

# Developing Multi-Media based Learning Media for Social Science Subject in Elementary School Level in Indonesia: A Case Study

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## Abstract

*Social science is a subject that integrates social and humanities for fostering citizens in emphasizing the formation of personality aspects and values of social life. This study aims to determine the improvement of students' ability to understand Indonesian natural phenomena as one of the subjects in Social Science through the use of multimedia. Specifically, this study is to describe the level of attractiveness of multimedia-based learning media and to know the improvement of students' learning outcomes. This research was designed using the learning development model of Dick and Carey (1996, p. 183). This descriptive qualitative research was conducted in class 6 of State Elementary School (SDN) 1 Jambu, Burneh, Bangkalan, Madura, Indonesia. The result of the learning using multi-media based on Social Science subject about natural phenomenon in Indonesia was taken through some cycles. First cycle showed that students who succeeded were 60,1% and students who were not successful were 29,29%. Second cycle showed that students who succeeded were 75% and 25% was unsuccessful students. In the third cycle, students who succeeded were 89,29% while unsuccessful students were 10,61%. Therefore, multimedia that utilizes information technology with all modification of learning could interest students in learning Social Science Subject and lead to the effectiveness in learning activities.*

## Keywords

*Multimedia, Social Science Subject, Natural Phenomenom.*

## I. Introduction

Improving qualities of process and learning outcomes of students needs to be realized to obtain the quality of Indonesian human resources that can support national development. The whole process of education at school is the most basic activity. Success or failure of the achievement of educational goals depends on the learning process of students.

Based on preriliminary observation, 28 students in class VI of State Elementary School (SDN) Jambu 1, Burneh, Bangkalan, East Java, Indonesia academic year 2017/2018 were found to have lower score under the passing grade in sub matter of Indonesia natural phenomena, Social Science subject. This happened since the students got difficulty to find the causes of those phenomena, and students lack the factual data as learning material.

The problem faced by students was the difficulty in obtaining actual, factual and interesting data as material for understanding subjects of social studies. It was caused by the lack of involvement and the opportunity given to students to experience directly in the process of understanding the natural phenomena that occur in Indonesia. One solution suggested in in this research is to implement the development of multimedia-based learning media. Thus, students can find problems, and the media are supposed to help students complete and find the steps of problem-solving. Multi-media based learning is based on cooperative learning, generative learning, questioning, inquiry, and other metacognitive skills. This was chosen as an alternative action in teaching because this method is considered as an effective way to direct all potential students. Therefore, students are more motivated during the teaching-learning process which leads to a positive impact on learning outcomes.

This study aims to determine the improvement of students' ability to understand natural phenomena that occur in Indonesia through the use of multi media. The aim is to describe the level of attractiveness of multimedia-based learning media and to know the improvement of students' learning outcomes.

According to National Education Association/NEA (as cited in

Rohani, p.2), media are all things that are manipulated, seen, heard, read, or discussed along with the instruments used for the activities. Sardiman et al. (1986. p. 7) defines media as anything that can be used to send messages from the sender to the recipient so that it can stimulate students' thoughts, feelings, attention, and interests in such a way that the learning process occurs. McLuhan (as cited in Rohani, 1997, p.2) states media are channel as they have essentially expanded the ability of humans to feel, hear and see within certain boundaries of space and time. With the help of the media, the boundaries almost do not exist. Likewise, Blake and Haralsen (as cited in Rohani, 1997, p.2) explain media as a medium that is used to deliver a message in which this medium is a way or a tool that runs a message between the communicator and the communicant. In addition Rohani (1997, p. 4) describes that communication in the teaching and learning process in the form of hardware and software to achieve instructional processes and results effectively and efficiently, and instructional objectives can be achieved easily.

