

# Development of Indonesian Language Learning Devices Using Interactive Multimedia In Middle School

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## ABSTRACT

Ideally the implementation of learning in the classroom will be better with the rapid development of science and technology at this time. The implementation of learning Indonesian language in SMP Negeri 3 Padangpanjang is not as it should be, because the teacher has not used media that can attract students' learning interest. Therefore, a solution is needed to foster student interest in learning by developing learning devices using interactive multimedia. The procedure of this study uses a 4-D development model, (1) definition; (2) design; (3) development; (4) dissemination. The results obtained were (1) Learning Implementation Plan (RPP), (2) interactive multimedia, and (3) learning achievement test. From the results of the study showed that the activities of students during learning were very good and the learning outcomes showed a significant increase. This research contributes to all Indonesian Language teachers to use interactive media in learning.

**Keywords:** *Indonesian Language Teacher, Interactive Multimedia, Learning Devices*

## 1. INTRODUCTION

Learning is a process of interaction between students and educators and learning resources. In the learning process, educators must have a strategy so that students can achieve the goal of obtaining effective and optimal learning outcomes, so that the application of education is organized according to the National Education System based on the Law of the Republic of Indonesia No. 20 of 2003 concerning the National Education System. Article 3 of the Law states that national education develops capabilities and shape the dignified character and civilization of the nation in the context of educating the life of the nation, aiming at developing the potential of learners to become human beings who believe in and have faith in God Almighty, have good morality, be healthy, knowledgeable, capable, creative, independent, and be a democratic and responsible citizen. In the national education system it is stated that education has a role to educate the life of the nation as a whole so that the potential that exists in students can be developed to increase faith, have good morality, have knowledge, be creative, be independent, be competent in all matters, and have piety to God Almighty One. So education has a very important role for the development of the potential of students [1].

In reality in the world of education today is still far from the picture in the Act, because the learning process that occurs is not in accordance with the principles that have been described. Likewise with the implementation of the learning process on Indonesian subjects still using traditional approaches such as taking notes, listening, and doing exercises so that the learning process still emphasizes the concepts contained in the book. Then in its application, educators lack understanding the concepts of the steps of preparing and implementing a learning process that is fun for students. Though the learning process is the heart of all education systems in an educational institution. The development of science and technology has changed the mindset and progress of students in various fields [2]. Another important thing to remember in the learning process is that as a person ages, the more responsible he should be for his own learning process (Sutarno, 2013). Furthermore according to Novelti et. al., [3] states that technological developments changed the paradigm of the public in obtaining information where not only limited to print, radio, and television, but also to global networking technologies and the Internet, as one of the main sources of information. Teachers can obtain various information based teaching materials, such as text, photos, audio visuals, videos, animations, and simulations. Internet technology also makes it easy for students to get additional information in

order to meet the demands of competence and also enrichment [4]

The implementation of learning in the classroom should be better with the development of science and technology [5]. The development of technology in learning now allows students to access all learning resources that are open and describe real world conditions that not only involve students with the environment, but computers can also be used to make text, graphics, audio, moving pictures by combining links and devices that allow users to navigate, interact, create, and communicate [6],[7].

Based on observations with teachers in the field of Indonesian language studies in SMP Negeri 3 Padangpanjang that the implementation of Indonesian language learning is not according to what it should be, the teacher has not used media that can attract students' learning interest. After the interview, it was found that learning Indonesian was difficult because the time available was felt to be lacking, the teacher found it difficult to associate several subjects with real life or the context of students' lives. In addition, there are still many students learning outcomes daily under the Minimum Completion Criteria set by the school that is 73. Teachers have done a variety of ways to improve the activities and learning outcomes of students, ranging from choosing methods to choosing the right media in learning such as the use of image media, but the results have not been satisfactory because student activities and learning outcomes have still not improved. Therefore, it is necessary to develop learning devices that are appropriate to the context of life of students, namely using interactive multimedia to attract interest and increase learning activities and outcomes. This is consistent with the results of research conducted by [8] and [9] that learning will be effective when using multimedia learning based on macromedia flash.

