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Utilization of Smart Book Media for Achieved Scientific Approaches

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Abstract

The use of media in historical learning is very necessary. Attractive, effective and efficient media is one measure. In this library research examines the success of the application of smart book media in the history of learning at the level of high school (SMA) class XI SMA. This Smart Book Media is a combination of learning media based on audio and textual combined with Augmented Reality (AR) technology. So with this smart book, teachers and students can use smartphone to use the scanner feature. Then various objects can appear if it is directed at the target in the module. Through this media, the achievement of the scientific approach is increased and the interest of students is increasingly attractive and satisfying learning outcomes

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1. Main text

Media is one of the main elements in learning and teaching activities. Teaching material becomes urgent if it is related to its role as a teacher's tool for the success of the learning process presented. In this era of rapid development of Information and Communication Technology, teaching materials are in line with technological developments. At first the use of textbooks became the only tool, so in the current digital era the use of audio-visual-based teaching materials was felt to be very necessary.

Nomenclature

A Background

Learning media not only facilitates learning, but can also provide abstract experiences that are concrete.

Teachers in teaching a subject matter to students are generally always abstract (Fujiyanto, et al, 2016: 844).

But this will continue if there is no innovation that must be done by history teachers. This becomes a necessity to maximize historical learning activities.

The needs of students for new information are needed. Including during learning in class. An educator is required to prepare teaching materials that are in accordance with the needs of the students. An interactive learning innovation, video media has become a very interesting teaching material. Because it has learning elements that can support learning namely audio and visual.

In accordance with previous research which states that with the presence of windows movie maker students' audio-visual media it is easier to improve the ability to analyze the history of students. Because by using Windows Movie Maker based audio visual media which will then make students think more critically and easily understand historical learning material because they can not only listen to explanations but also can see pictures in the form of facts on historical learning material (Ernasari, 2017: 80).

In the use of digital-based media that must have a tool that must be present in the school such as LCD projectors, the availability of electricity. This will become kendal if used when the electricity goes out which makes the media not used. For that we need a renewal and development according to current conditions and needs.

The research development will be done by combining the two teaching materials, namely books or modules with videos that are packaged with Augmented Reality technology. The module will be able to display various things that will explain to readers by showing illustrations to historical evidence with Audio Visual through an Android Smartphone.

AR (augmented reality), is a technology that combines two-dimensional and or three-dimensional virtual

objects into a real environment and then projects virtual objects in reality in real time (Priyo, 2016: 1). The use of Augmented reality (AR) technology in educational media is increasingly accessible to young users such as elementary and high school students (Radu, 2014: 1533). Although previous research has shown that AR systems have the potential to improve student learning, the education community remains unclear about the usefulness of AR and knowledge of the context in which this technology is more effective than other educational media.

Students will more easily understand historical learning material, one of them if they can think contextually. This is in line with Udayanie et al. (2008: 1) who proved in his research entitled "Development of Contextual History Modules to Improve the Learning Outcomes of Even Class X Semester Students at Singaraja Vocational High School 1" the results of students able to understand the material well with a percentage of 93.26% (very good), individual student test 90.86% (very good), small group test 85.37% (good), educator's response to field test 92.85% (very good), and the result of the percentage of all students to test the field of 86.42% is in good qualification.

Since the publication of the 2013 curriculum, learning has a scientific approach (Scientific Approach). The history learning process that implements the scientific approach will touch three domains, namely: attitude (affective), knowledge (cognitive), and skills (psychomotor). Thus, the historical learning process is expected to result in the birth of productive, creative, innovative, and affective learners through strengthening integrated attitudes, skills and knowledge.

Through this approach the teacher must be able to prepare all. Teachers mean teaching materials that can meet the criteria of competitive approaches. The teacher must take the time to make and design everything. In the process of making this takes a long time. This makes the module one of the teaching materials that takes a long time to make it. The expected results are sometimes not up to standard. One of them is the making of historical learning modules that are in accordance with the standards and are very interesting.

This model learning module becomes a breakthrough for the development of teaching materials, which are expected to be implemented in all places later with the existing criteria. Through the description and various historical objects displayed in the module it is expected that students will more easily understand the material contextually, one of them is the historical material of the Green Revolution.

The history of the green revolution material will sting contextually beneficial for students to understand it.

Green Revlousi in Indo

B Literature Review

2.1 Definition of Learning Media

Benefits of Learning Media

In general, the media has uses, namely clarifying the message so that it is not too verbalistic, overcoming the limitations of space, time, energy and sensory power, arousing passion for learning, more direct interaction between students and learning resources, allowing children to learn independently according to their talents and abilities (2014: 129).

So in general, learning media is a means to deliver knowledge from the giver to the recipient. Learning media as a teacher's tool to deliver learning material to students effectively and efficiently.

2.2 Definition of Smart Book

Smart Book consists of two words in English, namely "smart" means smart and "book" is a book. So Smart Book is a smart book that has various features in it, there are communication technologies (Mingsiritham, 2017: 113). In its development the learning media for smart books have various versions and uses in different fields. Smart Book made in America uses a variety of hardware installed in the book. Various electronic components are installed such as controllers, wireless devices and others (Kanevsky, 2005: 6).

Other Smart Books are interpreted and applied in different forms such as the work of Koychev et al. (2011: 2) that "smart books are realized in the form of e-books by combining features such as HTML, Plain Text, PDF, Word and various reader devices that can be opened anytime and anywhere. So from some examples of the implementation of the Smart Book, it can be concluded that a learning media that has flexibility in use and can help users to find information that they want to get according to their type and function.

