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Need Analysis of Learning Media Based 3 Dimensions in History Learning

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Info Articles	Abstract
Keywords: 3 dimensions, Media learning, History Learning	Learning media as a tool used in the learning process can make it easier to convey material from teachers to students so that they can increase effectiveness and efficiency in achieving learning objectives. This study aims to analyze the level of students' needs for historical learning media based on 3 dimensions. The data collection techniques used include: 1) questionnaires, knowing the needs of students in the history learning process: 2) observations, knowing the conditions and problems in history learning: 3) interviews with teachers and students. The data analysis technique used is descriptive analysis with data reduction, data presentation, conclusion drawing, and verification. The results of the analysis show that students choose interesting learning media based on 3 dimensions as much as 67.9%. The level of approval of students in supporting researchers in developing 3-dimensions-based learning media is 57.1%.

INTRODUCTION

Information and communication technology (ICT) is an unavoidable demand of globalization. The role and benefits of ICT impact almost every aspect of our lives, from work, socializing, to education. With regard to the role of ICT in education (Kara, 2017) argues that the ability of technology to include children in several activities as active participants provides opportunities for teachers to create a child-centered learning environment so that learning becomes effective. Education carries out at least two roles, namely instructional and normative. The first is the process of facilitating learning. The second is to be responsible for implementing practical aspects in order to comply with certain norms. It aims to develop the good character of an individual in the midst of increasingly rapid technological developments (Chotimah et al., 2021).

In connection with the conditions of technological development in the field of education, it is natural that the use of more diverse learning media is used, especially in materials and tools (Rahelly, 2015) Media is intended to make it easier to convey teaching materials from teachers to recipients (students), so as to heighten effectiveness and efficiency in achieving professional learning goals (Pratomo, A, 2015). With regard to professional learning, Leftwich (Degand, 2020) argues that education that still uses a traditional system will be centered on teachers, not students, and not disrupting technology in learning is important. Instead, they should be able to use a two-way relationship learning system between teachers adopting student-centered beliefs (emphasis on student interests) and requiring these teachers to be able to use technology in their classrooms.

In anticipation, teachers must have the ability to utilize technology in the learning process. In connection with the development of technology in the field of education, it is appropriate that the use of more diverse learning media be made, especially in media materials and tools. Learning media can be interpreted as a tool used in the learning process. The presence of media is intended to make it easier for teachers to convey teaching materials from teachers to recipients (students), so as to increase the value of mangkus and sangkil in achieving learning goals. This is in line with the opinion (Surachman, 2017), which states that media in learning can make learning more meaningful and help students understand abstract material to be more concrete. One of the subjects that require media as a tool in learning so that the material is more concrete and students' perceptions can be equated are history subjects.

Historical learning is characterized by a monotonous impression and only occurs in the form of memorization of the series of years and sequences of events that must be remembered. Some experts in education give opinions about the phenomenon of historical learning that occurs in Indonesia. As stated by (Subakti, 2010), in the process of historical learning, there are still many teachers using the conventional paradigm, namely the paradigm "teachers explain students' listening." Considering that historical events occurred centuries ago and not all components can be presented in class, especially class X (ten), the material will be difficult for learners to understand because it needs to be explained clearly. Pembelajaran history is a branch of science that systematically examines the overall development, development process, or dynamics of people's lives with all aspects of their lives that occurred in the past (Madjid, 2014). Another opinion says that historical learning is a process of learning about past conditions. Historical learning provides information about events that have occurred in the past (Cooper, L, 2012).

Learning history in today's digital era must prepare learners who have quality and character. Historical learning for students is very important because it can help them think more critically and wisely, and be able to understand the meaning and value of every past event to prepare for the future. Based on the results of interviews with history teachers at Srijaya State High School Palembang, there are difficulties for students in understanding the material of ancestral origins, and many students still get grades under KKM. Because of this, researchers will create content about the material origins of the ancestors of the Indonesian nation in learning media.

The history of the universe is much longer when compared to the history of mankind. Humans first appeared on the face of the earth about three million years ago, along with the occurrence of glaciation

(retection) in the epoch called plestosen (Poesponegoro, 2008). Experts mention many theories that show the origins of the ancestors of the Indonesian nation including yunan theory, nusantara theory, *Out of Africa theory* and *Out of Taiwan theory.* Based on (Gumelar, 2016) the forerunner of "Indonesian Citizens" began on the arrival of the first wave of Huns called the term Proto Malay and then the second wave named Deutero Melayu became Deutero Nusantara. The cultural heritage of our ancestors is an ancient heritage that is very valuable as a historical source and as a source of inspiration for the life of our nation now and in the future. Therefore, efforts are needed to understand and maintain its cultural values (Susanti, 2017).

