NEEDS ANALYSIS OF HISTORY LEARNING HINDU AND BUDDHIST HERITAGE CONTENT BASED ON AUGMENTED REALITY AS A LEARNING MEDIA DEVELOPMENT

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ABSTRACT

The purpose of this study is to know the needs of historical learning by based on augmented reality temple in west Java as a media of historical learning in a high school. augmented reality media in schools that suit the needs of students can provide awareness of the importance of history. wherefore in indicators of historical consciousness, students should be able to preserve and preserve the past relics of their nation. This research method uses a descriptive qualitative type to describe and explain data with a narrative. the subjects in this study were high school students who numbered 36 respondents, research instruments in the form of the spread of questionnaires in one of the schools located in Indonesia west Java province of Tasikmalaya city. Data processing using descriptive statistics. Based on the results of the data obtained, 61% of students admitted that the study of history in the class has used the method well. Thus, 47% of students consider that teachers use media in interactive and innovative learning. and 75% of students approve and need augmented reality-based learning media content that can be integrated into historical learning.

KEYWORDS: Needs analysis, History Learning, augmented reality, learning media

1. INTRODUCTION

We now live in an era of all-round technology use, even now technology has entered various aspects of life, among them both from the field of military, health, marketing and even education not separated from the use of technology, the development of technology sped up rapidly because technology has a very important role in every field. It also shows the world of education that it is a demand to be able to adjust to the development of the times. In technology education in particular can provide an innovation and provide ease in learning because it can provide an imaginative and interactive exploration of knowledge by engaging directly with students. Bronack argues that more important technology is how it supports and provides meaningful learning. (Bronack,2011) to achieve these learning goals, it is necessary to pay attention to the learning needs of students with the utilization of technology or historical learning media. so that the learning process can feel well and according to the plan. Therefore, the needs analysis is an important indicator that will determine whether or not learning goals are achieved. Kaufman explains that needs analysis can be describe as a gap between "what it is" and "what should happen" in the form of results (Kaufman & English, 1979: 8). Needs analysis is a necessary process because in this activity get a clear reflection of the gap between reality and expected (students).

The need for historical learning can be interpreted as the distance between knowledge and consciousness of the historical importance that students have because needs analysis is a tool to identify problems that occur and determine appropriate actions. So that the analysis of needs is an effort or action taken to research and find the necessary things in achieving the learning process.

Historical material is a learning that is less in demand by students because many students consider that historical learning is a learning that refers all to memorization, it will have an impact on the low interest in learning and motivation of learning that exists in students and can influence awareness of the importance of our nation's history. Therefore, the analysis of the need for the use of augmented media is necessary for students to feel that learning activities are a meaningful part of the historical learning experience.

Augmented reality is the merging of virtual worlds and real worlds whether they are two-dimensional or three-dimensional is able to be projected into a real environment at the same time. Augmented reality can give students information about any object, thus making information easier and more complexes that are capable of providing good reciprocity. For example, historical data about events or sites and relics of past relics that exist in historical learning.

Augmented Reality has the potential to attract, inspire, and motivate students, to explore and control from a variety of different perspectives, which were not previously considerations in historical learning. In order to establish historical awareness about the heritage of the nation that is meaningful to students then, then students need to learn the relics left by the perpetrators of their past history, as students who are in schools in West Java, namely in Tasikmalaya area, students need to know the relics that exist in their area in order to be able to preserve and preserve the relics. That's why augmented reality-based learning is needed in history learning.

This research aims to find out and analyze (1) historical learning conditions from both methods, media, and learning resources in the class. (2) the need for augmented reality-based historical learning on the content of Hindu and Buddhist heritage temples in west Java. The implementation of the venue took place in a high school in Indonesia, and (3) the role of teachers to utilize augmented reality media.

THEORETICAL REVIEW
Needs Analysis
Necessity could mean demand, obligation and need (Martins, 2017: 58). Needs analysis is what the learner needs to do in order to learn (Nation & Macalister, 2010: 24). Because the task of the needs analysis varies greatly because the needs analysis aims to gather information about students (Otilia, 2015:54-55). In addition, duddley said that the purpose of the analysis of needs in the educational process is as follows: (1) the objective information of students participating in a learning program based on information collected through various sources, (2) analysis of current situations to provide information about the effectiveness of the program implemented in accordance with the needs of

current and future students, (3) information about the preferred learning or learning style, (5) information about students' preferences for specific skills and preferences for learning these skills, (6) factors that determine the role relationship between teacher and student, and (7) information relating to a preference for teaching activities (duddley, Evans & John, 1998:125). This means that subjective needs factors that influence style learning depend on the needs of students.

