

DEVELOPMENT OF 3D DYNAMITE BOX VIDEO MEDIA DEVELOPMENT OF GLOBAL PERSPECTIVE COURSES BASED ON CASE METHOD IN PGSD STUDY PROGRAM

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ABSTRACT

This study aims to determine the development, feasibility and practicality of 3-dimensional learning video media for the case method-based global perspective course in the PGSD study program. This type of research is research and development using the ADDIE model. The instruments used are material expert validation sheets, media experts and student response questionnaires. The results of research related to feasibility show that at this stage the researcher evaluates the media that has been developed based on the results of the media feasibility assessment by material experts, media experts, and lecturers. 90% (material), 95.38% (media), 91.64% (practical). Based on the results of the validation of Animaker-based animation learning media, it is in the "Very Appropriate" category, so it can be concluded that Animaker-based animation learning media is very feasible to use.

Keywords: *Development, 3D animation learning video media.*

1. INTRODUCTION

The curriculum is the most important component in educational institutions. All learning activities are regulated in the applicable curriculum. The curriculum as a guideline for running a learning system to achieve educational goals. In Law no. 20 of 2003 concerning the curriculum states that "the curriculum is a set of plans and arrangements regarding the objectives, content, and learning materials as well as the methods used to guide the implementation of learning activities to achieve certain educational goals". Changes in the Indonesian education curriculum have changed 11 times.

In the world of education system the use of learning media is very necessary for the continuity of the learning process, because learning media are able to give messages, stimulate student interest and attract students' attention in achieving learning goals, so learning media are needed to support the learning process in the classroom. One example of learning media that is most often used is technology-based learning media.

The use of media in the world of technology in education is still low. The lack of use of learning media can be seen from how learning takes place in the classroom. Many lecturers carry out conventional teaching processes due to the inability to utilize and develop technology-based learning tools. Whereas in the digital era the development of Science and Technology (IPTEK) in all fields is growing very rapidly, including the fields of informatics, transportation, telecommunications and so on so that learning can be done digitally to stimulate students' interest in learning by using technology so that learning activities can be done digitally. can be done anywhere and anytime.

In the learning process there are several factors that result in students not understanding the material being taught, including (1). Lecturers are still unable to develop digital-based learning media due to lecture activities. Lecturers only use books and use the lecture method in lecture activities, which results in the use of books/modules being the main guide in the lecture process. So it is very necessary to develop a technology-based media in learning to be able to improve student understanding

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With technology-based learning media students can easily understand the material being taught. Global perspective learning based on the case method is expected to be able to make and provide students to study themselves and provide opinions, as well as views on global problems that occur so that later they can be further developed in applying them in everyday life. So that students can adapt to phenomena and changes in the surrounding environment. In other words, this case-based perspective learning method aims to study oneself and provide opinions, as well as views on material and global problems.

One alternative to the selection of technology-based media that can be used to support the learning process is the use of 3 (three) dimensional learning animation video learning media. The use of 3 (three) dimensional animation media in the learning process has a function as a teaching aid used in conveying and explaining a subject matter. Learning video media is one of the references given to students to understand the subject matter in the classroom.

Based on the results of interviews conducted by researchers with Ms. Risma Sitohang S.Pd., M.Pd as a Lecturer in the Global Perspective course on Wednesday, March 30, 2022, information was obtained that the lecture activities carried out were already using technology-based devices, only that The technology referred to in this case is infocus/LCD instead of using teaching materials and creating digital-based teaching materials. so, the use of learning media using pictures is not very varied. 3 (three) dimensional learning animation video media has many advantages over other media, including; easy to use and low cost. 3 (three) dimensional learning animation videos will make it easier for teachers to explain a material and please students so that they are not fixated on the lecture method during the learning process.