Historical learning will be abstract and give rise to different views for students when presented without the help of media, especially 3-Dimensional media. 3-dimensional media is a medium whose appearance can be observed from any direction of view and has dimensions of length, width, and height or thickness. Three-dimensional media can also be interpreted as a group of media without projections whose presentation is visually three-dimensional. Meanwhile, another opinion mentions that three-dimensional media is a group of media without projections whose presentation is visually three dimensional. This media group can be tangible as a real thing in both life and death, and can also be tangible as a clone representing the original (Daryanto, 2010).

3-dimensional media will help learners by providing an emotional touch at learning time, especially in historical learning, because students will feel that they are involved in the learning process by feeling a 3-dimensional touch so that the media presented can be seen from various sides. According to the opinion (Asrotun, 2014), the characteristics of three-dimensional media are as follows:

1. Its use is practical and does not require much processing.
2. Presenting the material in an integrated manner is, in other words, easy for students to understand.
3. Involving students in their use
4. Delivery of materials can be done simultaneously.
5. Overcoming space, time, and senses

The results of previous research showed that 3-dimensional media can develop a person's imagination, abstract imagination becomes concrete. This mental process is very important improving cognitive and reasoning skills as well as spatial intelligence and creativity (Supardi, 2015). Based on the results of obeservasi through interviews and the dissemination of questionnaires through *Google forms* , it is known that teachers at Srijaya State High School Palembang once used several 3-dimensional based media in the learning process. The 3-dimensional media is a 3-dimensional animated video and *Microsoft Powerpoint 2019.*

Through *a google form* questionnaire sheet distributed to students to find out the dominant learning style in the class. The learning style refers to psychological characteristics that affect how students look and respond to various stimuli given. Connell in the book (Yaumi, 2017) divides the learning style into three parts, namely *visual learners, auditory learners, and kinesthetic learners.* Based on the data obtained, it shows that the dominant learning style in the class is the audio visual learning style, so it is suitable when applying 3-dimensional based media in the historical learning process in the class. Today, there are many types of 3-dimensional applications that can be used to support learning in the classroom, one of which is the *Adobe Animate 3D application.*

Adobe Animate is a software tool that can work like its predecessor, *Adobe Flash Professional. Adobe Animate* is the latest version of *Adobe Flash* CS6 developed by *Adobe. The Adobe Animate* application replaced the software and complemented the shortcomings of *Adobe Flash*, by adding new features such as the use of HTML5 Canvas and WebGL. *Adobe* continued to develop Flash until it was renamed *Adobe Animate* and helped web developers design HTML5 animations, promotional materials, animated videos, learning materials, web versions of games, etc. *Adobe Animate's 3D* display will later be made different from *adobe animate 3D* in general. *Adobe Animate 3D* will be created with varied content such as images, audio,

video, interactive maps, and animations, arranged in such a way as to attract students so as to improve learning outcomes.

Research on *Adobe Animate 3D* applications has been conducted by ((Pratama et al., 2020) entitled "*The Use Of Adobe Animate As A New Technology In Teaching Academic Essay Writing In Darma Persada University."* The results of this study are for lecturers who *use Adobe Animate. can* achieve more proficiency in compared to those who do not use technology. Lecturers can use *adobe animate* with diverse design content, and audio visuals can be evaluated well. There are current features in *adobe animate* that make students more interested, such as cartoons, animations, funny music, etc. must be chosen to be able to provide stimulus to students.

Further research on the use of *Adobe Animate 3D* media in learning was conducted by (Nurbaiti, 2017) from Tanjungpura University in *UNNES Science Education Journal Vol. 6 No. 3*, reporting the results of a study entitled *The Properness of Adobe Animate Basis Interactive Media for Respiratory System Learning Material*. This interactive media development research based on *Adobe Animate* is applied to respiratory system materials. The data was validated using questionnaires conducted by three validators. The average validation score is 3.28 and it is categorized as valid. It was concluded that Adobe Animate-based interactive media deserves to be used as a learning medium for respiratory system materials.