The use of information and communication technology in learning allows access to learning resources that are open by using interactive multimedia. So far, learning resources only come from textbooks and teachers. In addition, multimedia has the opportunity to be a means that can motivate students in learning. Multimedia-based learning is a learning activity that utilizes computers to create and combine links and devices that enable educators and students to be creative. Based on the above facts, it is important to do research on learning devices in the field of Indonesian language study by designing a media that can help the learning process. At the same time in an effort to help students to be more active and creative in discovering new things that are appropriate to the age, interests and abilities of students. The learning devices to be developed in the form of media are interactive multimedia specifically designed for learning Indonesian language fields by using the Macromedia Flash 08 program [10]; [7]. The use of multimedia learning devices in the learning process is expected to motivate students more in learning so as to increase activities, interests, and outcomes study it. Based on the problems outlined above, the research on "Development

of Indonesian Language Learning Devices Using Interactive Multimedia in Middle School" is important to do [11]; [12]; [13]; [5].

## **2. METHODS**

In accordance with the problems studied and guided by the research objectives of producing learning devices in the form of interactive multimedia, this type of research is development research. According to [14], development research is research that is used to produce certain products and test the effectiveness of these products. After the media device is developed, validity analysis will be carried out, analysis of observations of the feasibility of using instructional media in the field based on student activities and students' responses to learning activities.

The development model in this study uses a 4-D development model consisting of 4 stages. According to [15] the stages of development are define, design, develop, and disseminate. Furthermore, the product is validated by experts, and then tested on students of class VIII of SMP Negeri 3 Padangpanjang. At the time of the trial will be observed the implementation of the use of learning media in the field based on lesson plans and activities of students by observers and finally students will be asked to respond to learning activities.

The development procedures at the defining stage are curriculum analysis, needs analysis, student analysis, and concept analysis. The design phase includes the draft RPP, multimedia design. Limited product trials are carried out using multimedia learning devices for grade VIII students of SMP Negeri 3 Padangpanjang. The type of data taken in this study is primary data. Data collection instruments consist of practical validation instruments. Student activity observation sheets and learning achievement test sheets. Data analysis techniques are data analysis of the results of the validation of learning devices, practicality analysis, analysis of teacher and student responses, and effectiveness analysis. The next stage is the spread of the development of learning devices using interactive multimedia in junior high schools. The learning model that is produced in the development stage is further disseminated or socialized at a limited level, namely educators and students of Padangpanjang Middle School.

## **3. RESULTS AND DISCUSSION**

### ***1.1 Define Phase***

At this stage curriculum analysis, needs analysis, student analysis and concept analysis are carried out. The activity steps undertaken for the four analyzes begin with curriculum analysis focused on analyzing competencies and basic competencies based on themes listed in the 2013 curriculum. In the analysis of core competencies and basic competencies for Indonesian language material

in class VIII semester I. core competencies, basic competencies and indicators can be seen in the learning syllabus. The description of core competencies, basic competencies and indicators of achievement of competencies are considered to determine the concepts needed in the learning of special Indonesian subjects. RPP analysis must be done because in the 2013 curriculum there is no RPP that is right for this interactive multimedia learning tool.

This needs analysis is based on the problems found in the implementation of the learning process that has existed so far in the school where the research is. The analysis shows that the learning model used by educators has not made students feel at home in the classroom. This finding shows that in traditional classes like that, students only become listeners and educators provide facts and define important ideas. Student participation is often limited to listening to and doing exercises that are actually poorly understood by students.

Student analysis is used as an illustration to develop multimedia learning devices in Indonesian subjects. Analysis of these students includes interests, social life, and trends in learning styles and basic abilities possessed by students. In this study the subject was students of class VIII.G of SMP Negeri 3 Padangpanjang. Learning activities of students is something that must be analyzed, namely students of class VIII.G Semester I of SMP Negeri 3 Padangpanjang who have moderate academic abilities, high talents and interests but are different. With talent allows someone to achieve achievements in certain fields, but it takes practice, knowledge, experience, and encouragement or motivation so that the talent develops to the maximum. In following the implementation of learning, students tend to be more motivated and more active if there are learning devices in the form of media. In general, students like something new, be it games, watching movies, videos, animations, and other interactive multimedia, even though the media has been shown repeatedly. So students like the learning process that involves him directly in every learning activity.

Concept analysis is the basis for establishing the main concepts of learning material in the field of Indonesian language studies. The concepts that must be mastered by students in understanding learning materials are in accordance with the curriculum, core competencies, and basic competencies, indicators of competency achievement, learning objectives, and Indonesian language learning materials [16].

