Development of Kahoot! -based Learning Media in Geography Subjects

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ABSTRACT

To create an effective learning atmosphere in the classroom, teachers need to use various types of media. One of the media that can be used in geography learning is learning by using Kahoot! . This study aims to determine the feasibility of the Kahoot! application as a geography learning medium. The type of research used is Research and Development (R&D). This study uses the ADDIE development research model, with the following development stages Analysis; Design; Development; Implementation; and Evaluation. The results of validation by material experts with an average percentage of 87% with very decent criteria. Media expert validation results with an average percentage of 85% with very decent criteria. The results of the small group trials of students with an average of 84% with very decent criteria. The results of large group trials on students with an average of 84%. So it can be concluded that the development of Kahoot! -based geography learning media is feasible to use in geography learning.

Keywords: Development, Learning Media, ADDIE model, Kahoot! , Geography.

INTRODUCTION

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential so that they have religious spiritual strength, self-control, personality, intelligence, noble character, and the skills needed by themselves, society, nation, and state contained in Law of the Republic of Indonesia No. 20/2003 concerning "the National Education System". Furthermore, in the Law of the Republic of Indonesia No. 20/2003 concerning "the National Education System" article 3 states "National education functions to develop capabilities and form distinguished national character and civilization in the framework of educating the nation's life, aiming at developing the potential of students to become good human beings. believe in and fear god almighty, have character, be healthy, knowledgeable, capable, creative, independent, and be a democratic and responsible citizen". The estuary of the goal of national education is the realization of a Pancasila student profile in students. The Ministry of Education and Culture has established 6 (six) profiles of Pancasila students that must be developed among today's students global diversity, cooperation, creativity, critical thinking, independence, and have faith, fear of God Almighty, and a noble character dalam Regulation of the Minister of Education and Culture of the Republic of Indonesia No. 22/2020 concerning the Strategic Plan of the Ministry of Education and Culture for 2022-2024.

In realizing the Pancasila student profile, learning activities must be adapted to the nature of the child. Every child has their potential that can be developed. The potential of every child is different. Learning activities must be designed to meet the diverse characteristics of students. So that students have independence in learning according to their potential and characteristics. Thus it is hoped that the realization of student leadership in the form of student choice, student voice, and student ownership. According to Ki Hajar

Dewantara, education is a guide that guides all the natures that exist in students so that they as human beings and as a society can find the highest prosperity and happiness in life. Because education is a guide, the educator's task is to find the best potential that exists within students and cultivate this potential by following their nature, educators only care for the growth of this nature. Even though they get an education from the teacher and go to the same school, they will grow in their own way (Rahayuningsih, 2015). The nature of this child's life manifests as a child's talent. The development and progress of children are achieved based on the development of their nature. Education cannot impose, and cannot participate in determining absolutely the nature possessed by children. According to Suparlan (2015) is used as an educational tool, namely maintenance with the greatest possible attention to getting the growth and development of the child's life physically and spiritually, according to his nature. Geography subjects discuss material about the earth and all its contents, including studying the layers of rock, soil, layers of air, water, and the distribution of flora and fauna. Geography subjects are essentially learning about the spatial aspects of the earth's surface which are all natural phenomena and human life with regional variations (Natakusuma, 2017). Geography learning should be an interesting lesson because it teaches something that exists in the environment where students live.

The activeness of students in learning geography in class X Social Science in Senior High School (SHS) 7 Seluma is still lacking. Learners tend to be passive during learning. The enthusiasm of the students in participating in learning has not been seen even though they have used the media in the form of PowerPoint. The use of the same learning media every meeting makes students bored, so teachers need to use various learning models and media. Many learning models can be used by teachers that can be adapted to the characteristics of students and the material to be taught. From the results of discussions with several students, information was obtained that they enjoyed learning using various learning media related to Information and Technology (IT). The dynamics of the geography teaching process can occur through the application of Information and Communication Technology (ICT) resources, which have become almost indispensable for the educational environment, recognizing their formative and social role in the educational process (Manolachi, 2021). This is in line with what was conveyed by Sulistiyawati (2021) that the Kahoot! educational game can be used by teachers as an alternative in learning to support learning so that learning is more varied, not boring, and more fun. From the author's observation, students often spend time using mobile phones, this can be seen during recess or when the teacher is late for class. About 90 percent of students use their mobile phones. They use mobile phones to play games, social media such as Facebook, Instagram, Twitter, YouTube, and WhatsApp, and search for information on the internet.

