Development Media Learning Geography with Applications Kahoot! as Media Evaluation Results Study Students in SHS 10 Padang

*Dedi Iswara, Yurni Suasti, Ernawati

Master Program of Education Geography, Faculty of Social Science – Universitas Negeri Padang
*E-mail: diday.iswara123@gmail.com

ABSTRACT

Learning media is one of the supporting components of learning. Learning media has the benefit of increasing student interest and creativity, besides that learning media also influences student learning interest. The media used should follow current developments in science and technology. The media also helps in evaluating student learning outcomes. The purpose of this study is to describe the feasibility, effectiveness, and student responses regarding the use of Kahoot! in learning activities as a medium for evaluating learning outcomes. The development model used by researchers, namely the 4D model, is formed from 4 main stages such as: define, design, develop, and disperse. The results of validation by material experts obtained a proportion of 84% "valid". Media experts get a proportion of 87% "valid". Furthermore, the test results obtained an average pre-test score of 42.89 students and a Post-test of 87.4, there was an increase in value of 44.51. The last student's response to the use of Kahoot obtained the proportion of 92% "very good". So it can be concluded that the song Kahoot! that researchers developed is relevant and interesting to serve as a medium for evaluating student learning outcomes.

Keywords: Gadgets, Social Interaction, Elementary School.

INTRODUCTION

Education is a conscious effort that aims to increase the potential of human resources (HR) through learning activities that can help students develop themselves to the maximum, namely the development of all potential which includes skills and personal characteristics. This is by the Republic of Indonesia Law concerning the National Education System No. 22/2003 which states that education is an effort so that students can actively develop their potential, such as religion, self-control, personality, intelligence, and skills needed in life in society, nation and state. country. It cannot be denied that the result of improving the quality of human resources is none other than education (Muthoharoh & Magic, 2021). So education is a very important investment in facing the future of the world as a whole or globally (Sanjaya, 2012).

Currently, the world of education continues to develop, this can be caused by several factors. One of them is technology, technological developments cannot be avoided, especially in the world of education. Technology can support the learning process, with technology learning can become more effective and interesting. Current technology-based learning can stimulate students to be more enthusiastic about learning and working on various kinds of practice questions because technology-based learning has various forms of

animation, graphic explanations, and various colors that provide real effects (Azhar & Daharnis, 2013). It can be concluded that learning can be presented in a modern way by utilizing technological advances that can develop student potential. Especially during the pandemic which requires online learning, technology, especially cell phones and laptops, has become the main supporting component for the distance learning process.

The great influence of education on a person or a nation requires education to continue to improve its quality. One thing that can be done to improve education is to create evaluation media for student learning outcomes. Evaluation is an activity to obtain information about students' overall learning outcomes (Duo et al., 2014). By reflecting on goals and knowing success no learning process is finished. Based on the results of observations in the field, researchers discovered the fact that in geography learning at Senior High School (SHS) 10 Padang, the evaluation of learning activities was still not optimal. Learning evaluation activities implemented by teachers still use less efficient conventional methods, namely only through written tests which are a way of collecting students' work or collected conventionally by printing or through exercise books.

This learning evaluation activity begins with the teacher creating questions, the teacher distributing the questions, students then working on the questions, then the teacher correcting the answers sent by the students, and finally, the teacher distributing the scores obtained by the students. Evaluation activities like this require a long time, so they will result in evaluation learning being ineffective. In the current learning evaluation, it will be easier for students to cheat in answering questions given by the teacher because the teacher cannot carry out direct supervision, one form of cheating carried out by students is dividing answers between students or copying the results of other students so that there are not a few answers between students. the same one. The current learning system should no longer use a conventional evaluation system because, with the opportunity for cheating by students, the evaluation results obtained by teachers are no longer accurate.

The above problems require a solution to overcome them. The increasingly rapid development of technology can be used as an innovation that can support optimization in effective learning evaluation because technology offers various kinds of convenience. The use and use of technology in the learning process can maximize student learning activities (Chairuddin & Dewi, 2021). One form of utilizing technological advances in the world of education is the application of Kahoot! learning. According to Iwamoto et al (2017) Kahoot! is an online application that can develop and present questions in a "game-show" format. Meanwhile, according to Graham (2015) Kahoot! is an online learning media that contains free and unpaid questions that are applied in the learning process to evaluate student learning outcomes.

Kahoot is an interactive learning media that can be used to make the learning process fun and not boring for both students and teachers because the Kahoot application prioritizes a learning style that involves active relationships between students and their peers in a competitive manner towards competitive learning. Studying or studying. The advantage of Kahoot is that it is an online quiz application that contains elements of competition because the quiz results can be displayed directly on the classroom screen so that they can be used as motivation for students to learn to get points, and can be used via various media such as computers, laptop tablets, Android cellphones and iOS cellphones.

