



The Development of Indonesian Language Digital Teaching Modules based on Madurese Local Wisdom for Elementary School Students

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Abstract. This study aimed to develop a digital teaching module based on local Madurese culture as a medium for learning Indonesian for elementary school students. This study uses research and development methods. The product development process is carried out with the stages of problem analysis, planning, development, and testing. Data analysis was carried out by collecting, reducing, analyzing, and drawing conclusions. The results of this research are digital teaching modules based on local Madurese culture for learning Indonesian in grade 4 elementary schools. The digital teaching module has been tested at SDN Labang, SDN Gili Timur 1, SDN Bilaporah 1, and MIN 1 Bangkalan. The test results for the effectiveness of using the module show that there is an increase in students' understanding of learning that does not use digital modules, with learning that uses developed digital modules at 42.37%.

Keywords: Digital Teaching Module, Elementary Students, Madura Local Wisdom,

1 Introduction

The rapid development of digital technology has changed the way of life of people throughout the world [1]. Technology has become necessary for society to make things easier in various ways. Almost all modern human activities involve technology, mainly digital technology. Digitalization in all areas of life is felt and involves all levels of society, for instance, online shopping for women, accessing learning platforms for young learners/children, and digital working for adults.

Likewise, in the world of education, technology has been used to develop and facilitate work in the educational sector. The digitalization of the world of education has made it much easier for educational practitioners to manage education [2]. Digitalization makes it easier for policymakers to monitor and supervise the performance of schools and teachers in carrying out their duties and tracking the achievement of work indicators, student learning achievements, and others. However, the digitalization of education has stopped in the teacher and principal's office. Only a little digitalization

has been brought into the classroom to make student learning easier, especially in basic education.

Basic education at the SD/MI level still needs to utilize digital technology in learning optimally. Based on an initial survey conducted by researchers at state elementary schools in Kamal District, only some elementary schools use digital technology in learning. Classroom learning still uses printed textbooks directly. In fact, learning in grades 4 – 6 of elementary school is very likely to implement digital learning in the form of digital teaching modules.

The use of digital technology in elementary school-level learning must pay attention to the culture and local wisdom of the community. The goal is that the digitalization of learning does not alienate students from their environment. Students should not be strangers in their own home. Therefore, the digitalization of learning must be based on the culture and wisdom of the community around the students. Learning at the elementary school level must be directed at internalizing the values and wisdom of society, forming good digital habits, and instilling character that is in accordance with the rules and philosophy of life in society. Therefore, digital technology development for elementary school learning must be based on local wisdom.

The development of digital learning through digital modules can be a solution to the deadlock that occurs [3]. The development and use of digital modules in elementary school learning will have many effects, including (1) familiarizing students with using digital devices properly and for the correct purposes, (2) familiarizing students with using digital devices in learning, (3) directing students to use digital devices as a source of information and learning media; (4) familiarize students not to accept fake news or create and spread fake news quickly; and (5) familiarize students with understanding that digital devices are tools for living in society, not used by digital devices.

Apart from getting used to using digital devices as a tool to support children's daily lives, the development and use of digital teaching modules based on local wisdom can function as a tool to introduce local wisdom to students. At least two things will be good practice in using digital teaching modules [4]. First, students will know, understand, and appreciate their community's local wisdom, customs, and culture. In this way, students will have a strong identity and character as an internalization of the local culture and wisdom that raised them. Second, digital teaching modules based on local wisdom can become a medium for preserving a community's culture and local wisdom. Preservation through education is one of the most important things to do so that the values and wisdom found in a society can continue to grow and live in that society [5].

Local wisdom can be in the form of knowledge, skills, resources, social order, economic order, values or norms, and customs of society in one area [6]. Local wisdom is very vulnerable to change and even extinction, along with changes in the society of its adherents. The triggers for change and even the extinction of local wisdom include science and technology [7]. The use of science and technology encourages humans to exploit the environment. Human exploitation of the environment can change geomorphology, such as the disappearance of hilly areas, changes in river flow, deforestation, and destruction of plants. These geomorphological changes will gradually cause changes in the social order and economic order of humans, such as changes in needs, changes in life orientation, changes in social status, and changes in outlook on life.