According to Binh (2018) to create an educative atmosphere/effective learning activities in class, teachers need to use various types of teaching aids. Teaching aids are tools such as pictures, games, storytelling, etc. that are used by teachers to present a new language, to stimulate students or to relieve anxiety/fear/boredom, to attract attention, etc. One of the media that can be used in geography learning is learning using Kahoot! . Kahoot! is media in the form of a web-based interactive learning application that can be used to make simple quizzes and games (Fahrurrozi, 2021). Operation of the Kahoot! application is very easy to do, Kahoot! can be accessed via an application or website, making it practical to use (Damayanti, 2021). According to Jones (2019) one of the platforms that can be used for Game-based Learning is Kahoot! . Kahoot! can be used to develop educational technology based on digital game-based learning to be integrated into class or online and can be accessed with the help of various devices, such as laptops, smartphones, tablets, and projectors. Playing the game twice encourages students to rethink questions they missed in round one. It also provides a competitive game-like environment with energy and

engagement. Students have reported using Kahoot! as fun, interactive, engaging, and fun (Baszuk, 2020). Using the Kahoot! software can increase student motivation through competition with friends during interventions and collaboration (Rabong, 2020). There are a variety of technology tools and software that can be used to enhance the teaching and learning process. integration of 'gamification' based software such as Kahoot! can influence and enhance learning outcomes. Kahoot! creates a fun and competitive environment that promotes learning. Educators can use it for assessment purposes or challenge students to use inquiry research methods to create their quizzes. From the description above, the authors are interested in researching the use of Kahoot! in learning with the title "Development of Kahoot! -based Learning Media in Geography Subjects".

METHODS

The type of research used is R&D. Research and Development is a research method used to produce certain products and test the effectiveness of these products (Rustandi, 2021). This study uses the ADDIE development research model, with the following development stages: Analysis; Design; Development; Implementation; and Evaluation (Anafi, 2021). The test subjects were used according to the needs of the development stage, namely students of SHS 7 Seluma class X Social Science consisting of a small group of 10 students and a large group of 35 students. The type of data used in this study, namely qualitative data, was obtained from the input of geography teachers, material experts, and media experts regarding the products being developed. Quantitative data in this study were obtained from material expert assessment questionnaires, media experts, student responses, and analysis of the validity of the items. This research is expected to produce a geography learning media that is interactive, and interesting, and increases the activity of class X Social Science students at SHS 7 Seluma.

Data collection and analysis techniques were carried out using utilizing employing through school observations, interviews with geography teachers, and by using questionnaires distributed to students to carry out needs analysis and assessment of products to determine the practicality of the product, expert assessment sheets, and the media to determine the validity of the product. The data analysis technique used in this study is descriptive analysis, namely by calculating the percentage of validation results.

$$\text{Percentage} = \frac{\text{obtained score}}{\text{Maximum score}} X\ 100\%$$

According to Astuti (2017), the feasibility level of product development research results is identified with the score presence. The greater the presentation of the score on the results of data analysis, the better the feasibility level of the research and development product. The criteria for making decisions in validating Kahoot! -based learning media can be seen in the following Table 1 below.

Table 1. Learning media feasibility scale

Percentage	Criteria
x > 81%	Very Eligible
61% < x ≤ 80%	Worthy
41% < x ≤ 60%	Decent Enough
21% < x ≤ 40%	Less Eligible
x ≤ 20%	Very Inadequate

RESULTS

3.1 Analysis phase

In this phase, the main activity is analyzing the need for media development in learning, some of the analyses carried out are performance analysis, student analysis, fact analysis, and analysis of learning objectives (Cahyadi, 2019). The Analysis is a very high-priority area for instructional designers (Ozdilek, 2009). Teachers need to make a comprehensive analysis of students and themselves to learn what students need and what they can provide (Zhang, 2020). The analysis phase was carried out by observing and interviewing geography teachers. Based on observations made by SHS 7 Seluma using the 2013 curriculum. SHS 7 Seluma already has computer laboratories and wifi facilities, but they have not been used optimally for learning activities. Based on the results of interviews with geography teachers in learning the use of internet technology, there is still a gap. Teachers more often use conventional ways of learning. Besides that, based on discussions and observations made, most students already have gadgets, but their use for learning is still lacking. Students use more gadgets to play online games and social media. So the a need for the development of information technology-based learning media.

3.2 Design phase

The planning phase involves using the outputs from the Analysis phase to plan development strategies. The results of the planning stage will be input for the development stage (Muruganantham, 2015). Based on the results obtained at the analysis phase, from observations and interviews with geography teachers, an idea emerged to develop geography learning media using the Kahoot! application in learning. Based on the information obtained from the results of observations and interviews, after, a learning media design was carried out using the Kahoot! application to be tested on students. The media compiled is in the form of a quiz in the form of multiple choice questions using the Kahoot! application.