Kahoot! contains questions in a game-show display that can be used for free or without payment. The question display in this application can be equipped with images and videos

that can clarify the question. Operation of Kahoot!, this application is very easy to do, Kahoot! can be accessed via the application or website so it is practical to use. Evaluate the system using Kahoot! allows teachers to immediately find out student learning outcomes, because in the Kahoot! The points obtained by students can be displayed immediately after students answer the questions. This is different from the conventional evaluation system which requires a long time to determine student learning outcomes because, in the conventional evaluation system, the teacher must first correct the student's work results. Especially during a pandemic like now, evaluation using conventional methods is no longer effective and can no longer be used. Additionally, in development Kahoot! This emphasizes the involvement of students in active relationships with their friends in a competitive manner regarding the subject matter that is still or has been studied. According to Others Kahoot! It can also influence changes in students' social-emotional development in their ability to collaborate and compete (Damayanti & Dewi, 2021). Another advantage of Kahoot! that is, the results of students' points obtained in answering questions can be displayed directly on the screen so that it can be a medium for measuring student learning outcomes.

This objective learning is to describe the suitability, effectiveness, and response of students regarding the use of Kahoot! inactivity as a medium for assessing learning outcomes in economics subjects with limited cooperative concept material. Development is beneficial in various aspects, one of which is in the field of education. Development is something in the form of an effort to develop something to produce something that already exists and provide answers to it (Irawan & Suryo, 2017). This development study was motivated by the existence of problems with the evaluation system which was less effective and efficient to be implemented in online learning which the researchers knew from observations during PLP activities. Learning evaluation is an activity that must exist and must be carried out in every learning activity, to reflect and know whether the learning activities that have been implemented have been successful or not (San Fauziya & Suhara, 2015). Previous research was conducted by Supriadi et al (2020) using Kahoot! as a medium for evaluating Mandarin learning outcomes and the results obtained from this research were 79.3% of students stated that using Kahoot! application in learning activities was very interesting. In learning which aims to determine the effect of using the educational game Kahoot! obtained learning outcomes that Kahoot! able to improve student learning outcomes, but there are shortcomings, namely regarding appearance on Kahoot! only equipped with pictures, different from the appearance of Kahoot! developed by researchers, which is equipped with pictures and videos (Setiawati, 2018).

This research is important to carry out because online learning as it is today requires adjustments from conventional evaluation systems to technology-based evaluation systems so that efficient, effective, and accurate evaluation results can be obtained. Based on the explanation of the background behind the formulation of the problem that will be discussed, namely 1) How suitable is the application of Kahoot! as a medium for student evaluation results at SHS 10 Padang?; 2) How effective is Kahoot! as a medium for evaluating student learning outcomes at SHS 10 Padang?; and 3) How do students respond after using Kahoot! as a medium for evaluating student learning outcomes at SHS 10 Padang?. So based on the background that has been explained, this is the beginning of the researcher's idea to conduct Khaoot! application development research. as a medium for evaluating student learning outcomes.

METHODS

The type of research used is R&D development research (Research and Development). Furthermore, the development model chosen is the 4D research and development model adopted by (Thiagarajan, 1974). The 4D research model is divided into 4 main stages, namely: defining, designing, developing, and disseminating. The reason researchers use the 4D development model is because this model has systematic stages and is suitable for development studies. The product form of development that will result from this research is Kahoot! as a medium for evaluating student results.

RESULTS

In this study, the model development used is the 4D model, with the following stages:

- Stage defined: At this stage, a problem was found, namely that the evaluation system at SHS 10 Padang, especially in economics subjects, still used a conventional evaluation system. Where the conventional evaluation system is not suitable for application in the current learning system, because there are many opportunities for students to cheat. This form of student cheating can be seen from the students' answers when working on questions, on average the answers are the same. Cheating like this is usually done by students by exchanging answers or other things. Resulting in the Assessment Results Obtained by Teachers Are No Longer Accurate. Therefore, based on the analysis of student characteristics, researchers developed Kahoot! as a media for evaluating learning outcomes which aims to support the optimization of learning evaluation to make it more accurate and effective.

- Stage design: In the planning stage, produce a design starting from Kahoot! which will be developed. At this design stage there are 3 steps, namely: 1) Design Kahoot!, the result is Kahoot! can be accessed via the application or web which contains 20 multiple choice questions with a duration of 20 seconds for solving the questions depending on the difficulty level of the questions, where the highest score is 1000 each because the questions are also equipped with videos or images to make them look more attractive; 2) Preparing for the test, the researcher prepared a data collection instrument through a learning outcomes test in the form of 20 multiple choice questions which would be distributed to students to know the level of change in student learning outcomes obtained by students before and after using the Kahoot application as an evaluation medium. This test was given 2 times, namely the first (pre-test) and the last (Post-test); 3) Format selection, Kahoot! development of application questions related to hydrosphere material, after the teacher explains the material, students will then be asked to log in to Kahoot! then do the questions on Kahoot! Teachers will act as operators running Kahoot! as long as students are working on questions in the form of a quiz, if all the questions have been completed by students the points obtained by each student will appear, and then the teacher can analyze and evaluate student learning outcomes in the cooperative material design.

