Development of Local Wisdom Media (Wayang Sukuraga) in Differentiation Learning

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ABSTRACT
This research was initiated from the results of a needs analysis in an elementary school environment in the city of Sukabumi that a local wisdom-based learning model was needed to support differentiation learning in the implementation of an independent curriculum. Local wisdom media in digital form is expected to help differentiated learning according to the independent curriculum and improve student character. The research was conducted in grade IV of elementary school using the ADDIE development method which consisted of five stages, namely analysis, planning, development, and implementation using data analysis techniques through interviews, observation and questionnaires. The results of the research show that local wisdom media Wayang Sukuraga based on expert validation is in the "very good" category with a score of 80% for media experts, 97% for material experts, 92.22% for practitioners, and 85.31% for student responses. This proves that the development of a digital media-based learning model for Wayang Sukuraga is appropriate for use in learning activities for grade IV elementary schools.

Keywords: *differentiation learning, local wisdom, wayang sukuraga, independent curriculum*

1. INTRODUCTION

1.1 Local Wisdom of Wayang Sukuraga

Wayang Sukuraga is a typical puppet from Sukabumi City in the form of a human body, but the artistic and philosophical value of each puppet character is very valuable. The embryo of Wayang Sukuraga stems from Effendi's talent in painting the whole human being, but this is opposed by his grandfather, who says that a complete human-shaped painting will hold the painter accountable. Then, Effendi remembered the Koran in the letter Yasin verse 65 which says that later on the day of Judgment all bodies will be used for their life while in the world. It was this sentence that continuously encouraged Effendi to transform his paintings into mutilations, so that they continued to grow until they became wayang. Then the development of wayang Sukuraga was made in educational media, until the governor ofWest Java inaugurated Wayang Sukuraga as a character education medium in 2016 [1] .

As time goes by, learning media is increasingly developing and increasingly technology-based, this was revealed by Suryani et al [2] . Local wisdom media in digital form is a modification of conventional media by combining the use of information technology, art, value education and culture so that Wayang Sukuraga media is more interestingand interactive. as well as being designed in an attractive way and making it easier for students to access it, and able tomake it easier for teachers and students [3] .

Digital Sukuraga Puppet media which is systematically arranged to assist teachers in achieving learning objectives that are presented not only contain wayang characters but also songs, stories and quizzes that are expected to help improve or shape positive characters in students such as the character of having one supreme God, criticalreasoning, creative, and love the motherland in accordance with the profile of Pancasila students [4]

Differentiation learning using local wisdom media in digital form is a new innovation in the teaching and learning process in elementary schools in Sukabumi City. After conducting a needs analysis through field observationsas educators have not yet developed digital local wisdom media, and some students get bored quickly during the learning process in class. Students don't get bored while studying because students can understand material assisted by digital- based media using their laptops or cellphones [5] .

It is hoped that the existence of digital Wayang Sukuraga local wisdom media will be a tool for educators

in the classroom in the learning process and make students more motivated when learning in class. This research is a procedural model research, namely a descriptive model, indicating the steps that must be followed to produce learning products according to the dimensions in differentiation learning using local wisdom media developed

1.2 Differentiation Learning

The independent curriculum is a curriculum that aims to explore the interests of students' talents from an earlyage and focuses on essential material, character development and student competencies. One of the curriculum conceptsthat requires student independence, to access knowledge obtained from formal and non-formal education [6] . The curriculum does not limit the concept of learning that takes place inside or outside the school, and encourages the creativity of both educators and students in the learning process [7] **.**

Learning is a process of interaction between educators and students as well as two-way communication that takes place in classroom learning situations to achieve learning objectives. In the learning process there are educators and students who are an integral part, with a strong interaction between these two components to support each other sothat student learning outcomes are achieved optimally. Education is all efforts from parents to children with the intention of supporting the progress of their life as a guide or basic reference for doing something, this guidance is of course notonly used once, but can be used many times if needed.

The learning process is an activity to educate students in a better direction and improve the quality of learning [8] . This allows implementation that is tailored to the needs of students where there are structured and planned learning activities using materials, technology, information and media to support student understanding. With the contents of the design of the learning can facilitate and assist the learning process of students in understanding teaching material.

