Mesari (Melajah Aksara Bali): Interactive Multimedia Based on Local Wisdom for Seventh Grade in Junior High School

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A R T I C L E   I N F O

A B S T R A K

Penelitian pengembangan ini dilatarbelakangi oleh belum adanya multimedia interaktif dalam pembelajaran aksara bali. Sehingga dipandang perlu untuk melakukan pengembangan multimedia interaktif dalam pembelajaran aksara bali. Penelitian ini bertujuan untuk mendeskripsikan proses pengembangan dan validitas multimedia interaktif mesari (melajah aksara bali) berbasis kearifan lokal untuk kelas VII. Penelitian pengembangan ini menggunakan model ADDIE. Subjek penelitian ini adalah ahli isi, ahli desain, ahli media, 3 orang siswa sebagai uji coba perorangan, dan 9 orang siswa sebagai uji coba kelompok kecil. Metode pengumpulan data yang digunakan yaitu kuesioner. Teknik analisis data menggunakan teknik analisis deskriptif kualitatif dan kuantitatif. Diperoleh hasil uji ahli isi pembelajaran sebesar 93,33%, uji ahli desain pembelajaran sebesar 80,00%, uji ahli media pembelajaran 94,66%, uji coba perorangan sebesar 95,33%, dan uji coba kelompok kecil sebesar 92,22% yang keseluruhan persentase skornya dikualifikasikan sangat baik. Implikasi dari penelitian ini adalah memberikan media pembelajaran aksara bali kepada siswa serta memotivasi guru untuk membuat media pembelajaran yang meningkat motivasi belajar siswa di kelas.

A B S T R A C T

This development research is backgrounded by the absence of interactive multimedia in Balinese script learning. So it is deemed necessary to develop interactive multimedia in Balinese script learning. This study aims to describe the process of developing and validity of interactive multimedia Mesari (Melajah Aksara Bali) based on local wisdom for seventh grade. This development research uses the ADDIE model. The subjects of this study were content experts, design experts, media experts, three students in an individual trial, and nine students in a small group trial. The data collection method used is a questionnaire. Data analysis techniques use qualitative and quantitative descriptive analysis techniques. The results of the learning content expert test were obtained by 93,33%, the learning design expert test by 80,00%, the learning media expert test by 94.66%, the individual trial by 95,33%, and the small group trial by 92,22%, whose overall score percentage was qualified very well. The implication of this study is to provide Balinese script learning media to students and motivate teachers to create learning media that increase student learning motivation in the classroom.

1. INTRODUCTION

Technological progress is one of the factors that support renewal efforts. Technology plays a very important role, especially for people in developing countries. The government and society are aware of the role of technology and its development which greatly affects the lives and functions of technology for their lives (Ngafifi, 2014; Suarni et al., 2021). The use of technology for educational activities is very necessary for the learning process because the technology for education which is an educational media, is necessary to be in line with technological developments, especially in the future (Rahadian, 2017). The learning carried out by the teacher to students follows the learning components and curriculum (Bahtiar, 2019; Kirom, 2017). One of the components included in the curriculum is the curriculum content, namely subjects. The Balinese language is a subject from elementary, junior, high, and vocational high school. Balinese is the language used by every Balinese in daily interactions, talking to parents, and carrying out religious ceremonies (Aditama, 2020; Suwija et al., 2019).

The use of educational materials in Balinese language learning is still based on educational

materials from publishers who fail to present regional wealth to students. One of the weaknesses of the material in this teaching material is the lack of focus on local culture, especially in Bali. The appearance of the book is designed to be less attractive so that students' reading interest is very low, students get bored quickly with teaching materials whose language is less communicative, and the topics used in the learning materials are not following students' conditions (Setiawan et al., 2021; Widari et al., 2021). The use of teaching materials in Balinese subjects is increasingly needed during the Covid-19 pandemic. Changes in teaching strategies carried out during the Covid-19 pandemic resulted in teachers looking for relevant learning resources so that they could be given to students as additional learning materials when studying at home online (Hapsari & Zulherman, 2021; Khotimah, 2021; Nafrin & Hudaidah, 2021). The limitations of learning media that teachers can share with students make it difficult for teachers to explain the material, so students get bored easily, easily forget what is being taught, make learning useless, and students' understanding becomes limited (Harahap, 2021; Mardiyana et al., 2022).

