DEVELOPMENT OF INTERACTIVE MULTIMEDIA IN IMPROVING THE DIGITAL LITERACY SKILLS OF CLASS 4 STUDENTS OF sdn SDN KARANG TENGAH 3

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Abstract

The background of this research was carried out by means of classroom observations and interviews with teachers and students. Based on the results of interviews and observations obtained data that the use of teaching materials such as learning media is still lacking. Teaching materials that are often used are textbooks and blackboards. The solution to overcome the problem is to develop learning media, namely smart apps Creator. The aims of the study were: (1) to determine the validity of interactive multimedia, (2) to determine the practicality of interactive multimedia, (3) to determine the effectiveness of interactive multimedia. This research is a type of development research (R&D) using the Borg and Gall development model through 10 stages (1) research and data collection, (2) planning, (3) product draft development, (4) initial field trials, (5) revision design, (6) field trials, (7) product improvement, (8) trial use, (9) final product improvement, (10) dissemination and implementation.The Borg and Gall stage is used to analyze and find out the needs at school. This stage is to determine and design the product to be developed. The Development stage of the final product is different from other products. The disseminate stage is used for the product dissemination process through validation. The conclusion of this study: Interactive multimedia is said to be very valid with a percentage of 85%. The results of the response of the learning media teacher are said to be very practical with a percentage of 86%. Interactive Multimedia. said to be very effective because after a limited trial it got a percentage of 86% and an extensive trial got 85%.

Keywords: Smartbook Learning Media; fictional stories; East Javanese folklore.

Abstrak

Penelitian ini dilatarbelakangi oleh dilakukan dengan cara observasi kelas dan wawancara dengan guru dan siswa. Berdasarkan hasil wawancara dan observasi yang diperoleh data bahwa penggunaan bahan ajar seperti media pembelajaran masih kurang. Bahan ajar yang sering dipakai lebih ke buku teks dan papan tulis. Adapun solusi untuk mengatasi permasalahan ialah mengembangkan media pembelajaran yaitu *smart apps Creator.* Tujuan dari penelitian ialah: (1) untuk mengetahui kevalidan multimedia Interaktif, (2) untuk mengetahui kepraktisan multimedia Interaktif*k*, (3) untuk mengetahui keefektifan multimedia Interaktif. Penelitian ini termasuk jenis penelitian pengembangan (*R&D)* menggunakan model pengembangan *Borg and Gall* melalui 10 tahapan (1) penelitian dan pengumpulan data, (2) perencanaan, (3) pengembangan draf produk, (4) uji coba lapangan awal, (5) revisi desain, (6)

uji coba lapangan, (7) penyempurnaan produk, (8) uji coba pemakaian, (9) penyempurnaan produk akhir, (10) desiminasi dan implementasi.Tahap *Borg and Gall* digunakan menganalisis dan mencari tahu kebutuhan di sekolah. Tahap tersebut guna menentukan dan merancang produk yang dikembangkan. Tahap *Development* hasil final produk berbeda dengan produk lain. Tahap disseminate digunakan guna proses penyebaran produk melalui validasi. Kesimpulan penelitian ini: multimedia Interaktif dikatakan sangat valid dengan presentase sebesar 85 %. Hasil dari respon guru media pembelajarandikatakan sangat praktis dengan presentase sebesar 86%. Multimedia Interaktif. dikatakan sangat efektif sebab setelah uji coba terbatas mendapatkan presentase sebesar 86% dan suji coba luas mendapatkan 85%.

Kata Kunci: Multimedia Interaktif, Literasi Digital, Media Social .

INTRODUCTION

Learning is a process of interaction between students and teachers and learning resources in a learning environment. By knowing that each student has different talents and interests. There are those who excel in sports, there are those who like the arts, according to (Evolits, 2018: 210) there are children who have talent in academics and there are also children who have talents in more than one field. The role of a teacher does not stop at teaching lessons in class. A teacher also has a very important role in developing students' talents and interests so that students are able to hone these interests and talents appropriately. there is digital literacy learning in class 4 at SDN Karangtengah 3. Optimizing the role of social media as a learning medium will direct students to a good understanding of digital literacy, so as to minimize the negative effects of social media. The teacher's task is to try to stimulate students' active participation by providing various information that is assessed according to the students' level of knowledge. It is hoped that in future students will be more aware of the information they find in everyday life and will be accustomed to thinking critically to solve existing problems.