Differentiation learning means mixing all differences to get information, generate ideas and express what theylearn [9] . Differentiation learning aims to create a diverse class by providing opportunities to acquire content, process an idea, and improve the results of each student, so that students will be able to learn more with

Differentiation learning is defined as a way to identify talents and teach according to the learning styles of different students. Differentiation learning is defined as a way to identify talents and teach according to the learning styles of various students [10] . Where educators encourage students according to their needs, because each student hasdifferent characteristics and therefore cannot be treated in the same way . Educators should make differentiation basedon content , process , and *product* . In addition, learning should be carried out with group work to make learning more flexible [11] . Various studies regarding differentiation learning have been carried out by researchers, such as Sari (2022), which is about the application of differentiated learning in the implementation of an independent curriculum inmathematics . [12] .

1.3 Wayang Sukuraga in Differentiation Learning

Differentiation learning requires educators to be able to modify the learning process, design different activitiesto help students understand the material and modify products to improve their understanding or learning outcomes thatare displayed in different forms [9] . In the learning process in the classroom, it turns out that students have different levels of proficiency, which is not easy. This causes students to tend to get bored quickly in the learning process, and educators are confused about choosing material, strategies for an effective and fun learning process so that all studentsare fulfilled and can achieve predetermined learning goals .

Wayang Sukuraga in digital form is very flexible in its use so that it supports differentiated learning which requires teachers to design learning activities according to students' needs. Whereas differentiation learning uses specific strategies in its application consisting of content differentiation, process differentiation and product differentiation. Content differentiation is what the teacher teaches students in response to student learning readiness, talents and learning profiles which include visual, auditory or kinesthetic or a combination of these three profiles. Process differentiation, namely the process of students learning material carried out individually or in groups, teachers are required to prepare triggering questions or stimuli, make varied learning activities by varying time and using flexible groupings. Meanwhile, product differentiation is in the form of output bills from students by giving challenges or diversity of variations and creating products.

Differentiated learning using wayang sukuraga can support the success of these three dimensions. Learning begins with content differentiation regarding the introduction of wayang and making stories or songs in the media as material that can be developed for students' critical reasoning, because the stories in wayang correspond to problems inthe student's environment so that students can produce products in the form of crafts/art from wayang sukuraga, increasing skills using technology and producing new stories with their understanding of the moral messages

presentedin Sukuraga's songs and literature. The process of using wayang Sukuraga can also be done with students solving problems in the environment by playing roles using wayang Sukuraga characters so that a profile of critical and creativereasoning arises [13] .

2. RESEARCH METHOD

Research and Development (R&D) is the type of research used in this research. Borg and Gall revealed that R&D research is research that is used to produce products and test product effectiveness while this research model usesthe ADDIE development model *(analysis, design, development, implementation, and evaluation [14]* . According to Andi Rustandi and Rismayanti the ADDIE research procedure contains five stages, namely. This research was conducted at an elementary school in Sukabumi City with research subjects consisting of 15 students, 2 material experts,2 media experts, and 2 practitioners. While the object of this research is a history-based teaching module *Augmented Reality* The ADDIE model steps are as follows:

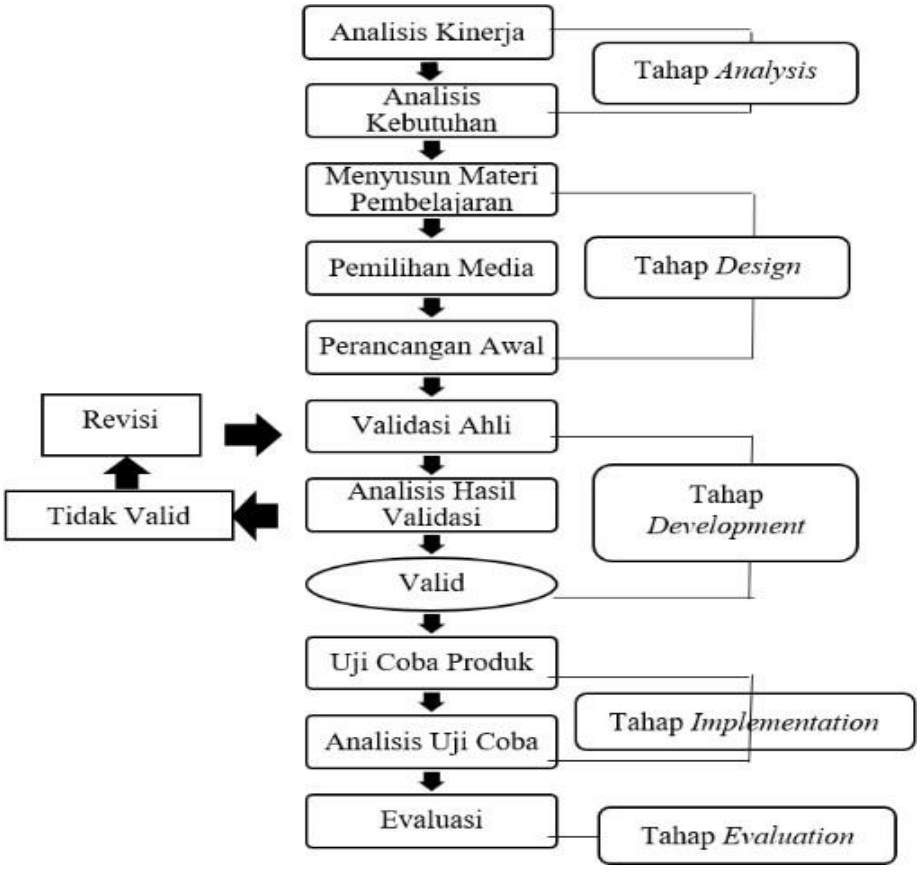

Figure 1.Structure Figure of ADDIE Model Research Steps

2.1 Research Stages

Based on figure 1, the stages of the ADDIE research model the researcher describes are as follows [15] :

2.1 1 Stages of Analysis (*Analysis*)

In the initial stages, the researchers did this by analyzing the needs for developing teaching media that can helpteachers carry out differentiation learning to improve student character. Performance analysis activities were carried outthrough interviews with fourth grade teachers at an elementary school in Sukabumi City. The results of the interviews show that there is a lack of teaching media used in the learning process. The media used is in the form of simple mediaand can only be used in schools so that students quickly get bored while studying. Meanwhile, needs analysis is neededto determine the needs of students in the learning process.

2.1.2 Stages of Design (*Design*)

The second stage, the researcher makes a differentiation learning design that will be developed. The stages indesigning this teaching media are 1) compiling material according to the curriculum used in schools; 2) choosing

supporting media for teaching modules so that they are interesting; and 3) the initial design of the media is made as attractive as possible.

2.1.3 Stages of Development (*Development*)

The stages of developing teaching media are based on the designs that have been made. The steps taken in developing local wisdom-based teaching media in Wayang Sukuraga are 1) making the media use *articulate storyline 360* . [16] Making this media in terms of design and material; 2) conducting media validation by 2 media experts, 2 material experts, and 21 practitioner experts; and 3) improving the media according to suggestions and input from the validator so that there is a comparison of the initial media and the revised media.

2 .1.4 Implementation Stages (*Implementation*)

At this stage the products that have been made will be implemented in the learning process at school. This product was carried out only once involving students to find out students' responses to the teaching modules that had been developed.

2.1.5 Stages of Evaluation (*Evaluation*)

In the evaluation stage, the researcher made a final revision of the media which was developed based on the suggestions and input of students given during the implementation stage.

2.2 Data Collection Techniques

collection used interview techniques, documentation, and instruments in the form of validation sheets for material experts, media experts, and practitioners as well as questionnaires to find out students' responses to the teachingmodules developed [17] . The assessment uses a *Likert scale assessment* . Interview is a data collection technique by asking questions to informants regarding research topics [18] . Meanwhile, documentation is a record of events that canbe in the form of writing, pictures, or someone's works. While the questionnaire is a form of research instrument