Based on the above analysis, the learning devices used by educators should be adjusted to the interests of students.

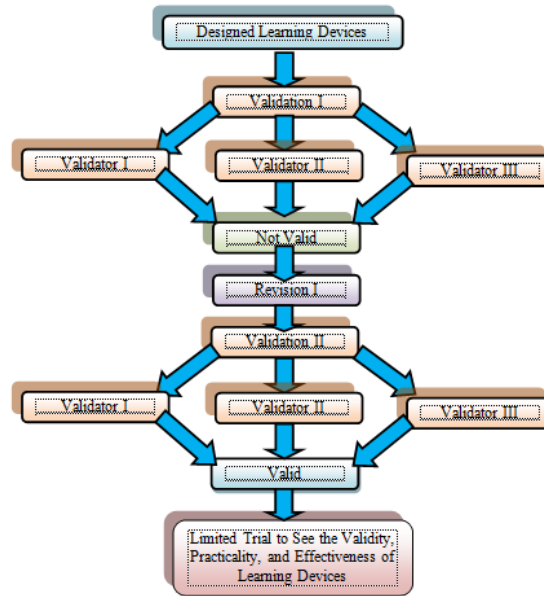
Therefore, the creativity effort of educators to create media as a learning tool is expected to make learning activities more interesting and enjoyable. In response to this, further study needs to be done on the needs of learning devices that are appropriate to the level of development and social life of students in the hope that they can help students gain learning experiences and improve students' learning activities and outcomes. Needs analysis is focused on analyzing the problems found in existing teaching materials such as: lesson plans, textbooks, and worksheets that are used by teachers in the learning process. The results of the analysis show that teaching materials do not use multimedia all, so students are still being indifferent, undisciplined and difficult to concentrate in the learning process. In addition to the needs analysis, concept analysis is also the basis for determining the main concepts of the learning material and devices used. Concept analysis aims to determine the content and subject matter needed in the development of learning devices.

### ***1.2 Design Phase***

This stage designs interactive multimedia learning devices for junior high schools that are based on the syllabus and lesson plans that are made. The process of designing learning devices starts with preparing syllabus and lesson plans first. The Learning Implementation Plan is designed systematically which contains the components of writing a lesson plan and follows the steps in the preparation of the lesson plan consisting of; identity, core competencies, basic competencies, indicators, learning objectives, learning materials, learning methods, learning steps, learning resources, and assessment. After completing the syllabus and lesson plans, then designing interactive multimedia that suits the needs of students is to design learning materials based on students' characteristics. Designing pictorial and sound media using multimedia are more easily understood by students.

### ***1.3 Development Phase***

The development phase includes device validation and testing to see the validity, practicality, and effectiveness of the device being developed. The series of activities based on the development carried out until declared valid with limited trials. For more details can be seen in the following picture.



**Figure 1.** Process Flow Chart for Development of Interactive Multimedia Learning Devices

Lesson plan validation results in the form of interactive multimedia learning devices are rated by validators which in general is 3.29 with a very valid category. From the assessed aspects, the average value of initial activities is 3.84 with a very valid category, 3.49 for the core activities for a very valid category and 3.45 for the closing activities for a very valid category. Lesson plan that is adapted to interactive multimedia devices is good to be used as a guide for implementation in the learning process.

The results of the validation of interactive multimedia devices which were rated by the validator in general were 3.41 with a very valid category. From the assessed aspects, the average value of the technical requirements is 3.74 with a very valid category, 3.47 for the content aspect with a very valid category and 3.04 for the language aspect with a valid category. Interactive multimedia is well used in the implementation of the learning process.

The testing of interactive multimedia learning devices has been carried out on grade VIII students. G State Junior High School 3 Padangpanjang. In the implementation of this trial, data obtained from observations of the implementation of interactive multimedia learning devices through student responses, teacher responses, student activities, and learning outcomes. This is done to see the practicality and effectiveness of the learning devices developed, so that the results are expected to be generalizable.

In general, the average of the implementation of lesson plans that have been adjusted by interactive multimedia devices in SMP Negeri 3 Padangpanjang is 3.65 with a very practical category. The average aspect of initial activities is 3.60 with a very practical category, the average core activity is 3.60 and 3.75 is the average aspect of the closing activity with a very practical

category. This shows that the lesson plans used by the teacher can facilitate them in carrying out learning activities.