2.THEORETICAL STUDY

2.1. Definition of Media

Media is a means of communication channel in conveying views. Media comes from the Latin medium, which means introduction or intermediary. Media is a means of communication channel. Media comes from the Latin medium which means intermediary, namely the intermediary of the message source with the recipient of the message. (Indriana, 2011), Heinich exemplifies these media such as films, television, diagrams, printed materials, computers, and instructors. Examples of these media can be considered as learning media if they carry messages in order to achieve learning objectives. Heinich also links the relationship between media with messages and methods (Heinich, et al., 2005). Media in the teaching and learning process tends to be defined as graphic, photographic, or electronic tools for capturing, processing, and rearranging visual or verbal information.

Based on the explanation of the media, it can be concluded that the media is a communication channel tool which means an intermediary, namely the intermediary of the message source with the recipient of the message which is considered for learning media that links media relations with messages and methods in the learning process. The use of media in the learning process is defined as a graphic, photo graphic or electronic tool that functions to reprocess various information.

2.2. Understanding Learning

Learning plays an important role in the teaching and learning process. Learning is assistance provided by educators so that there is a process of acquiring knowledge and knowledge, mastery, skills, and character, as well as the formation of attitudes and beliefs of students. In other words, learning is a process to help students learn well (Susanto, 2013). While Corey in (Ramayulis, 2015) states that learning is a process in which a person's environment is deliberately managed to allow it to participate in behavior under special conditions or produce a response to certain situations.

Based on this understanding of learning, it can be concluded that learning is assistance provided by education so that the process of acquiring knowledge and knowledge occurs, so that learning is managed to shape behavior to help students learn better.

2.3. Understanding Learning Media

Learning media are everything that can be utilized and used to convey messages or intentions in the teaching and learning process so that they can stimulate attention and increase student interest in learning (Arsyad, 2017). Meanwhile, Munadi (2013) states that learning media means everything that can convey and distribute original messages on a regular basis so as to create a conducive learning environment where the recipient can carry out the learning process efficiently and effectively.

Based on this understanding, it can be concluded that learning media is something that is utilized and used to convey messages in the teaching and learning process so as to create a conducive learning environment where the recipient can carry out the learning process efficiently and effectively.

2.4. P Learning Media Selection Principles

According to Setyosari (2008) identify the principles of the media as follows:

- a. Identify the characteristics of the media that are considered according to the conditions, performance, or level of each learning goal.
- b. Identify the characteristics of students (learners) who require special learning media.
- c. Identify the characteristics of the learning environment regarding the learning media that will be used.
- d. Identify practical considerations that enable which media are easy to implement.
- e. Identification of economic and organizational factors that determine the ease of use of learning media.

Based on this explanation, the principles of media selection must be considered in the use of media in every learning activity. The use of media that will be used by teachers must be appropriate and directed to achieve learning objectives, the selection of media must be in accordance with the learning materials, interests, needs, and conditions of students, and pay attention to effectiveness and efficiency. The selection of media also needs to be considered in accordance with the working conditions (performance) or the level of each learning objective so that it requires special learning media and makes it easier to determine the use of learning media.

2.5. Understanding Learning Videos

With the development of science and technology, the use of educational media, especially video media, has become an urgent demand. This is due to the complex nature of learning. There are various learning objectives that are difficult to achieve only by relying on teacher explanations. Therefore, in order for learning to achieve maximum results, it is necessary to use media, one of which is video media.

According to Arsyad (in Rusman et al. 2011) explains that the video is a series of motion pictures accompanied by sound that forms a unit that is assembled into a plot, with messages in it for the achievement of learning objectives that are stored with the storage process on tape or disk media. Meanwhile, according to (Sukiman, 2012) stated that learning video media is a set of components or media that is able to display images as well as sound at the same time.

From some of the opinions above, it can be concluded that video media is a series of motion pictures accompanied by sound that forms a unit that is assembled into a groove that is able to display both images and sound at the same time as the message in it for the achievement of learning objectives.