Digital literacy is the ability to understand and use information from various digital sources; in other words the ability to read, write and relate to information using technology and formats available to the masses (Akbar Firman, 2017). Digital literacy includes all digital devices, such as computer hardware, software, internet, and mobile phones. In digital literacy, there is a process of processing information/knowledge from what users get after using a computer. Rahman (2019) stated that the use of information and communication technology can improve the quality of students' learning experiences.

Interactive multimedia is very suitable to be used to clarify the learning process if it is supported by learning media that can attract students' interest so that it can provide an adaptive and varied learning environment, students can also control and determine the sequence of learning materials themselves

according to their wishes. By combining various components (text, graphics, audio, video/animation) and using cellphones/laptops to illustrate a concept through animation, sound and interesting demonstrations, interactive multimedia in learning can produce effective learning that allows students to develop according to their respective abilities. -each.

(Sudrajat, 2019). The characteristics of the 21st century are marked by the increasing development of the world of science, so that the synergy between them becomes increasingly rapid. National education in the 21st century aims to realize the ideals of the nation, namely an Indonesian society that is prosperous and happy, with an honorable and equal position with other nations in the global world, through the formation of a society consisting of quality human resources , namely independent individuals. , willing and able to realize their national ideals in the context of the use of information and communication technology in the world of education.

The role of the teacher or instructor is being able to use the tools provided by the school, and it is possible that these tools are in accordance with developments and demands of the times. Teachers can at least use cheap and efficient media which, although simple, is a necessity in achieving the expected learning objectives. For this reason, teachers or instructors must have sufficient knowledge and understanding of learning media.

In the digital literacy development material according to (hariadi: 209) to determine students' literacy abilities, researchers gave 10 test questions. The test used to determine the ability to operate in the process of understanding and goals of students defines digital literacy as the ability to understand and use information from various digital sources.

Grade 4 students were given this material so that grade 4 students at SDN Karangtengah 3 were able to develop literacy into a very important skill that must be mastered by students in an applicable way in the era of disruption as the main skill to face the crest of the wave of digital transformation in the 21st century.

Ideally, digital literacy development should be provided as interesting as possible, not just monotonously explained by the teacher. Choosing appropriate and innovative learning methods or techniques will make learning less monotonous. Selecting and using learning media that is appropriate and appropriate to the material will help make learning interesting. Basically, learning media is very important to use in supporting learning activities.

Based on the results of observations, the process of developing digital literacy is not yet optimal, this can be seen in several findings: 1.) Grade 4 elementary school students do not yet understand the function of digital technology as a means of learning. 2.) Grade 4 elementary school students are not yet skilled in operating digital technology. 3.) Students do not yet have the ability to access digital technology. This situation can occur because it is based on the fact that each student is basically used to and experienced in using a laptop or cellphone either in learning activities or other activities. which is still relatively low where the average value is below the KKM value of 77.

The solution to overcome the description of existing problems, this research is to develop digital literacy for grade 4 students at SDN Karangtengah 3 so that students are able to operate learning media that can improve students' abilities in this media, namely interactive multimedia which should provide a variety of learning activities that are packaged in an interesting way. display, interactivity, and clarity of instructions so that children are interested and - make it easier for them to learn with the programs contained in it.

RESEARCH METHODS

The type of research used in this research is development or (R&D) because it will create a product. Sugiyono (2015) stated that, "Research and development is a theory that is structured to produce a product and validate it which will be used in education. Development is carried out based on these guidelines, including: (1) research and data collection, (2) planning, (3) product draft development, (4) initial field trials, (5) design revisions, (6) field trials, (7) product refinement, (8) trial use, (9) final product refinement, (10) dissemination and implementation. Data collection is obtained through observation, according to Sugiyono (2015) Observation is a way of collecting data directly by observing what is in the field. A questionnaire, according to Ahmad (2010), is a collection of written questions that have been created containing an assessment and then answered by the respondent. Evaluation tests, according to Sugiyono (2015), are techniques or ways to measure and assess students' abilities, in the form of giving questions or questions to work on. The last one is documentation.