It is known that the response of 30 students of class VIII.G of SMP Negeri 3 Padangpanjang to the learning devices used during learning is very practical with an average of 3.73. Overall, students' responses to learning devices are in the category of very practical. This means, the display of interactive multimedia devices that are used to appeal to students. The material presented has a connection with the real life of students. Explanation of concepts is assisted by supporting images and videos. Then, evaluation devices on interactive multimedia devices train students in the critical thinking process.

The results of the teacher's response to the practicality of interactive multimedia learning devices with practical categories on aspects: 1) practicality of use with very practical categories, 2) suitability of time with quite practical categories, 3) aspects of suitability of illustrations with very practical categories, and 4) aspects of language with categories practical. This means that interactive multimedia learning devices developed can facilitate teachers in the learning process.

Student activities in learning activities use interactive multimedia learning devices that are in the excellent category. Very good categories are shown in the activities of paying attention and listening to the teacher's explanation, activities participating in learning activities, and activities asking questions to the teacher. For activities answering the teacher's questions, working in groups and individually, presenting the results of group work, and responding to the results of the discussion are in either category.

The results of observing the activities of students made in three times the learning activities indicate that the activities of students during the learning activities are included in the very good category. Therefore, the

effectiveness of interactive multimedia learning devices can be said to be very well used in learning activities.

Based on the learning outcomes that have been achieved, it appears that learning using interactive multimedia learning devices can help students in understanding learning material so as to obtain good results. This can be seen from the average value obtained by students which is 84.9 above the minimum school completeness criteria of 73 and classically learning using interactive multimedia learning devices is said to be complete.

#### ***1.4 Disseminate Phase***

The disseminate stage is the stage of using learning devices on a broader scope. This distribution is carried out in other classes, other schools, or other teachers. In this study, the spread was only done on a limited scale, namely another class at SMP Negeri 3 Padangpanjang. The aim is to test the effectiveness of the use of these devices in different objects, situations and conditions. The deployment phase is carried out in class VIII. A, B, C, D, E, and F are the same as when the product effectiveness test is carried out. There are two main things that are considered, namely the activities and learning outcomes of students.

Student activities in learning activities use interactive multimedia learning devices that are in the excellent category. Very good categories are shown on the activities of paying attention and listening to the teacher's explanation, activities participating in learning activities, and activities of working together in groups and individuals. For the activity of asking questions to the teacher answering the teacher's questions, presenting the results of group work, and responding to the results of the discussion are in the good category.

Interactive multimedia learning tools are designed to be used by educators and students in junior high schools. Learning devices function as aids in the implementation of learning. Learning tools used as guidelines are expected to improve the quality of the learning process and learning outcomes of students. The research conducted aims to determine the validity, practicality, and effectiveness of interactive multimedia learning tools developed.

The validity of interactive multimedia learning tools conducted in this study emphasizes internal validity by using existing criteria in the product development. Internal validity used includes material validity and construction validity. To test the construct validity, expert opinions are used. Experts who assess the validity of this interactive multimedia learning device are people who are experienced and competent in their fields.

Syllabus that has been declared valid is then developed into the form of Lesson plan using interactive multimedia devices. Lesson plan validation data analysis results show an average value of 3.29 by expert validators and practitioner validators. That is, as a whole has been able to describe the components of the Lesson plan in

accordance with Ministry of Education Regulation Number 41 of 2007.

Based on the results of data analysis, validation of interactive multimedia learning tools obtained an average value of 3.41 from expert validators and practitioner validators. If seen from the predetermined categories, the learning tools that have been developed are classified as very valid. Therefore, the learning tools developed are in accordance with the demands of the curriculum. Presentation of the material is in accordance with the indicators formulated and with the development of students. The contents of the learning kit are also in accordance with learning materials at the junior high school level. Various concepts and the translation of the tasks contained in the learning tool makes it easy for students to understand the learning material appropriately. The contents of teaching materials have been able to reach the selected basic competencies. In addition, the language in teaching materials uses effective and simple sentences so that it is easily understood by students. Sentence by sentence using the correct spelling. Then, the developed teaching material is designed with attractive colors so that it can motivate students to follow the learning process well. Thus, it can be concluded that the teaching material developed has been declared valid and can be used in the learning process. The next stage in this research can be continued, namely at a wider trial phase.