It is very necessary to develop digital teaching modules based on local wisdom, especially in Indonesian elementary school subjects in Madura. Digital teaching modules will make students enjoy learning because they are presented in digital form and, at the same time, introduce students to Madurese culture and local wisdom. Research and development of digital module-based teaching materials have been carried out before. However, the application of digital modules was carried out in class VIII junior high school mathematics subjects [8]. This research is also not based on local wisdom. Another research regarding the development of modules is based on Madurese local wisdom. Module development is applied to Theme 7, subtheme 1, grade IV elementary school students. The module development carried out is a printed module in the form of a book, not a digital module [9].

A learning module is the smallest unit of a teaching and learning program, which is studied by students individually or taught by students to themselves (self-instructional) [10]. Modules are teaching materials written with the aim that students can learn independently without or without teacher guidance. Therefore, modules are arranged systematically and structured. The purpose of providing modules to students is that students can learn independently without guidance from the teacher. Students with a low learning speed can study each learning activity many times without being limited by time. In contrast, students with a high learning speed will learn a basic competency quickly. In essence, modules really accommodate students' different learning speeds [11].

Digital modules are learning modules in digital form in the form of text and images, which are more engaging for students. Digital modules are published and read via computer or smartphone. Digital modules encourage a combination of print technology and computer technology in learning activities. Thus, digital modules are a form of presentation of teaching materials that are arranged systematically to achieve particular learning objectives presented in digital format. There are several advantages of digital modules compared to printed modules, including (1) digital modules are more effective and efficient; (2) they are displayed using a monitor or monitor screen; (3) they are more practical to carry everywhere; (4) cheaper production costs; (5) durable; (6) can be equipped with audio and video in one presentation package. Apart from that, there are also disadvantages of digital modules, including: (1) they cannot be accessed freely; (2) they use an internet network, and (3) they must use media such as a laptop or cellphone.

The digital module development carried out in this research is based on local Madurese wisdom. Local wisdom is a form of cultural heritage around Indonesian society that has developed for a long time⁵. Each region certainly has different local wisdom. One area in Indonesia that has much local wisdom is Madura. Local wisdom in Madura includes folk games, folk songs, typical food, traditional dances, traditional houses, and traditional ceremonies. Integrating local wisdom into learning can provide a large multi-effect, including increasing the feeling of love for local wisdom love for the Republic of Indonesia; students can know more about local wisdom in the surrounding environment. Apart from that, learning is based on local wisdom as an effort to maintain or preserve the local wisdom of the region [12].

2 Method

The research carried out is a type of research and development. The research and development (R&D) method is a research method used to obtain a particular product and test the effectiveness of that product [13]. This development research uses procedures based on the ADDIE model. The ADDIE model is a model in coherent or systematic learning design [14]. The model consists of five stages: analysis, design, development, implementation, and evaluation. Research data collection was carried out in the following way: (1) distributing questionnaires: questionnaires were used to collect data on learning media needs and the effectiveness of using the digital teaching modules being developed. (2) Test: tests are used to measure learning achievement using the digital modules developed. (3) Interview: Interviews are used to determine students' learning experiences using the teaching modules used. Numerical data was analyzed using descriptive statistics presented in percentage form. The results of filling out the questionnaire are tabulated and presented as percentages. Percentage calculations using existing formulas are used to determine the eligibility criteria for learning media obtained from experts, teachers, and students.

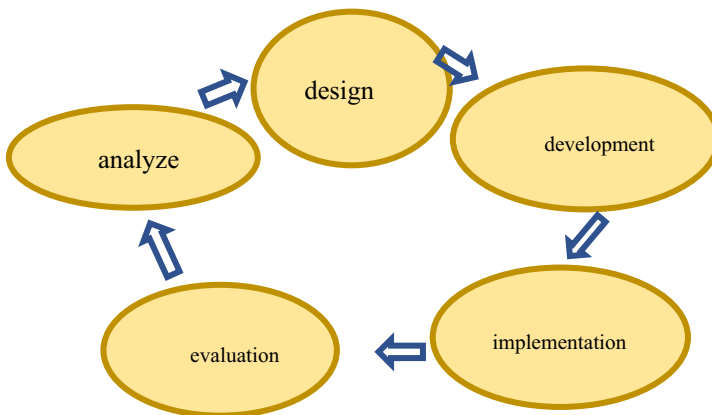


Fig. 1. Stages of Research and Development of the ADDIE Mode

2.1 Research Stages

The research and development stages in this research can be described as follows:

a. Analysis Phase

The analysis stage is the pre-planning stage. This stage is about thinking about new products (models, methods, media, teaching materials) that will be developed. This stage includes two things, namely, needs analysis and curriculum analysis.