Sujana and Rivai (2002, p. 2), clarify that media learning is a means of education that has a physical understanding that is today known as hardware (hardware) which is something that can be seen, heard, or touched with the five senses, attitudes, actions, organization, strategies, and management related to the application of a science. The most important roles of media in learning activities are that: 1) media is the main source that supports the teaching and learning process, 2) helping students understand the concept and understand the lessons explained by the teacher, 3) Helping teachers to make the teaching and learning process more effective so that the objectives of the teaching program can be more achieved, and 4) Media are communication between teachers and students that allow learning to take place in a positive atmosphere and stimulate students to develop more in an interactive relationship.

According to Levie and Lentz (as cited in Arsyad, 2002, p.16), there are four functions of teaching media; They are attention function, affective function, cognitive function, and compensatory functions. In terms of the role of the media in the effectiveness

of learning plays a very decisive role as a component that determines the effectiveness and success of teaching and learning activities.

There are some principles in selecting the media. It should consider the teaching objectives and learning materials as well as the level of students' development. Besides, The teachers should see the ability of the teacher, and the situation and conditions (the right time, place and situation). More importantly, understanding the characteristics of the media should be given a thought.

The use of media in teaching would be required in the situation when students' attention to teaching has diminished due to boredom of listening to the teacher's explanation, especially if the teacher's method is not interesting. In this situation the appearance of the media will have meaning for students in re-growing the learning attention of students. Besides, the learning material described by the teacher is poorly understood by students. In this situation the teacher must present the media to clarify students' understanding of the subject matter such as presenting images, graphics, charts or models relating to the content of teaching materials. Also, the limited teaching resources available at school. This situation requires the teacher to provide the source in the form of media. Moreover, teachers are not passionate about explaining verbal teaching material due to being too tired of teaching too long. In this situation, the teacher can display learning media.

Multimedia is a medium that combines two or more elements of media consisting of text, graphics, images, photos, audio, video, and animation in an integrated manner. A combination of at least two input or output media. This media like an audio (sound, music), animation, video, text, graphics and images. In simple terms, multimedia is defined as more than one media. The meaning of multimedia which is generally known today is a variety of combinations of graphics, text, sound, video, and animation. This combination allows to display information, messages, or content of lesson. The concept of merging requires several types of hardware equipment, each of which still carries out its main function as usual, and the computer is the controller of all the equipment. It aim at presenting information in a form that is fun, interesting, easy to understand, and clear. Multimedia is a combination of various types of digital media, such as text, images, sound, and video to a multi-sensory integrated interactive applications or presentations to convey messages or information to audiences.

## II. Methods

This research was designed using the learning development model Dick and Carey (1996, p. 183). In this development model uses 10 stages, but researchers only used 9 stages because this research was carried out only in the trial of learning media products. The following picture is the learning development model by Dick & Carey (1996)

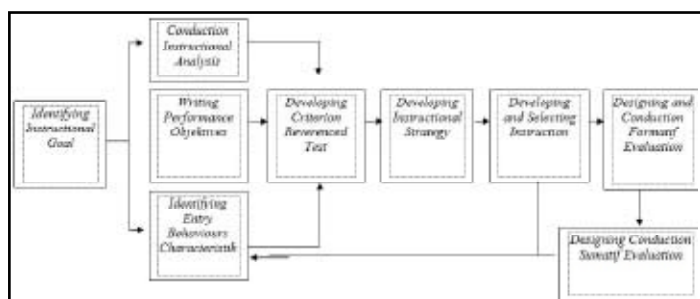


Fig. 1 : Learning Development Model (Dick & Carey , 1996)

The stages of this research consisted of the preparation stage, implementation stage, and completion stage. The preparation stage carried out in this study were: 1) determining the focus on the studied, 2) conducting a literature study that was used as a theoretical basis for research, 3). arranging a research design to make guidelines for the course of the study, so that it is in line with the research objectives, and 4) determining the research instrument as a tool to simplify and classify what to study.

After the first stage was carried out, then the next stage was the implementation of activities that needed to be carried out in the research. They were as follows: 1) collecting data that were done to obtain the source of information needed in the research, 2) analyzing or processing the data that aimed to obtain the results of qualitative descriptive analysis, 3) summarizing data analysis, and 4) giving an interpretation of the conclusions obtained.