2.6. Understanding Three-Dimensional Media

One type of learning media in the grouping of media types is 3 (three) dimensional media. According to (Sudjana, 2011) three-dimensional media is a teaching aid that has length, width, and height and can be observed from any point of view. In line with this understanding, (Rondhi &

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Sumartono, 2011) three-dimensional media are works of art that have width, length, and height or works of art that have volume and occupy space.

Based on the expert opinion, it can be concluded that three-dimensional media are teaching aids that have length, width and height and have volume or occupy space that can be seen from various points of view.

2.7. Global Perspective

Global perspective is a view, where teachers and students jointly develop perspectives and skills to investigate something related to global issues. What is meant by global issues are environmental issues, human rights, justice, world studies, and education development. Students must learn about themselves and the world. To be able to have such a global view, we will now invite you to first understand another term related to global, namely globalization. What exactly is meant by globalization? From the term alone, we can actually understand that globalization implies a process. Other terms that match the existence of structuration are the process of structuring, reforming the reformation or renewal process, industrialization, namely the process of industrializing. The term globalization is currently becoming very popular because it is related to Indonesia's development movement, especially with regard to an open economic system, and free trade.

The era of globalization is marked by increasingly sharp competition, dense information, strong communication, and openness. Without this capability, Indonesia will be left far behind and be dragged down by such a powerful current of globalization. There are several explanations put forward by experts including John Huckle (Miriam Steiner, 1996) who states that globalization is "a process by which events, decisions and activities in one part of the world become a consequence, which is significant for individuals and societies in the world." remote area." Another expert is Albrow (Yaya, 1998) who argues that globalization is "the whole process by which humans on this earth are incorporated into a single world society, a global society. Because this process is plural, we see globalization in terms of plurality." This opinion shows us that globalization contains elements of processes, processes or activities that affect the whole world, and involve heterogeneous people, but have the same needs. The flow of globalization in Indonesia was initially felt in the economic aspect.

This is marked by the existence of APEC, and AFTA, all of which lead to free trade. However, in the future the political, cultural and legal aspects will begin to be felt, especially with the existence of NGOs (Non-Governmental Organizations) that work on an international scale. In addition to that in the political field, the echo of reforms spread very quickly throughout the world, where comments and international opinions were very swift to enter Indonesia. This is supported by the advancement of very sophisticated computer technology. Likewise, in the cultural aspect that is supported by electronic technology, the world is getting smaller. Every day we can witness events around the world in just a few minutes. Another expert, Hamijoyo, (Mimbar, 1990) explains the characteristics related to globalization as follows: a) Globalization needs to be supported by the speed of information, technological sophistication, transportation and communication which is strengthened by a strong organizational and management structure. b) Globalization has transcended traditional geopolitical boundaries. These boundaries must now be subject to technological, economic, socio-political forces and at the same time bring together orders that were previously difficult to reconcile. c) The existence of interdependence between countries. d) Education is part of globalization. The spread of ideas, updates and innovations in the structure, content and methods of education and teaching has long been a sign of globalization. This has long been the case through literature, or contact between experts and students. As stated at the beginning of this module, globalization shows that the world is getting smaller, the dependence between nations is getting bigger. Globalization is a globalizing process, meaning that all activities are calculated for the benefit of the world. This is because at this time there is no longer a homogeneous and static nation. Every

nation develops thanks to interactions with other nations. We must be open to the outside world, but we must remain firm with the cultural roots of our nation. Globalization has both positive and negative impacts. As stated by Tilaar (1998) that the positive impact will lead to the emergence of a mega-competition society, where everyone is competing to do their best to achieve the best. To compete this requires high quality. In the era of globalization is the era of pursuing excellence and quality, so that people become dynamic, active and creative. On the other hand, globalization can also be a threat to the nation's culture. Globalization will give birth to a global culture and will be a threat to local culture, or national culture. The low level of education will be one of the causes of society being quickly dragged by the flow of globalization by eliminating self or national identity.