Meanwhile, data analysis techniques include testing validity, practicality and effectiveness. The data analysis technique uses Likert scale analysis with the following formula.

$$\text{Expert Validation} = \frac{TSe}{TSh} \times 100\% = \cdots$$

The results of the validity analysis are interpreted according to the validity value criteria according to Riduwan (2010), as follows.

Tabel 1. Validity Criteria

Percentage	Category Validity	Description
86% - 100%	Very valid	Very Good to use
71% - 85%	Valid	May be Used After Minor Revision
56% - 70%	Fairly valid	May be used after major revisions
41% - 55%	Not valid	May not be used

25% - 40%	valid	May not used

Data analysis of effectiveness is measured by looking at student learning outcomes with the following formula:

$$p = \frac{l}{n} \times 100\% = \cdots$$

The results of the effectiveness analysis are interpreted according to the assessment criteria according to Riduwan (2010) as follows.

Tabel 2. Effectiveness Criteria

Validity Criteria	criteria
P > 80%	Very valid
60% ≤ p ≤ 80%	Valid
40% ≤ p ≤ 60%	Not Valid
20% ≤ p ≤ 40%	Valid
P ≤ 20%	Not Valid

Analysis of practicality data through teacher and student response questionnaires using the following formula:

$$Percentage = \frac{TSe}{TSh} \times 100\% = \cdots$$

The results of the practicality analysis are interpreted according to the following practicality criteria according to Eko Widoyoko (2013):

Tabel 3. Validity Criteria

Validity criteria%	description
81% - 100%	Valid
61% - 80%	Valid
41% - 60%	Not valid
21% - 40%	Valid
0% - 20%	Not Valid

This Borg and Gall stage defines various problems before determining the product that the researcher will develop. This stage includes: conducting observations, interviews to find out the conditions and problems at SDN Karangtengah 3. Then analyzing the characteristics of elementary school students, where students are busy in class, not interested in participating in learning activities and students' digital literacy is low. The final stage is analyzing what material is the main problem as a basis for product development. then the stage where the process of designing the product to be developed. The stages of this activity include: The process of selecting media or determining what media will be developed. In this research, interactive multimedia was chosen as the basis that will be developed for literacy.

The planning stage starts with the process of creating learning media designs, namely interactive multimedia. developed with the aim of making it easier for teachers to deliver digital literacy material.

According to Fatirul (2022), the initial form of product development stage is the stage where researchers begin to develop supporting components, guidelines and instruction books, and evaluate the initial form of the product. In this research, the initial product draft begins with the design of media design, background selection, preparation of interactive multimedia design, validation with validators and then field trials.

The limited trial phase was carried out with the aim of finding out the effectiveness of interactive multimedia media for digital literacy materials. This limited test was carried out at SDN Karangtengah 3, Kandangan District, Kediri Regency on June 10 2023 with 6 grade 4 students as subjects. The steps in the limited trial include: 1. Selecting 6 students as subjects, 2. Providing an explanation regarding the material digital literacy, 3. Students read interactive multimedia media digital literacy learning, 4. Students can do quizzes/evaluation questions.

The field implementation test is a trial step on a larger scale than the previous trials, the activity carried out is to test the effectiveness and adaptability of the product by involving potential product users. This research was carried out by testing the product on all research subjects totaling 22 grade 4 students. The final product refinement stage in this research was deliberately omitted because there were no experts to validate the product revision results so it could not be stated whether the product had improved quality or even decreased quality.

In this implementation stage, the product has gone through various trials and improvements so that it can be said that the product has an effectiveness value and can be said to be suitable for mass production. The implementation stage is the final stage of this research and development process. The final result of this product development is in the form of interactive multimedia which is ready to be used as a learning medium for digital literacy material because it has gone through several testing processes, improvements, and has been validated by experts and teachers.

