonesian Cultural Wealth material. Second, *Design Stage* . This Genially-based interactive learning media will be designed as interesting as possible according to the characteristics of elementary school students by combining various media such as images, text, audio, video, and attractive color composition so that students can understand and do learning actively and responsively. The learning component in this media consists of several menus, namely: learning achievements, learning objectives, materials, and quizzes displayed. In addition to this media researchers also utilize several applications and websites, namely YouTube to display videos as in and Wordwall for quizzes. The development results are presented in Figure 1.

Figure 1. Genially Based Interactive Learning Media on Indonesian Cultural Wealth IPAS material

Third, *Development stage.* In the development of Genially-based interactive learning media utilizing several software such as the Genially website as the main source of making interactive media and Canva to design backgrounds with attractive images and colors, where this media can be easily accessed via mobile phones and laptops or computers via the link. The media that has been made will be examined by experts to ensure that the media is suitable for use, where experts will fill out a questionnaire to provide an assessment of the media. The results of this assessment will be shown in Table 3.

Table 3: Media and Material Feasibility Test Results

Respondents	Percentage	Criteria
Material Expert	95%	Very Feasible
Media Expert	90%	Very Feasible

The data in Table 3 shows that the results of validation conducted by material experts obtained 95% results and media experts obtained 90% results. The material validation stage was carried out once and obtained results in the "very feasible" category where the assessment showed that competence, suitability, and language in Genially-based interactive learning media were very feasible to try. At the media validation stage, it was also carried out once and obtained results in the "very feasible" category where the assessment showed that the aspects of suitability, appearance, use, and excellence were considered very feasible for testing with suggestions that the font on the media be changed and provide audio that can be turned on or off as a welcome to students before using learning media. The main display of Genially-based interactive learning media before and after revision is shown in Figure 2.

Figure 2. The main display of Genially-based interactive learning media

Fourth, Implementation stage. At the implementation stage, Genially-based interactive learning media will go through effectiveness and feasibility testing obtained based on the results of students' pre-test and post-test, where the pre-test will be conducted before the use of Genially-based interactive media in learning, while the post-test will be conducted after the use of Genially interactive media. Data on student learning outcomes in the large group trial involving 19 students of class IVB SDN Tambakaji 05 are shown in Table 4.

Table 4. Large Group Cognitive Learning Outcomes

Form of Assessment	Average	Highest Score	Lowest Score	Number of Students Completed	Average Difference	Percentage of Learning Completeness
Pre-test	59.57	84	32	6	19.79	31.5%
Post-test	79.36	96	72	19		100%

Based on the data listed in Table 4 regarding the cognitive learning outcomes of class IVB students at SDN Tambakaji 05, at the pre-test and post-test stages in the cognitive domain, it can be concluded that the average pre-test score is 59 while the post-test score is 79. Analysis of the table shows that there is an average difference between the pre-test and post-test scores of 19.79. In addition, there was an increase in the number of students who reached the level of learning completeness, where at the pre-test stage only 6 students (31.5%) reached learning completeness, while at the post-test stage the number of students who reached the level of learning completeness increased to 19 students (100%). Therefore, it can be concluded that there is a significant difference in the learning outcomes of IPAS content on Indonesian Cultural Wealth material in class 4B at SDN Tambakaji 05 before and after using

Genially interactive media. Fifth, *Evaluation Stage.* During and after the implementation stage, a formative evaluation was conducted to collect input and feedback from students and teachers. At the evaluation stage, it is done by testing the media and looking at the N-Gain value. The N-Gain test results of the Genially interactive media can be seen in Table 5.

Table 5. N-Gain Test Result

Form of Assessment	Average	N-Gain Value	Gain Interval	Criteria
Pre-test	59.57	0.47	0.30 ≤ N-Gain ≤ 0.70	Sedang
Post-test	79.36			

Based on Table 5 N-Gain Test Results above, it can be seen that the pre-test results before using learning media obtained an average of 59.57. The post-test value after using Genially interactive media obtained an average value of 79.36. From the average pre-test and post-test, it can be seen that there is an increase in pre-test and post-test scores of 0.47 with moderate criteria. Genially-based interactive learning media is quite effective in increasing students' understanding and enthusiasm for learning in the IPAS content of Indonesian Cultural Wealth material, this is reinforced by the positive response from students obtained through student response questionnaires. The results of the student response questionnaire can be seen in Table 6.

Table 6. Results of the Student Response Questionnaire

No.	Aspect Asked	Many Students Agree	Percentage
1.	The interactive media display is Genially interactive	19	100%
2.	The overall components of Genially media are visible	19	100%
3.	Genially interactive media can be learned together in small groups.	19	100%
4.	The font and size of the text in the interactive media are genially visible.	17	89.4%
5.	Genially interactive media can encourage students' enthusiasm for learning.	18	94.7%
6.	Genially interactive media can create a fun learning atmosphere.	18	89.4%
7.	The material in the interactive media genially covers the Wealth of Indonesian Culture.	17	94.7%
8.	The material in the interactive media is genially easy to understand.	19	100%
9.	The material presented through genially interactive media can increase students' knowledge of the topics covered.	18	94.7%
	Total Score	**164**	
	Maximum Score	**171**	
	Percentage	**95.9%**	
	Criteria	**Very Feasible**	

Based on Table 6 the results of the student response questionnaire can be seen that the development of Genially interactive media for the IPAS content of Indonesian Cultural Wealth material consisting of 9 question indicators shows a very good response, this is shown through the results of "agree" with the lowest percentage of only 89.4%. Overall, classical student responses obtained a percentage of 95.9% with very feasible criteria, the percentage results show that students are enthusiastic about learning using Genially-based interactive media