2.8. Case Method

The case method is discussion-based participatory learning to solve cases or problems. The application of this method will hone and improve critical thinking skills for problem-solving, communication skills, collaboration, and creativity. This is because real-life problems require joint problem solving using different perspectives and with various strategies that group members can propose," he explained. This case method includes problem-based learning. Students have the main role in problem-solving, while lecturers act as facilitators who are tasked with observing, asking questions, directing discussions, asking questions, and observing. The case method has the advantage of actively involving students in developing very high thinking skills. In addition, knowledge will be embedded based on the schemata owned by students so that learning is more meaningful, and students can feel the benefits of learning because the problems solved are directly related to real life. With this method, students are more independent and mature, able to give and receive opinions from others and instill positive social attitudes among students.

2.9. Definition of Research and Development

Development research is a research approach that is linked to design and development work. Product-oriented development research. Development research is a type of research that has the aim of developing existing knowledge, educational theories, or producing a product in the field of education. The products produced in development research include teacher training materials, learning materials for students, learning media to facilitate learning, learning systems, and others. According to (Sugiyono, 2010) research and development methods or in English research and development (R&D) are research methods used to produce certain products and test their effectiveness of these products. According to Borg & Gall quoted by (Sugiyono, 2010) research and development (R&D), is a research method used to develop or validate products used in education and learning. According to Gay quoted by (Wasis, 2004), development research is an attempt to develop an effective product in the form of learning materials, learning media, and learning strategies to be used in schools, not to test theories. Development research is a needs analysis and can test the effectiveness of the resulting product so that it can function in the wider community (Sugiyono, 2007).

Based on these understandings, it can be concluded that research and development (R&D) is research that produces a product/data and validates the product or data based on procedures in an activity. The use of this development research was developed to test the effectiveness of a product used in education and in the learning process. In this study, it is a needs analysis and can test the effectiveness of the products produced so that they can function in the wider community.

3. RESEARCH METHODS

3.1. Types of research

The type of research used in this research is Research and Development (R&D). According to (Sugiyono, 2011), research and development methods are defined as a research methods used to produce certain products and test their effectiveness of these products. According to Sujadi (Setyosari, 2010) research and development or Research and Development (R&D) is a process or

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steps to develop a new product or improve an existing product, which can be accounted for. The use of animation media 3 (three) animations in global perspective courses can be one of the alternative learning media for lecturers in delivering learning.

3.2. Research procedure

The procedure in this study uses the ADDIE development model, which is a development model that has five stages which include:

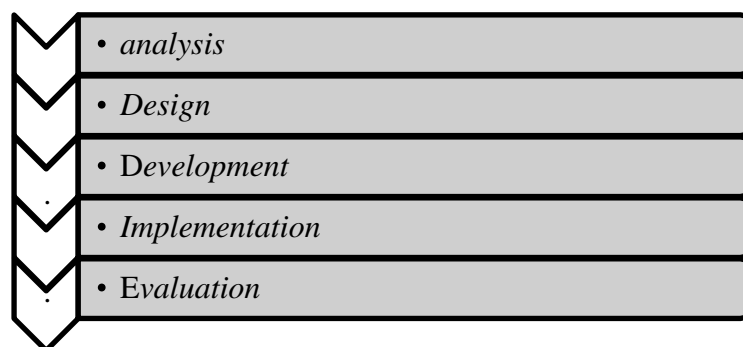


Figure 3.1 Steps of ADDIE Development Model (Sugiyono, 2015)

3.3. Location and Time of Research

This research is located in the Faculty of Education. And the time of this research was carried out by T.A. 2021/2022.

3.4. Research Subjects and Objects

The subjects in this study were material experts, media experts, as well as lecturers, and students to test the practicality of the products developed by students. And the object is 3D animation learning media.