2.3 Data Analysis

Data analysis is an effort to systematically search for and organize research results. Data analysis in this studyused quantitative and qualitative data analysis [15] . Quantitative data analysis is used to determine the value obtained from the validation test results [19] . The validation instrument sheet is used to determine whether or not the teaching module is appropriate [20] . The method used is that each expert and practitioner is asked to choose one answer according to the characteristics of the media that the researcher is developing. The formula used in analyzing the resultsof validation values and practitioners is the following values and criteria for validation:

$$\text{Value} = \frac{\text{total skor yang diperoleh}}{\text{skor maksimum}} \text{ x } 100\%$$

Table 1. Validation Assessment Criteria and Practitioners of Teaching Modules

Score/Score	Criteria
81% – 100%	Very Worth it
61% – 80%	Worthy
41% – 60%	Decent Enough
21% – 40%	Less Eligible
<20%	Not feasible

Source: Arikunto in Susanti, E & Sholihah, U (2021:40)

Meanwhile, qualitative data analysis data was used to make improvements that had been given by the validators throughcomments and suggestions on the validation sheet and the results of interviews with grade IV SD teachers.

3. RESEARCH RESULTS AND DISCUSSION

In this development research it produced a product in the form of *digital -based local wisdom media Wayang*

Sukuraga assisted by *articulate Storyline 360,* previous research with this application was carried out by Mills et al in scenario-based learning (2021 *)* [21] .. The development of this media uses the ADDIE research design. The descriptionof the research design for the research conducted is as follows:

3.1 Stages of Analysis (*Analysis*)

The researcher's exposure to the research method begins with an analysis consisting of two activities, namely performance analysis and needs analysis. Performance analysis is carried out to explore the problems faced by schools,especially in the learning process in class. Beginning with an interview with the class IV teacher. The results of the interviews show that the lack of media used in the learning process. Local wisdom-based media Wayang Sukuraga is adevelopment medium in the form of digital where this media helps teachers improve the positive character of students.Wayang is usually only used in the form of paper, dolls or made of leather . However, this digital Sukuraga Puppet media can not only be used in class but can be used by students at home. Apart from directing students to love the localculture, in the conflict in the Sukuraga puppet, it tells about everyday life where our bodies or limbs are used all the time. This media can be used in all subjects, but researchers focus on student character.

3.2 Stages of Design (*Design*)

At this stage the researcher makes a media design that will be developed. The stages in designing the media are 1) preparing a media display design; 2) determine the materials, stories, quizzes and songs that will be featured in the media; and 3) initial design of teaching modules that are made as attractive as possible. Media created using *the articulate Storyline 360 . articulate Storyline 360* to create content. *articulate Storyline 360* is a platform that makes it easy for users to design 2D/3D content that is visualized in the form of digital media. The teaching module designs created by researchers are as follows:

3.2.1 Media Cover (Cover)

The cover for Wayang Sukuraga digital media features puppet characters consisting of Leungka (in the form of feet), Pa Nangan (hands), Ma Ata/Pa Anon (eyes), Ce Eli (ears), Pa Ngambung (nose), and Kudu Leumpang.

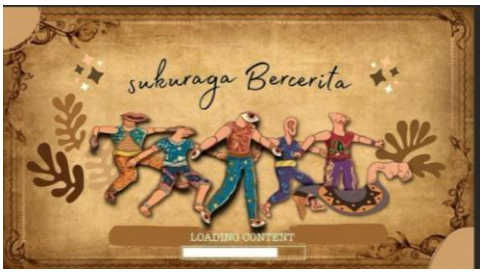

Figure 2. Cover Media

3.2.2 Media Contents

Media content consists of the Philosophy of Wayang Sukuraga which contains artists who describe the creatorof Wayang Sukuraga, namely Effedi Sukuraga and the story of the origins of making wayang Sukuraga, a gallery whichcontains Wayang Sukuraga characters, short stories which contain stories about Wayang Sukuraga and Literature/Songsfrom Wayang Sukuraga which are accessed through the QR code which contains a short story video.