The completion stage was the final stage after the research was completed. The completion phase included the activities of drafting the research that had been achieved in the form of a research report and revising the draft research report based on the results of the guidance and testing of the research report and doubling the research report in accordance with the stipulated provisions.

Through this research, researchers could get to know the subject personally and closer. This happened because of the involvement of researchers with the research subjects. This direct involvement exported the situation, conditions regarding the use of multimedia in classroom learning. Therefore, researchers tended to choose a qualitative approach in this research. Development research according to Sugiyono (2012, p. 407) is a research method used to produce certain products and test the effectiveness of the products.

Data collection was very vague and doubtful at the beginning, with the increase of the data, conclusion focused more on the problem. This process was carried out starting from conclusions by continuously verifying to check again in the field; there may be parts that were added or subtracted, so that the final conclusions could be assessed and checked for changes. The data that have been reduced were chosen according to the relevant category. The materials that have been collected was analyzed in a systematic manner and highlighted the issues, then data analysis was done by taking the essence of the data so that the main points were found. Therefore, it was expected to facilitate the effort to get reliable data analysis

## III. Result and Discussion

### 1. Result

Posttest was used as data to determine the improvement of students' learning achievement after the implementation of multimedia-based learning in each cycle through the stages: 1) planning stage, in which researchers prepared learning tools that consisted of lesson plan including students' and teachers' observation sheets, students' worksheets, posttest questions, and supporting learning tools, 2) implementation and observation phase, 3) reflection stage, and 4) revision.

The results of cycle 1 showed that by applying multimedia-based learning, the average value of students' learning achievement was 67.14, and learning completeness reached 60.71%, or there were 17 students from 28 students who passed the lesson. These results indicated that in the first cycle classically students had not passed the lesson because students who got a score of  $\geq 65$  only 60.71%

less than the percentage of the expected completeness was equal to 85%. It was because students were still new with the methods applied in the teaching and learning process.

Reflection in the implementation of teaching and learning activities obtained information from the observations as follows: (1) the teacher is not good at motivating students and in conveying learning objectives; (2) the teacher is not good at managing time; (3) students are less enthusiastic during learning; and (4) the use of learning media is less than optimal.

There was still a shortage in the implementation of teaching and learning activities in the first cycle, so there needed to be a refraction to be carried out in the next cycle: (1) the teacher needed to be more skilled in motivating students and more clearly in conveying the learning objectives in which students were invited to be directly involved in every activity that was carried out; (2) the teacher needed to distribute time well by adding information that was deemed necessary and giving notes; and (3) teachers had to be more skilled and enthusiastic in motivating students so that students could be more enthusiastic.

The result of cycle II showed that the average value of students' learning achievement was 71.79 and completeness of learning reached 75.00%, or there were 21 students out of 28 students had completed learning. These results indicated that in the second cycle, classical learning completeness had improved slightly better than cycle I. There was an increase in students' learning outcomes because students helped underprivileged students in the subjects they studied. In addition, the teachers' ability began to increase in teaching and learning process.

Reflection in the implementation of learning activities obtained information from the observations as follows: (1) students' motivation; (2) guiding students to draw conclusions/finding concepts; and (3) time management.

The revision of the implementation of learning activities in the second cycle was still lacking, so there needed to be a revision to be carried out in the second cycle as follows: (1) the teacher should be able to make students more motivated during the learning process; (2) the teacher should be closer to students so that there was no fear feeling on students either to express opinions or ask questions; (3) the teacher should be more patient in guiding students to draw conclusions/find concepts; (4) the teacher should distribute time well so that learning activities could go as expected; and (5) the teachers should add more examples of questions and give practice questions to students in each teaching and learning activity.

The result of cycle III showed that the average test score was 77.14 and 25 students out of 28 had completed, and 3 students had not yet achieved complete learning. Thus, classically the learning completeness that had been achieved was 89.29% (including the complete category). The results in the third cycle had improved better than the second cycle. The increase in learning outcomes in the third cycle was influenced by an increase in the ability of students in learning the subject matter that had been applied so far, and there was a group responsibility of students who were able to teach their poor friends.