3.3 Development Phase

This phase is a systematic process that starts from setting learning goals, designing scenarios or teaching and learning activities, designing learning tools, designing learning materials, and learning outcomes evaluation tools. The design of this learning model/method is still conceptual and will underlie the next development process (Mulyatiningsih, 2016). In the development phase, researchers carry out activities such as making learning media and building all content and components based on the design phase (Rosmiati, 2021). In this phase, development is carried out, namely making learning media by following the plans that have been made before, namely using the Kahoot! application.
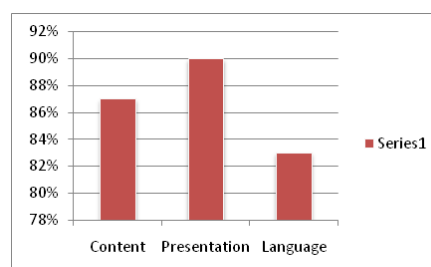
Material expert validation

Figure 1. Material expert validation results

Based on the material expert validation picture above, the results for the content aspect are 87% with the criteria of "Very Eligible". The aspect of the presentation of the material is 90% with the criteria of "Very Eligible". The language aspect is 83% with the "Very Eligible" criteria. From the results of the material expert validation questionnaire data processing, the final average value was 87%, with the criteria "Very feasible". From these results, it can be concluded from the results of expert validation of Kahoot! -based geography learning media material that it is feasible to conduct trials on students.
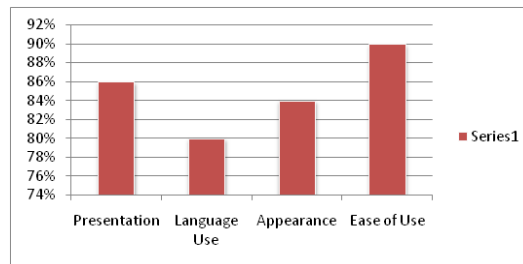
Media expert validation

Figure 2. Media expert validation results

Based on the media expert validation image above, the results for the presentation are 86% with the criteria of "Very Eligible". The aspect of using language is 80% with the "Decent" criteria. The display aspect is 84% with the "Very Eligible" criteria. The ease of use aspect is 90% with the "Very Eligible" criteria. From the results of processing the validation questionnaire data from media experts, a final average value of 85% was obtained, with the criteria "Very feasible". From these results, it can be concluded from the results of expert validation of Kahoot! -based geography learning media material that it is feasible to conduct trials on students.
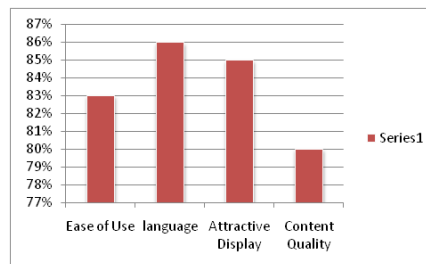
Small group trial

Figure 3. Small group trial results

Based on the results of the small group trial results above, the results for the ease of use aspect were 83% with the "Very Eligible" criteria. The linguistic aspect is 86% with the "Very Eligible" criteria. Attractive display aspect of 85% with the criteria of "Very Eligible". The aspect of content quality is 80% with the "Decent" criteria. From the results of processing the small group trial questionnaire, the final average value was 84%, with the criteria "Very feasible". From these results, it can be concluded that from the results of small group trials the development of Kahoot! -based geography learning media is feasible to continue with larger groups.

3.4 Implementation Phase
The implementation phase is very important because, in this phase, preparations and planning begin to be put into action (Jonnalagadda, 2022). At this phase, the results of the

development that has been carried out are applied in learning to determine the effect on the quality of learning (Puspasari, 2019). The results of the development that has been carried out are used in learning to determine the effect of media on the quality of learning which includes the effectiveness, attractiveness, and efficiency of learning. Application is carried out in large groups to get input from students and teachers as material for improving product drafts.
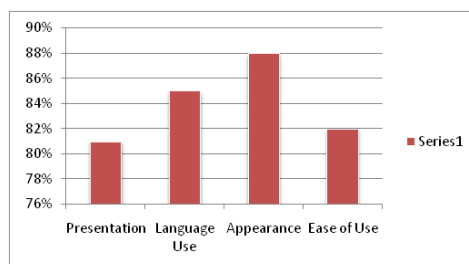
Large group trial

Figure 3. Small group trial results

Based on the results of the large group trial results above, the results for the ease of use aspect were 81% with the "Very Eligible" criteria. The linguistic aspect is 83% with the "Very Eligible" criteria. Attractive display aspect of 88% with the criteria of "Very Eligible". The aspect of content quality is 82% with the criteria of "Very Eligible". From the results of processing the small group trial questionnaire, the final average value was 84%, with the criteria "Very feasible". From these results, it can be concluded that the results of a large group trial of the development of Kahoot! -based geography learning media are feasible to serve as geography learning media.

CONCLUSIONS

Based on the results of the development of Kahoot! -based learning media that has been done previously, it can be concluded that Kahoot! -based learning media is based on the results of validation by material experts with an average percentage of 87% with very feasible criteria. From the results of media expert validation with an average percentage of 85% with very decent criteria. The results of the small group trials of students with an average of 84% with very decent criteria. The results of large group trials on students with an average of 84%. So it can be concluded that the development of Kahoot! -based geography learning media is feasible to use in geography learning.

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