The subjects of this research are grade 4 elementary school students who do not yet understand the function of digital technology as a means of learning, grade 4 elementary school students are not yet skilled in operating digital technology, students do not yet have the ability to access digital technology. This situation can occur because it is based on the fact that each student is basically used to and experienced in using laptops or cellphones either in learning activities or other activities with the subjects chosen for research at SDN Karangtengah 3, namely grade 4 students consisting of 21 students.

The results obtained from data collection will be analyzed qualitatively and quantitatively. The results of observation data and literature studies were analyzed using qualitative techniques, where the data was presented in descriptive form. Meanwhile, the data from the validation questionnaire, teacher response questionnaire, and test questions were analyzed using quantitative techniques to measure the data that had been presented in the form of numbers. Measurements in quantitative analysis can be broken down into 4 stages. The first stage is measuring the validity of the material in the product which is measured from validation questionnaire data by material experts. The second stage is measuring product validity which is measured from validation questionnaire data by media experts. The third stage is measuring practicality which is measured from teacher response questionnaire data. These three stages use the same measurement basis. The following is the basis for measuring the practicality and validity of media.

RESULTS AND DISCUSSION

This research uses the Borg & Bile development model method which consists of 10 stages in the form of 1. Research and data collection, 2. Planning, 3. Product design development, 4. Field trials, 5. Initial product refinement, 6. Field trials, 7. Completion of field test products, 8. Implementation of field tests, 9. Completion of final products. 10. Socialization and implementation. The results of each stage can be seen in the following description.

The research and data collection stage was carried out by means of observation and literature study to find problems which ultimately became the background for the development of this interactive multimedia learning media. Observation activities focus on 2 things, namely learning activities and the school environment. The results of observations of learning and the school environment found several problems. The learning activities carried out tend to be teacher-centered. This is characterized by the lecture method used by the teacher and teacher participation is more dominant than students. Another problem for teachers can also be seen from the use of learning media. Teachers only use one type of learning media, some even don't use any learning media at all. Even though there are learning media, the media used can be said to be no different.

This conclusion can be drawn because the teacher only uses images contained in students' work. books or pictures from print. Apart from the problems found in learning and teachers, other problems can also be seen in the school environment. Observation results show that schools still lack learning facilities for students. This can be seen from the libraries which are still mostly empty and the digital learning facilities which are less than optimal, such as the absence of a computer lab.

The planning stage in this research includes determining the learning objectives that will be used,determining indicators, creating data collection for product validation and creating teacher response data collection instruments.

The product draft development stage is the stage where interactive multimedia learning media products begin to be developed. This product development was carried out using several electronic devices in the form of laptops, pen tablets, mice, and software called Adobe Photoshop. The product development stages include making initial sketches, making basic illustrations, coloring, making background images, and writing dialogue. After product development.