3.5. Research Instruments

The research instrument was used by researchers to collect data from the results of media development. (Sugiyono, 2009) states that the research instrument is a form of tool used to measure the observed natural or social phenomena. And the instruments in this research are using validation sheets, interviews and questionnaires.

4.DISCUSSION AND RESEARCH RESULTS

4.1. Research Discussion

The media that has been developed in this research are learning media based on 3-dimensional animation of global perspective courses based on the case method, this media is prepared based on the needs of lecturers and students of the Faculty of Education. The results of the research discussed are (1) the feasibility of learning media, (2) the practicality of learning media, and (3) the effectiveness of learning media that have been developed by researchers.

4.2. Eligibility of learning media

The analysis of the feasibility of animation-based learning media is seen from the assessment given by the validators. The material expert validator in this study is Ayu Febriani S.Pd., M.Hum as a FIS Lecturer. Then, the validator of media experts in this study is Mrs. Reni Rahmadani S.Kom., M.Kom as an ICT lecturer at Medan State University. The results of the validator on the feasibility of learning media show that the learning media that have been made are classified as very feasible. This can be seen from the scores given by material experts on the aspects of the suitability of the media with the material, aspects of material presentation, and language aspects, overall obtaining an

average of 90% which is categorized as "Very decent". The results of the media expert's validation on the feasibility of learning media can be seen from the scores given to the aspect of appearance and aspect of use, which overall obtained an average of 95.38% which was categorized as "Very feasible" to be used for teaching and learning activities.

The difference can be seen in the content, the arrangement of the presentation of the material, and the software used to develop the media. The content created is adjusted to the indicators of learning achievement using animation-based learning media. The presentation of material in this media is made interesting with interesting moving animations so that students are interested in learning to use the learning media that has been made. One of the main software (software) used in this study is using "Illustrator" this software is used for making initial concepts called assets. Then use this software to combine all the assets at the initial concept stage to be converted into animated form. Then the "After Effect" software researchers use to create animations in the form of assets combined into animations that can be moved with this software and make 3D animations.

4.3. The Practicality of Learning Media

The practicality of learning media is measured through the results of the assessment of the responses of the lecturers who are in charge of the Global Perspective course. The lecturer is Risma Stohang S.Pd., M.Pd. The results of the validation by the homeroom teacher on aspects of material presentation, learning media, learning and language, overall obtained an average of 96% which was included in the very practical category. From these data it can be said that the learning media is practical.

There are differences that distinguish between 3D animation-based learning media developed with previous research. The difference between this study and the relevant research conducted by Prio Dwi Prayoga is that the research was only carried out at the feasibility and effectiveness test stages. Meanwhile, in this study, the aim was to determine the feasibility test, practicality test and test the effectiveness of the developed media.

4.4. Effectiveness of Learning Media

The results of the effectiveness of learning media are measured using tests. The tests carried out were the initial test (pre-test) and the final test (post-test). The test used is 25 items. The specified KKM is 70. The average score obtained by students during the pre-test is 65%. After the post-test was carried out, the students obtained an average of 90%. From these results, it can be concluded that there was an increase in student learning outcomes from pre-test to post-test by 25%. This proves that the learning media developed by researchers has a good impact on student learning outcomes. Based on the results of the data above, it can be concluded that the learning media based on 3D Animation in the global perspective course is "Very effective" to be used as a learning medium for students of the Faculty of Education.

5. Discussion

Development of animation learning media based on Animaker

The research, entitled the development of Animaker-based learning media in the Global Perspective course, aims to produce Animaker-based learning media in social studies subjects. To achieve this goal, Animaker-based learning media was developed using the ADDIE model which consists of several stages, namely analysis, design, development, implementation, and evaluation.

In the analysis stage, at this stage the researcher obtains information from the PGSD Study Program through direct observation and interviews with lecturers regarding the learning media used in the Global Perspective course. it turns out that the learning has not used media assistance in the learning process but only uses books/modules and the lecture method. Based on the above analysis, the researchers are interested in developing animated learning media based on Animaker with attractive images, videos, animations, and sounds so that students will be more interested in learning.