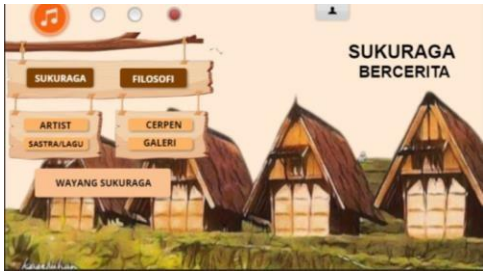

Figure 3. Media Contents

3.2.3 There is an Augmented Reality in the form of a QR Code

The fundamental difference in making this teaching module with other modules is based on *Augmented Reality*which can be accessed if students access the QR Code through an application called Assemblr EDU. The

existence of an *Augmented Reality* -based teaching module assisted by Assemblr EDU will make students' knowledge not only fixated on reading stories but can see *Augmented Reality content* in which there is a video about Wayang Sukuraga demonstrated by students and teachers.

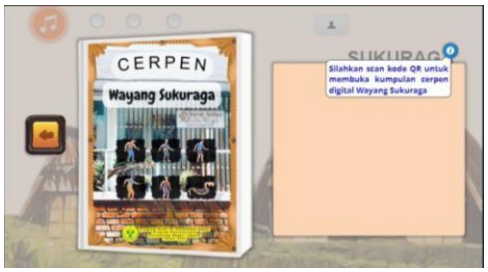

Figure 4. *Augmented Reality* content

3.3 Stages of Development (*Development*)

The researcher carried out the development by carrying out a media feasibility test which was developed by 3validators, namely 1 material expert, 1 media expert and 1 practitioner which was carried out by a class IV SD teacher. Assessment sheet made for experts based on the National Education Standards Agency (BSNP) which includes aspectsof content feasibility, presentation feasibility, language, and graphics [22] The material validator aims to determine thevalidity of the material based on the short stories presented including aspects of content feasibility, presentation feasibility , and language . The average assessment of material expert validation has a score of 97 with a percentage of97%. The ideal score from the material expert's assessment is 100.

Table 2. Material Expert Assessment Aspects

No	Assessment Aspects	Number of Questions	Ideal Score	Score obtained	Percentage	Information
1.	Content Eligibility	6	30	30	100%	Very worth it
2.	Eligibility of Presentation	10	50	48	96%	Very worth it
3.	Language Eligibility	4	20	19	95%	Very worth it
Total score obtained				97		

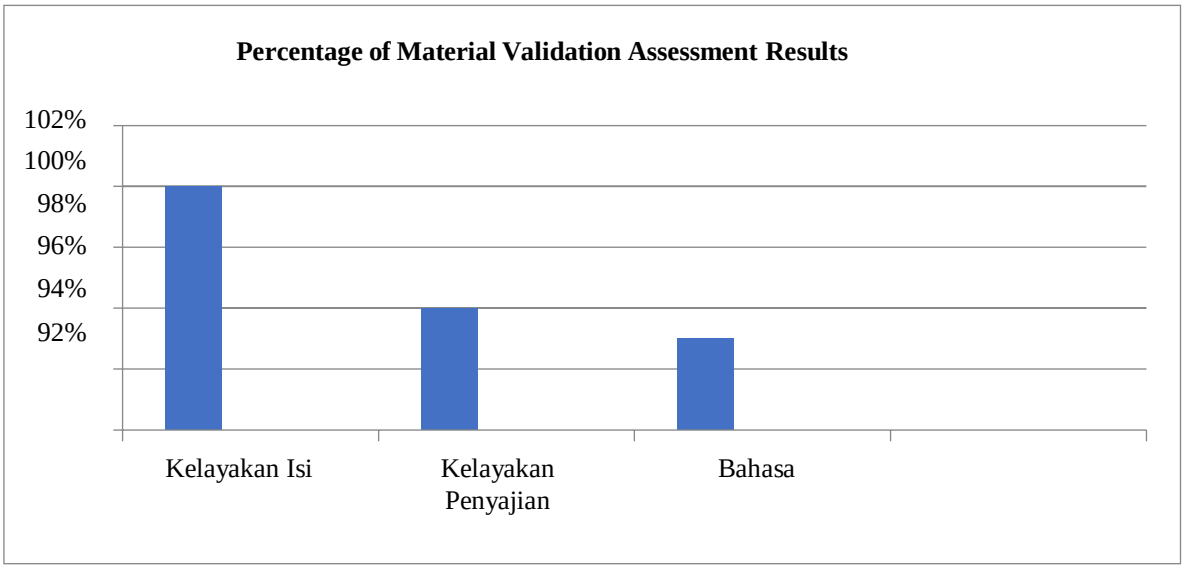

Figure 5. Percentage of Material Validation Assessment Results

Table 3. Results of Material Expert Validation Assessment Aspects

No	Expert	Total score	Percentage	Information
1.	Material Expert Validation	97	97%	Very Worth it

Assessment of local wisdom media Wayang Sukuraga to media experts aims to determine the feasibility valuewhich includes eligibility criteria, appearance, and design. The results of the assessment of media experts get a score of92 with a percentage of 92.22%. The ideal score for this media expert assessment is 80.