Reflection at this stage had been carried out well and there still were not good in the teaching and learning process with the application of learning Multimedia based Learning. From the obtained data, it can be explained as follows: (1) during the learning process the teacher carried out all the learning well. Although there were some aspects that were not perfect, the percentage of implementation for each aspect was quite large; (2) Based on observational data, it

was known that students were active during the learning process; (3) Shortages in previous cycles had improved and improved so that they were better; and (4) the student learning outcomes in cycle III reached completeness.

Furthermore, it is recommended that the implementation in the third cycle that the teacher had implemented the learning of Multimedia-based Learning run well and it can be seen from the activities of students and the learning outcomes of students. Therefore, there was no need too much revision, but what needed to be considered for the next action was to maximize and maintain what was already there with the aim that the implementation of the teaching and learning process using Multimedia-based Learning could improve the teaching and learning process, so that learning objectives can be achieved.

## 2. Discussion

There were two indicators that can be used as a benchmark for the success of a learning process as follows: 1) the active participation of students in the learning process. 2) the students' achievement towards predetermined learning competencies. The success of learning was the success of students in shaping competencies and achieving goals, as well as the success of teachers in guiding students in learning. Active students involvement in the learning process was very important and a basic capital for students to be able to achieve the learning competencies.

In the final stage, it was implemented well or still not well in the teaching and learning process with the application of Multimedia-based Learning. From the data that were obtained, it can be explained as follows: (a) during the teaching and learning process the teacher carried out all learning well. Although there were some aspects that were not perfect, the percentage of implementation for each aspect was quite large; (b) based on observational data, it was known that students were active during the learning process; (c) weaknesses in previous cycles had improved and improved so that they become better. This means that multimedia as a product of development and testing stages from the beginning of the cycle until the end of the development cycle could work well. So that the learning was more interesting.

From the learning result in the first cycle 65, students who were successful in learning with the score of  $\geq 65$  were 17 people (60.71%), and students who were unsuccessful or had learning difficulties with score  $< 65$  were 11 students (29, 29%). This shows that the percentage of students who succeeded was more than students who were not successful in learning. From learning outcomes in cycle II, students who succeeded in learning by obtaining score of  $\geq 65$  were 21 people (75%), and students who were unsuccessful or had learning difficulties with score  $< 65$  were 7 students (25%). This shows that the percentage of students who succeeded was more than students who were not successful in learning. From learning outcomes in cycle III, students who succeeded in learning by obtaining score of  $\geq 65$  were 25 students (89.29%), and students who were unsuccessful or had learning difficulties with score  $< 65$  were 3 students (10, 61%). This shows that the percentage of students who succeeded was more than students who were not successful in learning, and it can be stated that student learning outcomes in cycle III achieved completeness or increased well.

According to Samlawi and Maftuh (1998), Social Sciences subject is a program that integrates selected concepts from the social sciences and humanities for the purpose of developing good citizens. The social sciences study human actions that take place in the life process in an effort to explain why humans behave

as they do. Through the use of this multi-media, students can:  
(1) have knowledge and insight into the basic concepts of social science and humanities; (2) have sensitivity and awareness of social problems in their environment; (3) have the skills to study and solve these social problems; and (4) develop their attitude and mentality to be good and responsible citizens.

#### **IV. Conclusion**

This study concluded that learning using multi-media based for Social Science subject in Indonesia attracts students' interest in learning. This is indicated by the active learning of students, and multi-media based learning on Social Science learning was effective in improving students' learning outcomes of natural phenomena in Indonesia .

It is recommended that (1) in each lesson, the teacher should always use a variety of media; (2) teachers should fit the learning activities in accordance with the students' characteristics and intellectual abilities; (3) teachers should master more various teaching skills; (4) teachers should be more creative and innovative to explore various potentials; and (5) students should be more actively involved in making and working on learning media because it can involve students in the learning process in real life.

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