Augmented Reality

The rapid development of technology requires a person to have a high skill to form new knowledge, one of which is augmented reality. Augmented reality is the projection of material through computer creation, such as writing, video, and images into a real perspective (Yuen,2011:120). Augmented reality combines the real world and the digital world or its term combines or augments the look of video or photography by piercing images with data generated by computers (Siltanen, 2012: 16). Augmented reality allows a user to see the real world, using virtual objects combined with the real world (Azuma 1997: 355-356). Augmented reality is able to be easily used in a learning activity in adding an additional dimension that is able to provide and increase student engagement and provide additional information comprehensively (Oakley, 2017: 159). Lee (2012:15) revealed that augmented reality is a highly efficient technology for education that can also be created by utilizing or connecting innovative technologies such as using smartphones or computers.

But in the use of augmented reality media related to how augmented reality is created, designed, implemented until integrated into learning and used as a learning media development. Augmented reality is a media that engages students by combining real-world context with digital simulations (Klopfer, E., & Sheldon, 2010:86) augmented reality media development has the potential to improve cognitive and affective student learning activities. in addition (Wu, Lee, Chang, & Liang, 2013: 1) explained that augmented reality can be a lucrative educational opportunity.

METHOD

This study uses descriptive qualitative methods. Data collection using observation, and questionnaires and data processing using descriptive statistics. This research was conducted at a high school in Tasikmalaya City area, West Java, Indonesia. The subjects in the study were 36 students as respondents.

The questionnaire used is to collect data on historical learning needs in groups. Students fill out the given questionnaire by having a statement using a Likert scale with four alternative answers. The questionnaire contains questions related to the condition of the historical learning process in the school and the learning required by students and teachers in the class, both from the way the teacher method teaches, the use of learning media, and the learning resources available or provided in the school. As well as the need to make augmented reality a learning media development.

Furthermore, the results of the poll data were analyzed using the Miles, Huberman, Saldana (2014) methods. The stages consist of data collection, data condensation, data display, and data withdrawal or verification. Then the method of triangulation and triangulation theory to be able to guarantee valid results and temporary narrative for the withdrawal of conclusions is by calculating the amount of historical learning needs of students based on augmented reality temple in West Java as a learning media development by using formula (Sudjana, 2001:128).

$$P = \frac{f}{N} \ x \ 100\%$$

Description:

P = Percentage number

F = frequency being searched percentage

N = Number of frequencies

      Here are the percentage criteria for historical defense needs modified from Arikunto (2013):