Some things that distinguish this research from previous research are that this research will be conducted on historical subjects based on the material of the origin of the ancestors of the Indonesian nation. Researchers designed the learning media using *3D Adobe Animate* in collaboration with *Adobe Illustrator CS6* and *Adobe Flash CS6*. With the collaboration, it is hoped that it will produce media that has interactive content by displaying interesting animations or illustrations, videos, audio, and quizzes to improve learners' learning outcomes.

Based on the introduction above, this research aims to conduct a Preliminary Study on *3-Dimensional* Based Learning Media on The Origin Material of The Ancestors of the Indonesian Nation Class X at Srijaya State High School Palembang.

METHODS

Research is carried out with a descriptive qualitative research approach. The presence of researchers in the study is through field observation, interviews with related teachers, and the dissemination of questionnaires to students. The research location used to collect research data is Srijaya State High School Palembang. An interview was conducted with Defri Okta Diansah as a history teacher and student in class X-IPS 3, which numbered 28 people. Data collection techniques are used, including: 1) questionnaire, knowing the needs of learners in the historical learning process: 2) In historical learning, observation, knowledge of conditions, and problems:3) In-depth interviews with teachers and studentsThe data analysis techniques used are descriptive analysis with data reduction, data presentation, conclusion drawing, and verification.

RESULTS AND DISCUSSIONS

Learner Scope Analysis

Researchers analyzed the scope of students using *googleform* against class X-IPS 3 learners at Srijaya State High School Palembang. The results of the scope analysis of learners can be seen as follows.

Figure 1. Scope of learners

Based on the data in the image above it is known that:

1. Students with a total of 71.4% still have difficulty understanding the material about the origins of the ancestors of the Indonesian nation.

2. Students have several reasons for difficulty in learning and understanding the material about the origins of the ancestors of the Indonesian nation. A total of 57.1% of learners stated that they had difficulty understanding because the material presented was limited to explanations from teachers, while 25% of learners stated that the learning books used were difficult to understand and unattractive. And as many as 17.9% of students expressed little additional reference in understanding the origins of the ancestors of the Indonesian nation.

Figure 2. The problem of historical learning in keals.

Based on the data in the image above it is known that:

1. Learners with a total of 76.6% stated that they needed interesting learning media, and a total of 21.4% of learners chose module-based learning media.

2. Learners choose interesting learning media based on 3 dimensions of 67.9% and a total of 32.1% choose learning media with power points.
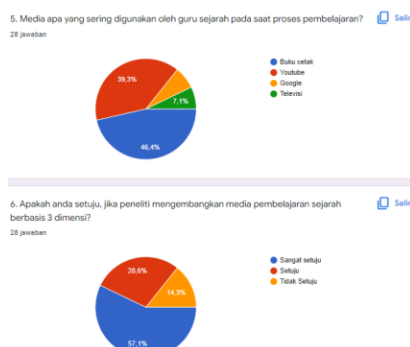
Figure 3. Analysis of frequently used learning media

Based on the data in the image above it is known that:

1. Based on questions about what learning media is often used, 46.4% answered that teachers often use printed books in history learning.
2. The level of agreement of learners in supporting researchers to develop 3-dimensional learning media was 57.1% strongly agreed and 28.6% agreed.

Based on this information, researchers analyzed the need to choose to develop a 3-dimensional history learning media according to the needs of learners because the media can help visualize historical concepts that are considered difficult.

Analyzing School Facilities and Infrastructure

The results of the analysis of facilities and infrastructure can be seen in the following table:

Table 1. Srijaya State High School Study Environment Palembang

Facilities and Infrastructure	Exists/None	Information
Computer/Laptop	Exist	30 Laptops
Internet	Exist	Connected
LCD Projector	Exist	Available
Website	Exist	https://smasrijayanegarapalembang.sch.id/

Facilities and infrastructure are one of the important support in carrying out the learning process at school. The absence of facilities and infrastructure will complicate learning activities that will also affect the high and low learning outcomes of students.
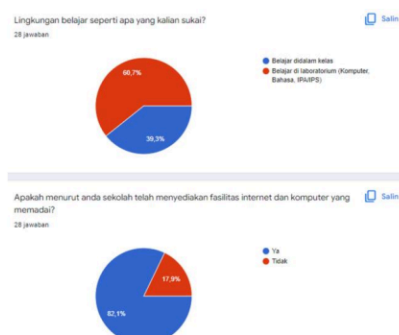
Figure 4. Analysis of school facilities and infrastructure

It can be seen in the table above that the facilities and infrastructure contained in Srijaya State High School Palembang have been fairly adequate with the availability of computers / laptops and also the internet. In addition, in the questionnaire data shared with learners it is known that:

1. As many as 60.7% of learners like to study in an atmosphere outside the classroom, such as a laboratory
2. A total of 82.1% of learners agreed that there adequate school facilities.