Based on the results of interviews that researchers conducted in November 2021 with a seventh-grade Balinese language teacher, Mr. I Made Dwi Adiprayana, S. Pd. SMP N 1 Negara learning during the pandemic resulted in a decrease in student learning motivation, especially Balinese language material concerning Balinese script, learning media for Balinese script material used in online learning is still very limited. Almost no media contains Balinese script material, which results in lower results. Learning from students, he revealed that 50% of class VIIA students, which is the superior class, still get learning outcomes below the Minimum Completeness Criteria (70). The rest of the students who get scores above the Minimum Completeness Criteria only get an average score below 75. To improve the quality of learning during the pandemic, learning media relevant to Balinese language subjects containing Balinese script material can improve the quality of learning outcomes for Balinese subjects, especially in understanding Balinese script. The use of interactive multimedia in learning needs to be supported by the right learning approach. One learning approach that can support multimedia learning in the learning process is the local wisdom approach (Adinugraha, 2020).

The solution to these problems is by developing interactive teaching materials that suit the needs of learning Balinese script, one of which is interactive multimedia. Good teaching materials have criteria such as being consistent with the curriculum (Dewanti & Yasmita, 2022; Fadillah & Jamilah, 2016; Muga & D. N. L., 2017). The creation of the material is based on the applicable curriculum and must consider the student's status in this field. The preparation must also pay attention to the needs of students to achieve it. There are teaching materials that are deliberately prepared for learning, and some are not specially prepared but can be used for learning (Azizah et al., 2021; Fadillah & Jamilah, 2016; Safitri & Nurkamilah, 2020). Teaching materials that are not specially designed are often used as supplements or complements in needs-based learning. Due to the limited resources for learning Balinese, the development of learning media that prioritizes local wisdom in the student learning environment is urgently needed. Since the use of regional languages is decreasing daily due to the many absorption languages that enter the community, the Balinese language has slightly changed (Arissusila, 2021). With multimedia, it is expected that learning can take place efficiently and effectively because it can be accessed anytime and anywhere to create a fun learning process (Fakhrurrazi, 2018; Salu & Tadius, 2018).

Previous studies have stated that interactive multimedia can improve student learning outcomes and motivation (Audhiha et al., 2022; Putri & Ardi, 2021). Other research also states that interactive multimedia can increase students' interest and motivation in learning (Rahmadhani et al., 2022). Until now, research on the development of Mesari interactive multimedia based on local wisdom has never been carried out. This research differs from other research, and the Mesari multimedia is designed according to the Balinese culture. Besides, the design and material are attractive, so students are enthusiastic and motivated in independent learning. The advantages of Mesari interactive multimedia are that it is easy to use, can be used on various devices, is attractive, and is equipped with animations and audio to attract students' attention to learning. This development research aims to create interactive multimedia Mesari (Melajah Aksara Bali) based on local wisdom for the seventh grade of junior high school.

2. METHOD

This type of research is development research. The research was conducted at SMP Negeri 1 Negara. The product developed is Mesari Interactive Multimedia (Melajah Aksara Bali) Based on Local Wisdom for the seventh grade of SMP Negeri 1 Negara. The development model used in this study is the ADDIE model, which consists of five stages: the analysis stage, the design stage, the development stage, the implementation stage, and the evaluation stage. (Sudarma et al., 2015). The research procedure consists of five stages: the analysis stage, which includes needs analysis, student characteristics analysis, curriculum analysis, and analysis. The second stage is the design stage which includes making flowcharts, making

storyboards, designing media, compiling assessment instruments, and compiling lesson plans. The third stage is the development stage, which includes developing interactive multimedia from the developed design and product validation from learning content experts, learning design experts, and learning media experts, as well as conducting individual and small group trials. The fourth stage is where the validated media will be implemented into learning. The fifth stage is where the product that has been implemented will be checked from all stages to whether the product is suitable for use.