In the design stage, at this stage the researcher designs the initial media design by determining the concept of media content and material to be discussed. Then determine the learning flow and plan

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the content of the presentation of the material. The draft that has been made will be consulted with the Global Perspective Lecturer in which the material contains case methods which will become material for students later. At the media design stage, it only requires one main application to develop animation learning media, namely Animaker, and is supported by several animal images obtained from Google image.

In the design stage, at this stage the researcher designs the initial media design by determining the concept of media content and material to be discussed. Then determine the learning flow and plan the content of the presentation of the material. The draft that has been made will be consulted with the supporting lecturer. At the media design stage, it only requires one main application to develop animation learning media, namely Animaker, and is supported by several cultural images obtained from Google image.

After developing the media, the researchers then validated the media to the experts to get criticism and suggestions from the validator. Validation by experts was carried out with the aim of knowing the quality of the product and knowing the feasibility of animation media to be used in the school. The animation media validation process is carried out by three validators. The first validator is a material expert who evaluates the material aspects contained in the media, then the second validator is a media expert who assesses media aspects such as the quality of the display and media programs, and the third validator is a lecturer in global perspective courses who conducts an assessment of all aspects, starting from the material, the quality of the display and the overall media program.

The validation results obtained from the validators were then analyzed, the validation carried out by material experts obtained an average result of 90% with the "Very Eligible" category, also accompanied by some notes or suggestions as guidelines for media revision. Furthermore, the validation carried out by media experts obtained an average result of 95.38% with the "Very Eligible" category, also accompanied by several notes or suggestions as guidelines for media revision. The last validation conducted by the fifth grade teacher regarding all aspects obtained an average result of 91.64% in the "Very Eligible" category, accompanied by some notes and suggestions from the Lecturer. Based on the results of the validation carried out by the validator, it can be concluded that the media validity assessment can be said to be valid so that it is feasible to use.

The last stage in this research is evaluation. Evaluation is the last stage of the ADDIE model development step. Evaluation can be carried out at each stage of development, and an overall evaluation is carried out at the end of development activities. This stage evaluates the results of the media feasibility assessment by material experts, media experts, and classroom teachers. There are two types of evaluation carried out, namely formative evaluation and summative evaluation. Formative evaluation is an evaluation carried out in the development process, because the purpose is to need revision, while summative evaluation is an evaluation carried out at the last stage and aims to assess the feasibility of the media developed at the implementation stage. At this stage the researcher evaluates the media that has been developed based on the results of the media feasibility assessment by material experts, media experts, and classroom teachers. Judging from the validators of material experts, media experts, and classroom teachers, the average assessment was 90%, 95.38%, 91.64%. Based on the validation results of Animaker-based animation learning media, it is in the "Very Appropriate" category, so it can be concluded that Animaker-based animation learning media is feasible to use.

CONCLUSION

Based on the results of the research conducted, it can be concluded as follows:

- a. The development of 3-dimensional animation learning media uses 5 stages of research procedures, namely the analysis stage, the design stage, the development stage, the implementation stage and the evaluation stage.
- b. The assessment of the feasibility level that researchers have obtained from media experts and material experts about 3D animation learning media is 90% (Very Eligible) for the

results of the media expert assessment and 95.38% (Very Eligible) for the results of the material expert assessment.

- c. Assessment of the results of the lecturer's response got a percentage of 91.64% which was categorized as "very practical".

SUGGESTIONS

The suggestions that can be submitted by researchers are as follows:

- a. The developed 3-dimensional animation-based learning media should be used as a reference for the learning process and be able to develop more innovative learning media and the use of this developmental media should also be supported with adequate facilities.
- b. Lecturers are expected to be able to develop media that can motivate students in learning and make students more active in understanding the content of the material. And this media is not the only technology-based learning aid.

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