The practicality of the device being developed can be known from the implementation of the trial run. Data on the practicality of the learning tools developed were obtained from observations of the implementation of multimedia devices, through teacher responses and student responses. The implementation of interactive multimedia RPP used in the trial is in good criteria with an average value of 3.65. In this case, it can be seen that the learning device developed can be easily implemented by the teacher, meaning that the device developed is practical. According to [17] that the device can be said to be practical, if the teacher can use the device to carry out learning easily, logically, and continuously, without many problems. Thus, interactive multimedia learning tools that have been developed can be used at other schools that need them.

Student responses using interactive multimedia learning tools are very practical. The results of the analysis on students' responses to the practicality of interactive multimedia learning tools developed showed that students are motivated to participate in learning activities using interactive multimedia devices because they have an attractive appearance. The colors chosen for text, images and backgrounds of interactive multimedia devices are contrasting colors that support the display of learning multimedia. According to [18] [19] color has a physiological effect on anxiety, heart rate, and blood flow. Each color has wavelengths, and each wavelength can affect the body and brain differently. The dominant colors that are widely used are green and blue. The use of interactive multimedia devices increases student activity

in learning. Based on the description of the responses of students above, it can be said that the interactive multimedia learning device developed is practical. This means that in addition to being able to be used by trial schools, the learning tools developed can also be used by students in other schools. Multimedia is one of the sources of teaching or alternative media in learning.

The results of the teacher's questionnaire analysis of interactive multimedia learning tools are practical for their use in the learning process. This means that interactive multimedia learning tools developed can help teachers make it easier for students to understand the learning material. Thus, the learning tools developed are practical. The impact of the use of interactive multimedia learning tools by teachers is to facilitate the work of teachers in classroom management and save time during the learning process. This means that the availability of interactive multimedia learning tools is one of the factors that can support the learning process running well, effectively, and can improve the quality of education. This is in accordance with the opinion of [20] that the learning device provides convenience and can help teachers in preparing and implementing the learning process in class.

The effectiveness of the learning tools developed from the learning activities and learning outcomes. Activities of students during the learning process is one of the information to find out students' responses during the use of interactive multimedia learning tools. Student activities are activities or behaviors that occur during the learning process. The activity of students during the learning process is one indicator of the desire of students to learn. This is in accordance with [21] that, "Student activities in learning can be seen based on their participation and involvement in responding". Activities are needed in learning because in principle learning is doing. In this study the activities of students observed by the observer during the learning process using interactive multimedia learning tools by paying attention and listening to the teacher's explanation, participating in learning activities, responding to the results of discussions, respecting the opinions of friends, answering teacher questions, asking questions to the teacher, presenting group results, and respond to the results of the discussion. In the aspect of paying attention and listening to the teacher's explanation, participating in learning activities, and asking questions to the teacher, it is in the very good category, so that the learning process using interactive multimedia learning tools has succeeded in increasing student activity. This media can solve teacher problems that previously had difficulty delivering material and difficulty motivating student learning, with interactive multimedia making learning useful and meaningful [22]

Learning outcomes to find out how far students can master the teaching material, then the test is carried out. The test is given once, in the form of 30 tests of objective tests conducted after the learning activities have been carried out. [24] states "The learning achievement test is a test item used to find out the learning outcomes of

students after participating in learning activities." The average results of processing scores compared with the minimum completeness criteria, so that individual completeness in basic competence will be obtained. According to [23] the minimum completeness criteria is the learning completeness criteria determined by the education unit. The minimum completeness criteria for Indonesian subjects are 73. Of the 30 students who took part in the evaluation, 28 students scored  $\geq 73$ , thus individually declared complete.

#### 4. CONCLUSION

The results of the Indonesian language learning tools using interactive multimedia in SMP Negeri 3 Padangpanjang with a very valid category. The practicality of the Indonesian language learning device uses interactive multimedia which is seen from the implementation of the device by the observer towards the teacher who teaches in the practical category. The practicality of the device is also known from the results of the responses of students who have participated in learning using teaching materials and devices as well as teachers who use learning devices give very practical results. Indonesian language learning tools using interactive multimedia are stated to be very practical. The effectiveness of the use of Indonesian language learning devices by using interactive multimedia are known through student activities and learning outcomes. The activities of students during learning are very good and learning outcomes show good grades.

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