Table 4. Media Expert Validation Assessment Aspects

No	Assessment Aspects	Number of Questions	Ideal Score	Score obtained	Percentage	Information
1.	Serviceability	6	30	28	93.33%	Very worth it
2.	Display Eligibility	6	30	28	93.33%	Very worth it
3.	Design Feasibility	8	40	36	90%	Very worth it
Total score obtained				92		

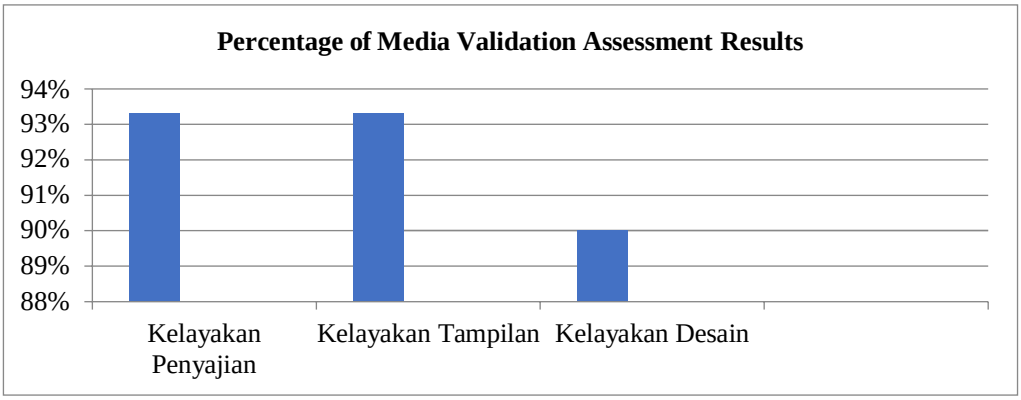

Figure 6. Percentage of Media Validation Assessment Results

Table 5. Results of Media Expert Validation Assessment Aspects

No	Expert	Total score	Percentage	Information
1.	Media Expert Validation	92	92.22%	Very Worth it

The results of the assessment given by practitioners are based on aspects of content feasibility, presentation feasibility, language, and graphics. The results of the practitioner validation assessment get a score of 182 with a percentage of 91.25%. The ideal score for a practitioner's assessment is 180.

Table 6. Practitioner Assessment Aspects

No	Assessment Aspects	Number of Questions	Ideal Score	Score obtained	Percentage	Information
1.	Serviceability	6	30	30	100%	Very worth it
2.	Content Eligibility	10	50	45	90%	Very worth it
3.	Language	4	20	17	85%	Very worth it
4.	graphics	20	100	90	90%	Very worth it
Total score obtained				182		

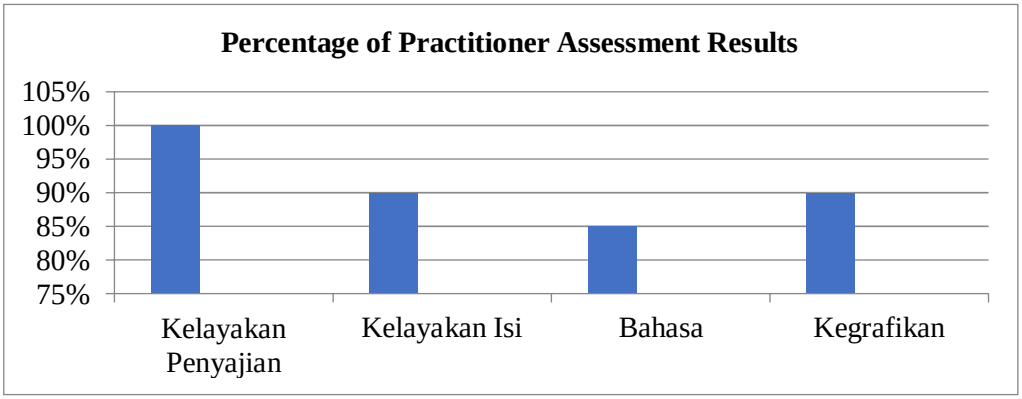

Figure 7. Average Percentage of Practitioner Assessment Results

Table 7. Practitioner Assessment Results

No	Expert	Total score	Percentage	Information
1.	Practitioner	182	91.25%	Very Worth it