The test subjects are experts in learning content experts with a master's degree in Balinese language education, learning design experts with a Ph.D. in learning technology, and learning media experts with a master's degree in learning technology. The students' test subjects were 12 seventh-grade students who graduated from SMP Negeri 1 Negara. The interactive multimedia product of Mesari (exploring Balinese script) based on local wisdom for the seventh grade of SMP Negeri 1 Negara was revised based on suggestions, input, and comments from learning content experts, learning design experts, and learning media experts. After the product has been revised, it proceeds to the testing phase for students. Student trials included individual trials involving three students, then small group trials involving nine students. Revisions were carried out based on the results of trials with students so that interactive multimedia could be said to be feasible to use. The data collection method used in this study was a questionnaire/questionnaire, observation with the data collection instrument in the form of a questionnaire. The questionnaire method was used for expert testing and student trials. The observation method is used to observe student behavior using interactive multimedia Mesari. The instrument used in this study was an instrument in the form of a questionnaire for expert testing and student trials. The grid of expert test instruments and student trials used in this study are presented in Table 1, Table 2, Table 3, and Table 4.

Table 1. Instruments of Learning Content Experts

No	Aspect	Indicator
1.	Learning	a. Basic competencies b. Indicator c. Learning objectives d. Materials presented e. Motivation
2.	Language	a. Grammar b. Spelling c. Glossary d. Punctuation

(Sungkono, 2021)

Table 2. Learning Design Expert Instrument

No	Aspect	Indicator
1.	Learning	a. Relationship between Core Competencies, Basic Competencies, Indicators, and Learning Objectives b. Instructions for use c. Interaction in Learning d. Motivation
2.	Appearance	a. Visual Attractiveness b. Audio c. Display Clarity
3.	Programming	a. Consistent with the flow of the program b. Consistent between learning sections
4.	Curriculum	a. Easy to carry

(Tegeh & Sudatha, 2019)

Table 3. Learning Media Expert Instrument

No	Aspect	Indikator
1.	Motivation	a. Giving Motivation
2.	Material Presentation	a. Material clarity b. Learning methods c. Material presentation varies d. Giving examples and exercises

(Suartama, 2016)

Table 4. Individual and small Group Trial Instruments

No	Aspect	Indicator
1.	Appearance	a. Media attraction
		b. Sound/audio quality
		c. Instrumental music quality
		d. the visual quality of the displayed video
2.	Text	a. The suitability of the text used
3.	Material presentation	a. Ease of understanding the material presented
		b. The suitability of the evaluation questions with the learning objectives
		c. Motivate students to learn
		d. explanation of the material displayed

(Sadiman, 2012)

This study uses two data analysis techniques, namely, qualitative and quantitative descriptive analysis. Data is analyzed/processed by systematically compiling categories in sentences/words related to an object (object, symptom, certain variable) to arrive at a general conclusion (Agung, 2018). This qualitative descriptive analysis technique processes suggestions, input, and criticism from expert tests and individual and small group trials. The data processing method is carried out by systematically compiling numbers and representations of an object of research to draw general conclusions (Agung, 2018; Zaluchu, 2020). This quantitative descriptive analysis technique is used to process data from the assessment results from expert tests and individual and small group trials.

3. RESULT AND DISCUSSION

Result

The development of interactive multimedia Mesari (Melajah Aksara Bali) based on local wisdom uses the ADDIE development model, which consists of five stages: analysis, design, development, implementation, and evaluation. The first stage is the analysis stage, which consists of three analytical processes: student characteristics, curriculum analysis, and analysis of facilities and infrastructure. Based on the analysis of student characteristics, it is found that students can think creatively and use abstract reasoning. Then the results of the curriculum analysis are carried out to develop core competencies and basic competencies that refer to the teacher's handbook, indicators, and learning objectives referring to students' characteristics. Meanwhile, in the analysis of facilities and infrastructure, it was found that there are complete computer laboratories and LCDs in the classroom, which are rarely used in learning.