Discussion

This research is based on the facts found during the problem identification process, where there are learning problems in the content of Natural and Social Sciences, namely the lack of student interest in learning the material of Indonesian Cultural Wealth which has an impact on student learning outcomes. This fact is obtained from the results of interviews with class IVB teachers SDN Tambakaji 05 Semarang City, several factors cause the problem, among others, the use of learning media that is less interesting and

inappropriate learning methods, namely teachers still often use lecture and discussion methods. This method places the teacher as the center of learning and students only as listeners, resulting in boredom and students cannot capture the material presented by the teacher properly (Gulo, 2023; Nisa, 2022) Based on learning problems, researchers developed learning media used in teaching Natural and Social Sciences subject matter on Indonesian Cultural Wealth. The media is used to improve students' understanding of learning materials, during the learning process students learn fun, and their interest in learning increases which has an impact on increasing student learning outcomes on the material of Indonesian Cultural Wealth. Thus the material taught becomes easier to understand and meaningful for students. The media in question is media that creates active interaction between students and learning materials, where the interaction is in the form of the use of buttons, audio, video, and other interactive elements that are easily operationalized by students so that students can actively participate in the learning process. The interactive learning media applied in the learning is genially-based interactive media, with the existence of genially interactive media can increase student involvement in learning and make them understand the material better. Genially-based interactive learning media has been designed as interesting as possible according to the characteristics of elementary school students so that students can understand and learn actively and responsively which has an impact on improving student learning outcomes (Damayanti & Qohar, 2019; Hotimah & Muhtadi, 2018; Rachmawati et al., 2023).

Genially-based interactive learning media has been tested by media experts and material experts. The validity test in this study was conducted to assess the extent to which the media was by the learning objectives and was used as a valuable contribution to media development. In addition, this process also helps identify the suitability, weaknesses, and advantages of the media that have been developed by researchers (Heliawati, 2022; Magdalena, 2021; Nuryah, 2023). In assessing the feasibility of the material, there are three aspects assessed by material experts, namely aspects of competence, suitability, and language. Based on the validation results from the material experts, the genially-based interactive media on the IPAS content of the material "Indonesian Cultural Wealth" obtained a total rating of 95%, and was considered very feasible to try. In assessing the suitability of the media, there are four aspects assessed by media experts, namely suitability, appearance, use, and excellence. Based on the validation results from media experts, genially-based interactive media on the content of Natural and Social Sciences material "Indonesian Cultural Wealth" received an average percentage score of 90%, and was very suitable for testing by considering the revisions and suggestions given. The effectiveness of genially interactive is measured through the analysis of the results of pre-test and post-test scores which experienced an average increase (n-gain) of 0.47 which is considered moderate, this is what can distinguish this study from other studies. Based on the results of the n-gain test, it is known that genially interactive media is effective in overcoming existing problems, namely improving the learning outcomes of students in class IVB SDN Tambakaji 05 because it has shown a level of success with an average increase.

This is in line with this research where the development of interactive media Genially can improve student understanding which has an impact on improving student learning outcomes, but there are significant differences where previous research developed Genially-based learning media in Office Management subjects for Vocational High School students while researchers researched Natural and Social Science subjects for Elementary School students (Churiyah, 2023; Solano, 2022). The utilization of Genially as an interactive learning media has a significant positive impact on student engagement in the learning process. In an ever-changing educational context characterized by technological developments, the integration of interactive learning media such as Genially provides new opportunities to create interesting and engaging learning experiences for students. With its engaging features and the ability to be customized to the individual needs of students, Genially makes a meaningful contribution to creating learning experiences that are fun, effective, and inclusive. This emphasizes the importance of technology integration in education to improve the quality of learning and student learning outcomes in today's digital era (Adam, 2023; Magdalena, 2021; Ratno, 2022). This research examines the use of Genially as an interactive medium in the context of primary education specifically for Natural and Social Science subjects which is a merger of two subjects, this illustrates a response to curriculum changes and new needs in learning at the Primary School level. In addition, this research emphasizes improving student learning outcomes, not just on the development of the learning media itself, so this research not only brings innovation in the use of technology to the learning process but also presents a relevant contribution to achieving broader learning objectives at the primary level. By establishing an interactive learning media development framework that is responsive to the new curriculum and learning needs, this research provides a foundation for the development of more holistic and effective education at the primary level. The results of this study can be used as a reference to assist teachers in developing learning media in the classroom, Genially website-based learning media has a positive impact in supporting the implementation of learning, especially in learning carried out at the elementary school level where students at this time

are very happy to learn while playing. Through Genially teachers can adapt learning content according to the needs and learning styles of students to create a more enjoyable and relevant learning experience. In addition, Genially allows teachers to share materials easily and can be accessed online, this supports collaboration between teachers and students and facilitates project-based learning and group work. With the combination of these features, Genially can be an effective tool to create a more dynamic, engaging learning environment that is in line with technological developments and educational needs in today's digital era.

4. CONCLUSION

The application of generationally-based interactive learning media in science and social studies learning is considered appropriate and successful. This is reinforced by the results of research conducted by researchers, where through the use of interactive learning media, generationally achieved The learning outcomes of students in class IVB SDN Tambakaji 05 on the topic of "Indonesian Cultural Wealth" have increased. The multimedia and interactive content presented by the Genially platform helps students understand and remember learning materials better. The use of visual, audio, and interactive elements in this medium is effective in explaining complex concepts. Therefore, the utilization of generally interactive media has the potential to improve learning standards by providing an efficient means of developing interactive content that suits students' learning preferences. However, this study has limitations because it only focuses on one grade level, namely grade IV, and one subject only, namely the natural and social sciences.

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