0 – 25 % = Very not needed / bad

26 – 50 % = No Need / not good

51 – 75 % = Need / good

76 – 100 % = Very Needy / good wishes

RESULT AND DISCUSSION

After the researchers spread the questionnaire about the condition of historical learning needs that took place so far judging by the teaching teacher's methods, the use of media, and learning resources available in the classroom as well as the need for the use of augmented reality media integrated into historical learning consisting of three indicators with each having 5 statements with a scaled assessment likert with 4 options. The poll results that have been filled by student respondents are displayed in the following percentage form:
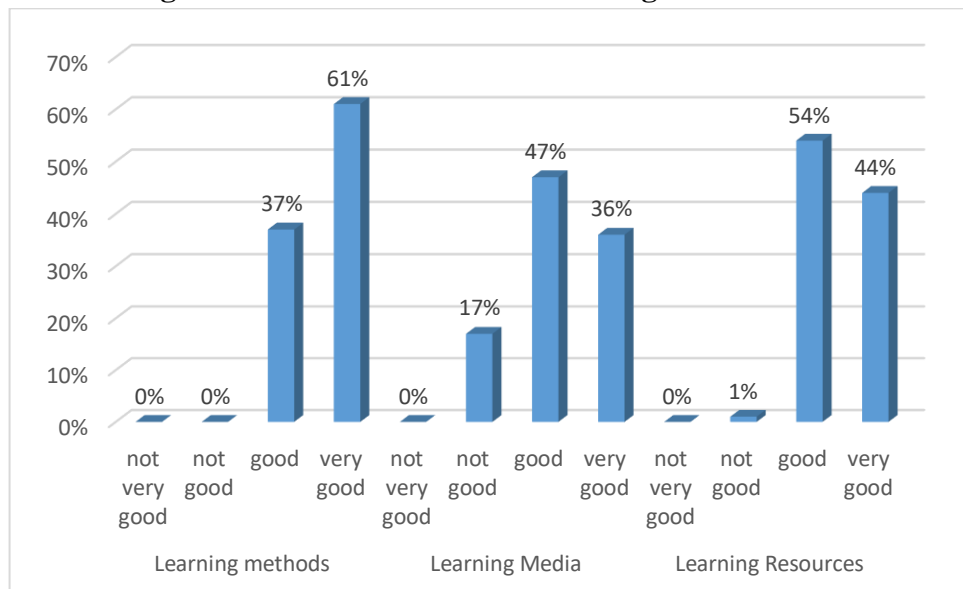
1. Results of historical learning needs analysis

Table percentage of historical learning indicators used so far used

No	Indicators of historical learning needs	percentage
1	Learning methods	61%
2	Learning media	47%
3	Learning resources	54%

Based on the table above, it can be concluded that the learning methods used in historical learning in the class get a percentage of 61% which means the methods used by teachers are quite varied and are

in the category of "good". while the results of the learning media used are seen from how often teachers use learning media, how well teachers use media that can give learning interest is gained a percentage of 47% which means the learning media used still has some constraints because the percentage results show in the category "not good" it turns out to be a problem that causes interest in historical learning to decrease because the learning media used is less varied. And for the learning resource indicator obtained results of 54% which means the learning resources and teaching materials used either in school or that have been provided fall into the category of "good". Of these three indicators produce a histogram as follows:

Histogram indicator of historical learning needs so far used

2. Results of an analysis of the needs of augmented reality-based learning media on historical learning

Based on the above described data in the learning media indicators can be shown that history teachers are less varied in using media as a tool to help convey the message of historical learning to students. therefore, researchers offer a media that provides stimulation to learn or interest in learning history in content discussing Hindu and Buddhist relics in Indonesia that focus more on relics located in the province of West Java to help awareness of the local history of students. the media offered is augmented reality media with temple objects that exist in the area of west java or the surrounding student area. Here are the results of the questionnaire that has been filled by students to support the needs of augmented reality as a medium of historical learning:

Results of an analysis of the needs of augmented reality-based learning media development on historical learning

No	Indikator	Persentase
1	State of Consciousness of material historical learning about Hindu-Buddhist relics in Indonesia	49 %
2	Facility conditions that can support using augmented reality as a learning media development	61 %
3	Augmented reality-based learning media needs	75 %

Based on the results of the analysis of the disclosure of the needs of augmented media used in the historical content of the materials of the temples can be identified as much as 49% of students know the content of material related to Hindu heritage. The result is in the category of "not good" which means there are constraints in the delivery of Hindu and Buddhist material in Indonesia, the cause can be the affordability of time in the delivery of materials and can be a lack of awareness from students who are only able to capture the famous temple. Meanwhile, 61% of students who are in school or owned by private facilities are sufficient in the category of "good".