Below are the suggestions and comments given by the validators, both material validators, media validators,and practitioners:

Table 8. Improvement Suggestions and Results

Comments/Suggestions	Repair Results
Correct writing of material in the media by using enhanced spelling rules	The writing of material in the media has been improved so that it is easy for elementary students to read
Wayang characters should be in accordance with the original	The wayang figures have received approval from the creator and are in accordance with the original
Audio in videos should be slow	The audio is adapted to elementary school students and sounds slower
The media is designed as attractive as possible	Media is designed to be more attractive and interactive

Furthermore, the results of the implementation of teaching modules aim to determine students' responses tolocal wisdom media based on *Augmented Reality* . The results of student responses can be seen in the table below:

Table 9. Student Response Results

No	Respondents	Total score	Max Score	Percentage	Criteria
1.	R1	84	100	84%	Very Worth it
2.	R2	83	100	83%	Very Worth it
3.	R3	82	100	82%	Very Worth it
4.	R4	87	100	87%	Very Worth it
5.	R5	82	100	82%	Very Worth it
6.	R6	88	100	88%	Very Worth it
7.	R7	85	100	85%	Very Worth it
8.	R8	88	100	88%	Very Worth it
9.	R9	82	100	82%	Very Worth it

No	Respondents	Total score	Max Score	Percentage	Criteria
10.	R10	82	100	82%	Very Worth it
11.	R11	86	100	86%	Very Worth it
12.	R12	84	100	84%	Very Worth it
13.	R13	88	100	88%	Very Worth it
14.	R14	91	100	91%	Very Worth it
15.	R15	89	100	89%	Very Worth it
16.	R16	83	100	83%	Very Worth it
17.	R17	84	100	84%	Very Worth it
18.	R18	81	100	81%	Very Worth it
19.	R19	85	100	85%	Very Worth it
20.	R20	85	100	85%	Very Worth it
21.	R21	89	100	89%	Very Worth it
22.	R22	86	100	86%	Very Worth it
23.	R23	88	100	88%	Very Worth it
24.	R24	81	100	81%	Very Worth it
25.	R25	83	100	83%	Very Worth it
26.	R26	83	100	83%	Very Worth it
27.	R27	84	100	84%	Very Worth it
28.	R28	88	100	88%	Very Worth it
29.	R29	90	100	90%	Very Worth it
30.	R30	91	100	91%	Very Worth it
31.	R31	84	100	84%	Very Worth it
32.	R32	84	100	84%	Very Worth it
33.	R33	85	100	85%	Very Worth it
34.	R34	84	100	84%	Very Worth it
35.	R35	87	100	87%	Very Worth it
Average				85.31%	

Based on the overall results of student responses, it was found that the product of the *Augmented Reality -based history teaching module* was very feasible with a percentage of 85.31%.

The final stage of this research is evaluation. In the evaluation stage, a final revision of the teaching modules was carried out based on the suggestions and input of students given during the implementation stage

AUTHORS' CONTRIBUTIONS

Iis Nurasiah, is the main researcher contributing to digging up information according to the needs in the field, arranging the completion of articles, processing data, completing article writing

Mohammad Syarif Sumantri contributed in guiding the completion of the article with directions from beginning to end
Nina Nurhasanah provided directions for completing research and correcting data processing
Dyah Lyesmaya contributed to providing information on Wayang Sukuraga and is the education division at the

Sukuraga Culture House

Puspa Puspitasari contributed to assisting researchers in the development of Wayang Sukuraga media in digital form Khalista Bunga Mawarni contributed to the digital layout of the Wayang Sukuraga short series

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