The second stage is the design stage. At this design stage, four stages of work are carried out: determining Basic Competencies and indicators, making flowcharts and storyboards, compiling multimedia assessment instruments, including expert test questionnaires and student trials, and compiling lesson plans. The third stage is the development stage. The third development and implementation phase stage begins with creating interactive multimedia Mesari in Balinese class VII and learning Balinese script material. The applications used in developing multimedia include Articulate Storyline 3, Adobe Photoshop CC 2018, Microsoft Office, and Audacity. Multimedia development is based on the previously designed flowchart and storyboard guidelines. The results of the development of interactive multimedia Mesari (Melajah Aksara Bali) based on local wisdom are presented in Figure 1.

Figure 1. Mesari Interactive Multimedia (*Melajah Aksara Bali*) Based on Local Wisdom

Expert tests were conducted on learning content, design, and media experts. After the expert test, the students were tested through individual and small group trials. Individual trials were carried out on three students at SMP Negeri 1 Negara with details of one student with low academic ability, one with moderate academic ability, and one with high academic ability. Small group trials were conducted on nine students at SMP Negeri 1 Negara with details of three students with high academic ability, three with moderate academic ability, and three with low academic ability. The results of expert tests and trials for students are presented in Table 5.

Table 5. Percentage of Expert Test and Multimedia Test Results

No	Trial Subject	Result	Kualifikasi	Description
1.	Learning Content Expert Test	93,33	Very good	Worth to use
2.	Learning Design Expert Test	80,00	Good	Worth to use
3.	Learning Media Expert Test	94,66	Very good	Worth to use
4.	Individual Trial	95,33	Very good	Worth to use
5.	Small Group Trial	92,22	Very good	Worth to use

Based on the results of the assessment by learning content experts, the percentage of 93.33% was categorized as very good. In addition, based on the conclusion given by the learning content expert that this multimedia product is feasible to use. The assessment results by learning design experts obtained a percentage of 80.00%, categorized as good and feasible to use. The assessment results by learning media experts obtained a percentage of 94.66%, categorized as very good and feasible to use. The results of individual trials obtained a percentage of 95.33%, categorized as very good. The results of the small group trial obtained a percentage of 92.22%, categorized as very good. Based on the results of expert tests and student trials, it was concluded that Mesari's interactive multimedia product, based on local wisdom, was feasible to use in the learning process. In the implementation of this trial, there are suggestions, input, and comments from learning experts who become a reference for perfecting the developed product. The following suggestions, inputs, and comments that are revisions from experts are presented in Table 6.

Table 6. Product Trial Suggestions, Feedback, and Comments

No	Trial Subject	Comments	Revision
1.	Learning Content Expert	a) Minimal evaluation questions b) The language and characters in the questions and answer keys are different	a) Adding evaluation questions b) Fixed different questions and answer keys
2.	Learning Design Expert	a) The indicator numbering is continued b) Indicators and objectives of using KKO c) Improvement of the use of material language	a) Continue numbering b) Using KKO in indicators and objectives c) Improve the use of material language
3.	Learning Media Expert	a) Opening fixed size, color, and font type b) Customizable menu icon size c) Material color is adjusted d) Customized background volume	a) Fixed opening b) Adjusting menu icon size c) Customize material color d) Adjust background volume

The fourth stage is implementation. At this stage, the research will implement products that have been made and revised according to input from experts and input or suggestions from students. Then it will be implemented to determine the efficiency and effectiveness of the products that have been developed. At this stage, the effectiveness and efficiency test is abolished because the Covid-19 situation is increasingly widespread, causing learning to be limited. The fifth stage is evaluation. At this stage, the products that have been implemented will be evaluated by collecting data from each stage so that the products that have been made can be refined again. Then after the product is perfected, the next step will be to describe the results of the product development trial, starting from the learning content expert test, the learning design expert test, the learning media expert test, individual trials, and small group trials. Then it will be concluded to determine the feasibility of the product that has been made.

Discussion

Based on the results of the study, it was found that Mesari Interactive Multimedia, based on local wisdom, got high scores based on the results of expert tests and essays for students, so this development research product was feasible to use in the learning process. This multimedia was developed using the ADDIE model. The ADDIE model is a development model that aims to develop multimedia learning products, so it is very suitable for use in multimedia development (R. Kurniawan et al., 2021). In addition, the ADDIE model has systematic steps in the research product development process, starting from the stages of analysis, design, development, implementation, and evaluation (Rustandi & Rismayanti, 2021; Sumiati & Nafitupulu, 2022).