For the need for the use of augmented reality to be used in the study of the history of temple material 75 % of students enter into the category of "good or need" which means that students agree and support the creation and development of augmented reality-based historical learning media on the content of temple material of Hindu-Buddhist heritage located in west Java. Researchers have a belief that augmented reality-based historical learning is made clear and not be boring. So students can be helped to understand the concept and exploration of historical learning materials related to the temple in their environment so that it can help students in understanding the value of local history contained in students. Of these three indicators produce a histogram as follows:
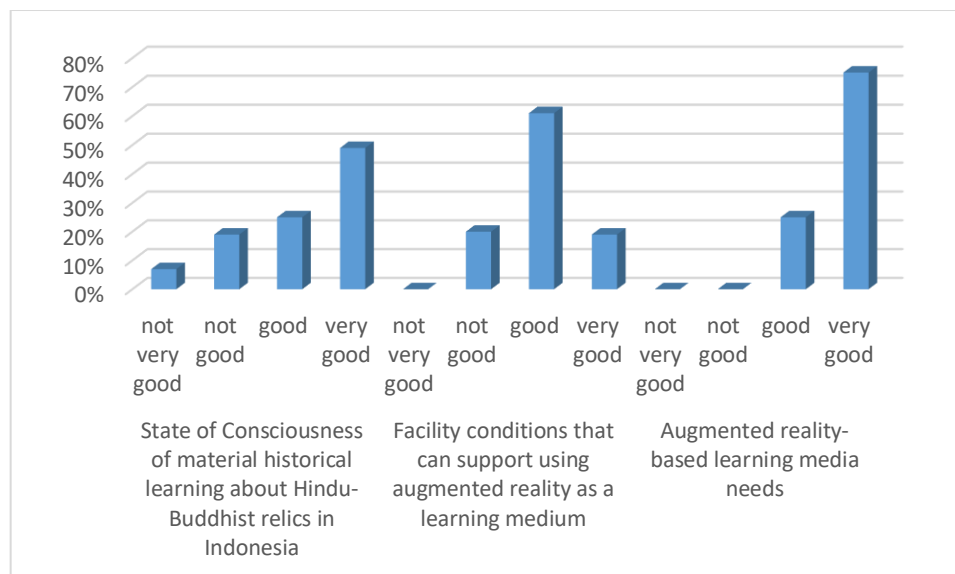
3. The role of teachers in utilizing augmented reality as a learning media

Teachers are an important subject in historical learning to overcome the awareness of their students, because teachers are instrumental in printing a generation of qualified and qualified people so that teachers are now required to be able to provide the best in learning, but in this technological era students are now not only given enough material but need to also be given media that can provide good reciprocal results in terms of understanding.

based on the above results data that historical learning, students need digital learning media augmented reality. Because in the use of digital media in learning aims to help students learn how to utilize digital media tailored to the development of the times (Han Woo & Biddix, 2014: 105). In addition to this, globalization and the era of teacher technology are also required in having the creativity to choose and create digital media that can help provide the spirit of learning and interest in the learning process. so as to bring variety and freshness to a meaningful learning experience.

Augmented reality is a solution to make historical learning not rigid so that there is good interaction between teachers and students, augmented reality can form a historical object that can be displayed in three dimensions be it a historical object or a historical relic. This can give interest because it can explore objects in the delivery of historical learning, especially in Hindu-Buddhist relics to be used as augmented reality objects in historical learning.

The reason why augmented reality should be a reference to some of the research that has been done provides good results for students such as research conducted by Schrier L Karen (2005) that augmented reality can engage students in historic moments and historical practices that help teach historical investigation, decision making and critical thinking skills. Besides augmented reality can

improve learning performance (Liu et al, 2009; Dunleav, et al 2009). The use of augmented reality can increase the effectiveness in introducing cultural heritage (Bostanchi et al 2015)

Based on the above description, augmented reality media as a medium of historical learning deserves to be tested because it can be supporting material in historical learning, especially temples in west java province, Indonesia with the use of interactive and modern media can raise historical awareness in students. therefore, based on some research that has been done by researchers related to augmented reality, teachers deserve to utilize the medium as a medium of historical learning.

CONCLUSION

After an analyst conducted historical learning needs on students in one of the schools in Indonesia West Java region. Through descriptive statistical research with data retrieval techniques through questionnaires. Therefore, based on the results of the analysis, it can be concluded that 61% of students consider that the methods used by teachers to teach are sufficient or even students need more varied learning methods. 47% of students think that teachers are less interactive in using learning media that can influence students' learning outcomes, students want media that is directly related to the real environment. And 54% of students consider the relevant teaching resources or materials to be sufficient. While based on the results of the analysis of the need for augmented reality media obtained a percentage of 75% of students admitted to needing augmented reality media as a media of temple learning to display objects to facilitate to explore Hindu-Buddhist relic material. students' learning needs so that the development can benefit from improving the student learning experience so that the teacher provides the maximum learning experience.

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