The following is an interactive multimedia display that was developed:
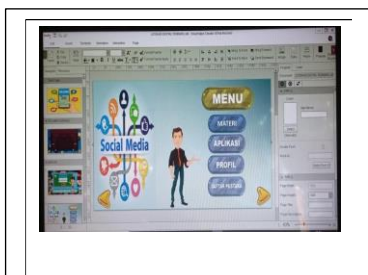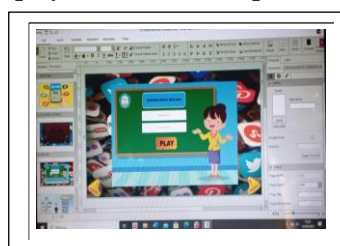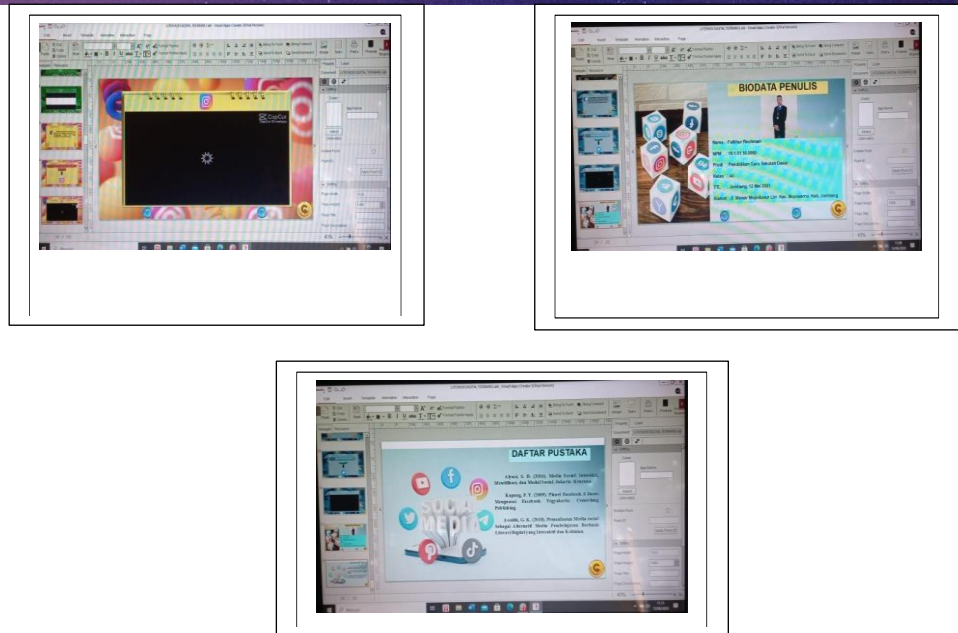
Gambar 1. Tampilan multimedia Interaktif

Next, the final stage is the deployment stage. The stages of this activity include: First, validating material and learning media experts to determine the validity of interactive multimedia learning media. The media expert validation stage was validated by Sutrisno Sahari, S.Pd., M.Pd. and material expert validation was carried out by expert Encil Puspitoningrum, M.Pd.

The following are the media validation results and material validation results which are depicted in the table This.

Tabel 4. Validity Criteria

No	Validity	Percentage	description
1	Ahli media	85%	Valid
2	Ahli materi	85 %	valid
	Rata - rata	85,5 %	Not valid

Based on the validation results, the percentage of validity of Interactive multimedia was 85% from media experts and 85% from material experts, getting an average validity result of 85.5%. Therefore it can be said that Interactive multimedia is very valid.

Second, a product trial was carried out to determine the effectiveness of Interactive multimedia in 2 stages, namely a limited scale trial and a wide scale trial. Product trials were conducted with 4th grade students at SDN Karangtengah 3. The following are the results of the limited and extensive trial evaluation questions.

Tabel 5. Effectiveness Results

KKM trial results	Value	Evaluation Results	Information
Complete	77	86	Valid
Wide	77	85	Valid

Based on the results of product trials, it was found that the percentage of effectiveness of smartbook learning media was 86% from limited trials and 85% from extensive trials. Therefore, it can be said that interactive multimedia is very effective in learning activities.

Third, namely analyzing teacher and student responses after using Interactive multimedia in order to determine the practicality of Interactive multimedia. The following are the results of teacher and student responses.

Table 6. Practical Results

Response Results	Score	Score maximum	Percentage Score	Description
Teacher	52	55	86 %	Valid
Limited Students	60	70	85%	Valid
Broad Students	164	200	86 %	Valid

Based on the results of the assessment of teacher and student responses, it was found that the practicality percentage was 86% for teachers and 85% for limited trial students, and 86% for wide trial students. Therefore, it can be said that interactive multimedia is very practical to use in learning activities.

CONCLUSION

The results of the research on the development of smartbook learning media with fictional story material based on East Javanese folklore for grade 4 elementary school students concluded, among others: Smartbook learning media is said to be very valid, getting a percentage of 86% from media experts and 85% from material experts. The results of the teacher's responses obtained a percentage of 94% and 82% limited trials, 86% extensive trials. Therefore, it can be said that smartbook learning media is very practical to use in learning activities. The smartbook learning media is said to be very effective, because after a limited trial it got a percentage of 91% and a wide trial of 88%. Based on these results, smartbook learning media can be used as a solution to overcome existing problems.

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