First, Mesari's interactive multimedia product, based on local wisdom, is suitable for use in the learning process. Judging from the syllabus, the core competencies, indicators and objectives follow the learning material. In connection with these results, learning with clear objectives can be used as a reference in the learning process (Darmayasa et al., 2018; Safitri & Nurkamilah, 2020). Judging from the language aspect, the language used in multimedia is appropriate, consistent, and follows the characteristics of students. Assessing the results obtained in the language aspect, choosing the correct and appropriate language will help students understand the subject (Satinem et al., 2020). Through meaningful learning, students easily understand abstract material. Multimedia products have clear learning objectives, as well as materials and questions that are in line with learning objectives. Clear learning objectives are the criteria for student success in the learning process (Sudarma et al., 2015). In appearance, multimedia follows the basis used concerning culture (Aysolmaz & Reijers, 2021; Meyer et al., 2019; Prayoga et al., 2019). In the programming aspect, multimedia has programming consistent with the program flow and the learning section. Then in the curriculum aspect, multimedia follows the curriculum aspect.

Second, Mesari's interactive multimedia product, based on local wisdom developed, is suitable for use in the learning process. Judging from the design aspect, this media is designed with an attractive design using multimedia. Multimedia uses the right type of color, spacing, and text font size, the text is easy to read, the text is displayed fairly in the multimedia, and the accuracy of the use of the background is consistent with the design aspects of the message (Lestari et al., 2021; Safitri & Nurkamilah, 2020). As for the aspect of presenting the material, multimedia has images that match the material, a good layout, and images that are easy to understand. Materials that visualize photos and illustrations help students understand complex content (Gellerstedt et al., 2018; Hakim et al., 2019). Learning media using multimedia can increase students' learning motivation. Students gave positive feedback on the developed multimedia in individual and small group experiments. Students feel happy and interested in using this multimedia because the multimedia display is designed to be clear, interactive, full color, and easy to use. The design of learning materials that attract attention leads to optimal learning outcomes and processes (Nurrita, 2018; Nurseto, 2011).

Based on the results of the research that has been discussed that Mesari interactive multimedia (Melajah Aksara Bali) based on local wisdom in Balinese language subjects, seventh-grade Balinese script material is feasible to be used in the learning process. This finding is reinforced by previous research stating that multimedia can increase students' motivation to want to learn and create conditions for students to understand the material (H. Munawaroh et al., 2022). Other results also show multimedia interests students and facilitates independent learning (B. Kurniawan et al., 2021; I. Munawaroh & Sulthoni, 2022). Other studies also show that multimedia is effective and feasible in learning (Audhiha et al., 2022; Putri & Ardi, 2021). In addition, multimedia effectively improve student learning outcomes and attracts student interest in learning (Rahmadhani et al., 2022). The advantage of this research is to develop interactive multimedia Mesari (Melajah Aksara Bali) based on wisdom, which emphasizes learning the Balinese language with Balinese script material. (Nida et al., 2020; Wiweka et al., 2020). This research differs from other research. Mesari multimedia is designed according to the Balinese culture. Besides, the design and material are presented attractively so that students are enthusiastic and motivated in independent learning. The implication of developing interactive multimedia Mesari (Melajah Akasara Bali) based on wisdom is to provide learning comfort and motivate teachers to pay attention to cultural diversity to create ideal learning. This research is limited to the development of wisdom-based interactive multimedia Mesari (Melajah Akasara Bali) for the seventh grade of junior high school, so it is recommended that other studies develop more innovative media and use the results of this study as a reference.

4. CONCLUSION

Mesari interactive multimedia (exploring Balinese script) based on local wisdom for seventh graders on Balinese script material has been successfully developed by referring to the ADDIE model. The validity of Mesari interactive multimedia (Melajah Akasara Bali) based on local wisdom has obtained very good qualifications, so it is said to be feasible based on the results of expert tests and student trials. Thus, this multimedia product can be used as one of the appropriate learning media to accommodate students in learning Balinese script and motivate teachers to pay attention to regional cultural diversity.

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