b. Product design stage

The design stage is the stage of designing the product development tools that will be developed. The developer plans essential competencies, achievement

indicators, learning objectives, material content, example questions, and exercises at this stage.

c. Development Stage

The development stage is the stage of product creation. Next, the product will be validated by material and media experts related to the developed product. Then, the results of the expert assessment will be followed by product revisions.

d. Implementation Stage

The implementation stage is the implementation stage of the learning process that has been previously designed. After the product is declared feasible and has been revised according to suggestions and input from the validator, it will then be implemented for students. Digital teaching materials that are ready to be implemented will be tried out at three State Elementary Schools (SDN) and one State Madrasah Ibtidaiyah (MIN), namely SDN Gilih Timur 1 in Kamal sub-district, SDN Bilaporah 1 in Socah sub-district, SDN Labeng in Labang sub-district, and MIN 1 Bangkalan.

e. Evaluation stage

The evaluation stage means giving value to the development of the digital module being developed. The evaluation stage is an assessment stage by material experts and media experts.

2.2 Data Analysis Techniques

Numerical data was analyzed using descriptive statistics presented in percentage form. The results of filling out the questionnaire are tabulated and then presented as a percentage using the following formula.

Table 1 Questionnaire Calculation Formula
Overall Item Details

$$P = \frac{X}{X1} \times 100\% \qquad P = \frac{\sum X}{\sum X1} \times 100\%$$

Information :

P	: the percentage sought
X	: answer score in one item
X1	: highest score in one item
$\sum X$: total score of all answers
$\sum X1$: the highest score from all answers
100%	: constant

3 Findings and Discussion

3.1 Needs Analysis and Curriculum Analysis

The first activity carried out in this research was analyzing school needs—namely, the need for interesting and effective learning media for students. The needs analysis results show that students want interesting, simple learning and learning through games. Analysis of the elementary school curriculum currently being used in class IV provides space to develop learning using digital learning media. For example, preparing reading material in the form of digital reading material accompanied by pictures. From the results of this analysis, researchers designed learning modules that can solve student learning problems.

3.2 Design

Based on the needs analysis and curriculum analysis results, the digital module developed is a teaching module based on local Madurese wisdom. The digital module specifications developed are as follows:

a. Contents of the module

The module contains teaching materials and teaching materials, which are Madurese local wisdom. This local wisdom is presented in the form of pictures, narrative stories, or illustrations that are interesting and easy for elementary school students to understand.

b. Module Presentation

The teaching module, which is the product of this research and development, is a digital teaching module for Elementary School Indonesian language subjects. Teaching modules will be presented digitally, and access requires a laptop or device (smartphone).

c. Linguistics

The language used in presenting the module is simple and easy to understand by elementary school students. This digital teaching module presents language both verbally and in writing. Users can choose to use spoken or written language in learning or use both simultaneously.

d. Design

Digital teaching modules are designed to be attractive and easy to use for children so that students feel like they are playing when they learn. Combining attractive images, short and clear descriptions, and good narration will make the teaching module easier for students to learn.

3.3 Development

The digital module that has been designed is then developed into a digital teaching module that is ready to be used. Experts have tested the digital module developed. Product testing in this research and development was carried out to obtain data on the effectiveness of digital teaching modules based on local Madurese wisdom as a medium for learning Indonesian in elementary schools. The stages of expert testing of digital modules are as follows: First, an expert test design is carried out to determine the feasibility of a digital teaching module based on local Madurese wisdom. The expert testing or

validation results show that the digital teaching module developed is suitable for testing at the next test stage. Second, field testing was used to determine the effectiveness of this digital teaching module when used directly in Indonesian language learning in elementary schools. The field test was conducted in class IV of Gilih Timur 1 State Elementary School and class IV of MIN Bangkalan. Field test results show that fourth-grade elementary school students can easily use the digital module.