History Subject Educator Scope Analysis

Based on the results of the needs analysis at Srijaya State High School Palembang, researchers obtained some information that supports the selection of learning media and materials developed in historical learning on materials from the origins of the ancestors of the Indonesian nation. Some of the findings of the analysis are as follows.

1. According to the educator of class X history subjects, the achievement of the results of students' competencies in historical learning is still relatively low. This is because historical learning is still considered difficult and there are concepts that are abstract, so they require visualization.
2. Lecture learning methods still dominate in the learning process, so learners are more passive and do not understand the learning styles of learners in the learning process.
3. Educators rarely take advantage of learning support facilities such as wifi, LCD, and they rarely take advantage of the student's policy of carrying a smartphone to facilitate the learning process. This has an impact on the low learning outcomes of learners.

Based on the above analysis, it allows students to lack understanding of the material about the origins of the ancestors of the Indonesian nation due to a lack of innovation in the historical learning process. Educators need a proper solution in the form of learning media that can visualize historical concepts. The learning media needed must be in accordance with the needs and characteristics of learners so that they can help students in improve their learning outcomes. Here are the results of interviews with history subject educators.

Figure 5. Instrument interview with history teacher

Broadly speaking throughout the interview, the history teacher, Mr. Defri, stated that:

"The level of achievement of historical learning in class X is still not optimal. There are still some materials that students have not completed KKM, one of which is the origin of the ancestors of the Indonesian nation. If you look at the facilities and infrastructure provided by the school, it is actually enough for a teacher to use more innovative and current learning media, but there are difficulties for teachers to be able to operate the latest learning media, so that training is needed for teachers. So far, teachers more often use the learning methods of lectures and discussions in the class and are still not interactive, so it is necessary to help develop the latest learning media that can make historical learning more concrete and real. "

Analysis of The Scope of Characteristics of Learners

Researchers identify the characteristics of students by using a google form conducted online at SMA Srijaya Negara Palembang. As for the findings, as follows.
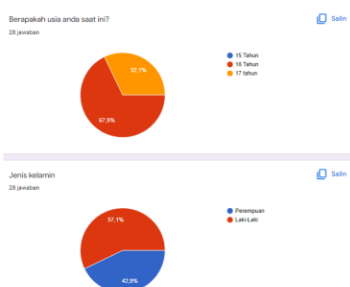
Figure 6. Analysis of learner characteristics

Based on the data in the image above it is known that:

1. As many as 67.9% of Class X students were 15 or older. The number of men is 57.1% and women are 42.9%.
2. As many as 75% of learners are used to using a laptop or computer.
3. A total of 78.6% of learners like the learning style of seeing and listening simultaneously (audio visual).

Based on the characteristics of learners, the researchers concluded that all learners are included in the generazi Z category which is identical to proficiency in using technology, especially to support the learning process. These results support the development of 3-dimensional based on the subjects of the material history of the origins of the ancestors of the Indonesian nation.

Based on the analysis of needs from observations, questionnaires, and interviews, it can be seen the importance of applying the latest learning media to historical learning. Given that not all components of historical material can be presented in the classroom because they happened centuries ago. So that 3-dimensional learning media can help teachers in presenting historical components that look real and concrete. The use of learning media must be adjusted to the characteristics of learners. Based on the results of the needs analysis, most learners like the audio visual learning style, learners are able to operate a computer or laptop. Learners have difficulty understanding the material about the origins of the ancestors of the Indonesian nation and teachers have never used 3-dimensional based media. Most of the learners have not been able to exceed the value of KKM in the material of the origin of the ancestors. So, to overcome this, the importance of using 3-dimensional based learning media.

CONCLUSIONS

The conclusion that can be drawn from the analysis of this need is the need to develop a 3-dimensional learning media in the historical learning process that will help teachers in conveying abstract material to be more concrete. Because historical events have occurred in the past so that not all components can be presented directly in class, it requires the help of the media in the learning process. Based on the analysis of the scope of learners, it is stated that there needs to be a change in the use of learning media in a more interesting and creative class. Seeing that the condition of adequate school facilities and infrastructure and the ability of learners to operate a computer or laptop is the next consideration to be able to develop a 3-dimensional learning media using *adobe Animate 3D* applications to produce interactive learning.

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