2.3 Media Design

Augmented Reality Technology

AR (augmented reality), is a technology that combines two-dimensional and or three-dimensional virtual objects into a real environment and then projects virtual objects in reality in real time (Priyo, 2016: 1).

Increased reality that can be utilized can be applied in learning through the senses, including hearing, touch, and smell. Besides being used in fields such as health, military, manufacturing industry and education. AR technology can insert certain information into the virtual world and display it in the real world with the help of equipment such as webcams, computers, Android phones, and special glasses.

Through this Augmented Reality technology students are able to understand and know clearly and clearly the material of the actual Green Revolution history. This AR technology has various features that help students to achieve the learning objectives. This AR technology features in smartphone devices by utilizing camera scans by displaying real objects in a media (Tatic, 2017: 1). AR technology is very potential as a means of education. One of the advantages that can be obtained from the AR application for educational purposes is to

improve the understanding of the object being studied. AR is more effective as other learning media.

2.4 History Learning

Learning History taught in schools is very important in maintaining the spirit of citizenship and helping in building the nation (Nair and Maganasundari, 2017: 109). The challenge in teaching history in school has become a big concern among education teachers and historians. This is because History lessons must be learned in order to get benefits later on.

Through learning history can learn about life, situations, situations and developments in time and time, so chronology is very important for its understanding chronologically (Garg, 2007: 10).

2.5 Scientific Approach

Since the publication of the 2013 curriculum, learning has a scientific approach (Scientific Approach). The history learning process that implements the scientific approach will touch three domains, namely: attitude (affective), knowledge (cognitive), and skills (psychomotor). Thus, the historical learning process is expected to result in the birth of productive, creative, innovative, and affective learners through strengthening integrated attitudes, skills and knowledge.

Learning with scientific approach is a learning process that is designed in such a way that students actively construct concepts, laws or principles through the stages of observing (to identify or find problems), formulate problems, submit or formulate hypotheses, collect data with various techniques, analyze data, draw conclusions and communicate concepts, laws or principles found (Kurinasih, 2014: 29). The scientific approach is intended to provide understanding to students in knowing, understanding various materials using a scientific approach, that is information

C RESEARCH METHODS

The method used in this study is the library research method. This method was chosen because it aims to find out and analyze with many sources of literacy and will be formulated to find solutions to various problems found by researchers.

The analysis carried out by the researchers by comparing and examining in depth from the journal literature, the source of the book from various factors related to the problem under study. In this study, the problem was examined about the utilization of smart book media in history learning in class XI SMA.

3.1 Design and Steps for Making Media Research

The research design uses a method developed by Borg & Gall (1983: 775) that there are 10 development research strategies namely (1) initial data collection, (2) planning, (3) initial format development, (4) initial

trials, (5) product revisions, (6) field trials, (7) product revisions or improvements to the results of the trial test, (8) field implementation tests, (9) final product revisions or final product improvements, and (10) dissemination and implementation. This is expected to be a solution in making an interactive learning module on the history of green revolution. To make it easier for teachers to improve learning in realizing a scientific approach and historical thinking in high school students.

3.2 Making Media SMARTBOOK

Design of History Smart Book Media



Figure 3.1 History Book History Smart Book Making Scheme

The steps for creating a Media Smart Book for learning history are as follows:

1. Collection of information

Early observation is a step to determine the material and condition of the student's character to determine the learning media that is suitable for the target.

2. Use of Multimedia and Technology in accordance with the times

3. Instructions Based Media or Interactive Media

Use of interactive media to maximize the potential of students and reduce teacher work during the process of learning history

4. Attractive interface

In making learning media it takes an attractive display, so that students are interested in learning history seriously.

5. Easy to use and access

Use and easy access are the main things in making a learning media. Easy for teachers or students who use it.

RESULTS AND DISCUSSION

4.1 Similar Media Testing Results

Through a review of the literature that has been done shows good results. Research on the development of smartbooks was carried out by researchers and showed good results. Students have an interest in learning when using smart book media during learning.

In making this smart book media, the things that must be discussed are the creation and implementation in the field. There are some things that can be highlighted like

1. Use of a considerable amount of time during manufacture. In making this smart book, a minimum of 3 months is needed to be completed for the prototype stage. This time takes time for initial validation and testing.
2. Estimated Costs that must be spent. This is a concern when using media-making research. The costs needed in making this media book are above.
3. Selection of desain and interface that must be displayed. Making this smart book media design requires expertise in graphic design. Determination of the type of color must lead to aesthetics and content adjusting to the material and the development of students.
4. Implementation in the field requires careful preparation. Preparation of facilities that facilitate and provide introduction to students in the operation of the learning media.

4.2 Use of Smart Book Media in Historical Learning

The use of media history learning based on IT has begun in the meaning in Indonesia. However, for this smart book media, there are still no national articles published. Therefore from this literature study, the use of smart book media in learning history has become a new breakthrough in the development of historical learning media. So far, it still uses modules that are visual and textual based. This requires innovation by adding dynamic or moving audio visuals. Students will get something new in accordance with current technological developments.

Acknowledgements

Through the smart book media in history learning this has become a new innovation in media development. History teachers can use the media and can make it with their own expertise as the demands of the times and learning innovations. Historical learning is increasingly interesting, students are more enthusiastic, creative and reflect on history lessons well..

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