3.4 Implementation

The digital module, which had undergone testing by experts and limited field testing, was then implemented in 3 elementary schools and 1 state Islamic school. The results of implementing the module for Indonesian language learning in class IV are as follows:

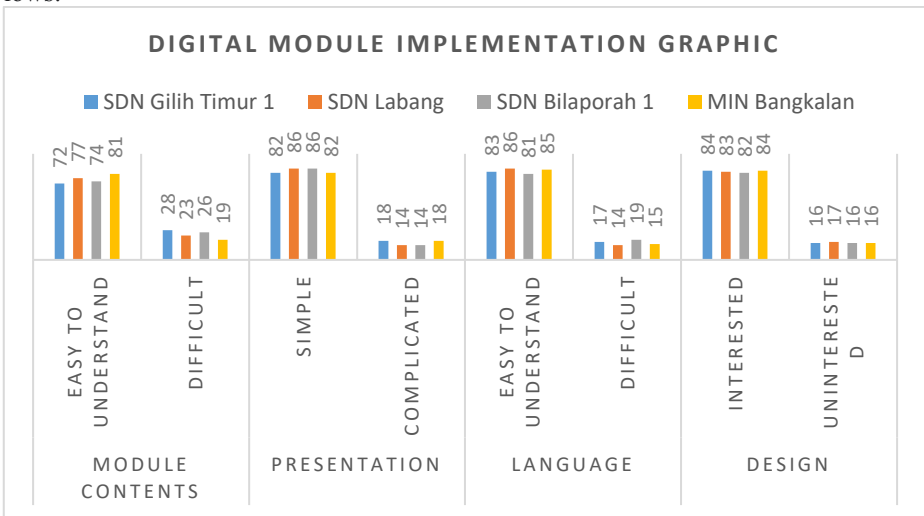


Fig. 2. Module Implementation

The results of measuring the implementation of teaching modules in 3 State Elementary Schools and 1 State Madrasah Ibtidaiyah show that the teaching modules developed are suitable for use when measured from aspects of module content, aspects of module presentation, linguistic aspects, and aspects of module design. This can be seen from the average of 80% of students who use the module stating that the module is easy to understand, the presentation of the module is simple, the language used is easy to understand, and the module design is attractive.

Based on data from implementation results that have been carried out in 3 elementary schools and 1 Madrasah Ibtidaiyah, the digital module developed has a fairly high level of validity. Thus, the digital module developed is very suitable for application. Evaluation of the module content shows that the module content is very easy for students in the 4 elementary schools to understand. Meanwhile, the level of difficulty of the module content is very low. Research into the appearance of the module

is also very interesting. As many as 82% of module users who are class 4 students stated that the module display was very attractive.

Moreover, only 18% of module users stated that digital modules could have been more interesting. The use of language in the module also gets good ratings from module users. Around 84% of users think the language is very easy to understand.

Meanwhile, the rest still considered the language used to be quite difficult. The assessment of the module design is very good. More than 82% rated the module design as very good, and only around 18% rated the module design as unattractive. Thus, digital modules based on local Madurese wisdom are suitable or valid to be used as Indonesian language teaching modules for grade 4 elementary schools in Madura.

3.5 Evaluation

Evaluation of the results of module implementation is carried out to perfect the resulting product. Evaluation is carried out on language, design, and presentation aspects to make it more attractive and easier to use. The results of the evaluation carried out are (1) improving the language used by the module so that the language used is easily understood by all students using the module; (2) improving the module design so that the module is more attractive to all module users; (3) improve the appearance of the module so that all module users are interested in using digital modules based on local Madurese wisdom. (4) improving the module content in the form of increasing images, improving the form of the questions, and simplifying the module content so that users can more easily understand the content of the digital module being developed. The evaluation results of the module's implementation can further improve the module being developed. All user input and directions will become material for subsequent analysis to perfect the digital module based on Madurese local wisdom.

3.6 Analysis

The module's effectiveness is measured by analyzing the learning outcomes of students using the module. Based on the results of the comprehension test, it showed an increase in students' learning achievement of 42.37% from previous learning. This 42% increase has shown a very significant increase, namely, an increase in learning achievement of almost 50%.

4 Conclusion

It is crucial to develop teaching modules based on local Madurese wisdom, and this is due to learning needs in schools and learning curriculum needs in elementary schools. The developed digital teaching module based on local Madurese wisdom has been tested by conducting expert learning and field tests. The test results show that digital teaching modules based on local Madurese wisdom can improve the learning outcomes of fourth-grade elementary school students by a significant figure, namely 42% of previous learning outcomes. Analysis of the use of the module by students also shows good acceptance; namely, an average of 80% of students who use the digital teaching module

state that the module content is easy to understand, the presentation of the module is simple, the discussion used is easy to understand, and the module design is attractive.

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