- Development stage: The development stage resulted in the final draft of Kahoot!

application development. as an evaluation media that has undergone revision after a review in the form of suggestions or input and validation from para validators, namely media experts and material experts.

At the development stage, media implementation was also carried out in class X.E6 SHS 10 Padang to test the effectiveness and practicality of Kahoot! which was developed.

3.1 Kahoot! app suitability as a media for evaluation of student learning results

The results of material expert validation on the development of the Kahoot! on the subject of Geography, the discussion of the hydrosphere produces results as shown in the following Fig 1 below.
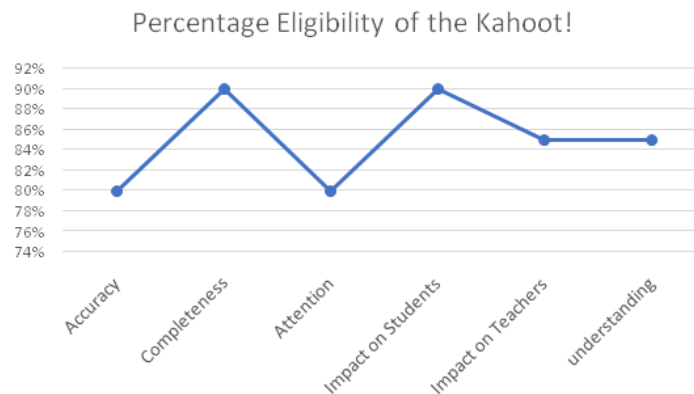

Figure 1. Percentage of eligibility for Kahoot!

Based on Fig 1, it is known that the accuracy variable obtained a validation percentage of 8.5% (feasible). The completeness variable obtained a validation percentage of 80% (feasible). The attention variable obtained a result of 90% (feasible). The impact variable on students obtained a percentage result of 80% (feasible). The next variable, the impact on teachers, obtained 90% (decent). Finally, the understanding variable also received a score of 8.5% (decent). So the validation of Kahoot! the application development material on cooperative concept material obtained an average percentage score of 8.5% (decent). Furthermore, validation results from media experts obtained results such as Fig 2 below.
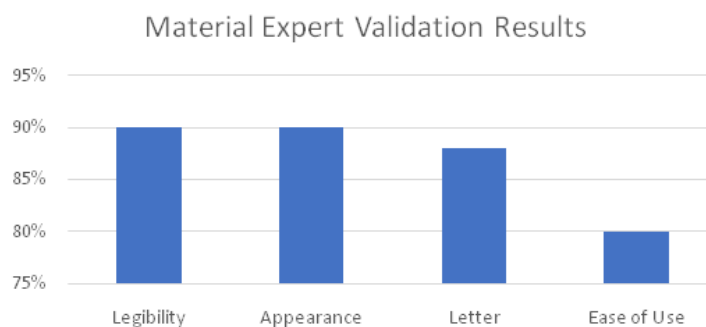

Figure 2. Media expert validation results

Based on the Fig 2 above, it is known that the results of media validation on the readability variable obtained a percentage of 90% (Very Appropriate). The variables

shown get a percentage of 90% (very feasible). Furthermore, the variable letters get a percentage of 88% (very feasible). The final variable is ease of use, getting a percentage of 80% (decent). Practical media is media that considers aspects of usage mechanisms (Mustaqim, 2017). So the development of Kahoot! in media validation, the average percentage was 87% (very feasible). Finally, the validation results from the expert evaluation obtained results like Fig 3 below.
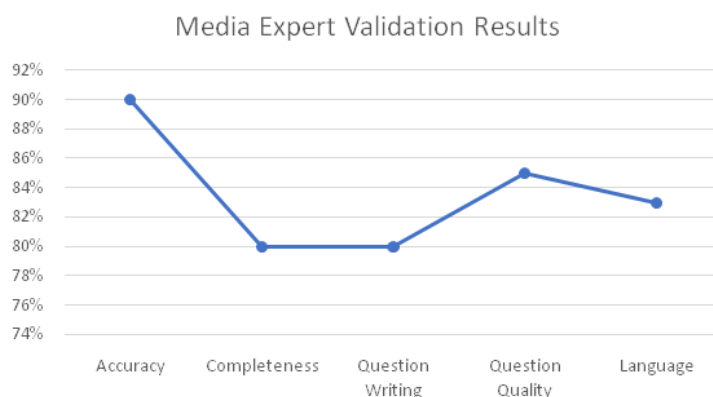

Figure 3. Results validation evaluation

Based on the table above, it can be seen that all variables in the evaluation validation include variables of accuracy, namely 90% (Very Eligible), completeness, 80% (Excellent), question writing, namely 80% (Feasible), question quality, namely 8.5% (very feasible) and language, namely 83% (Very Appropriate) So the average percentage obtained from evaluation validation is 84% (Very Appropriate).

3.2 Effectiveness of the kahoot! As a medium for evaluating student results

Limited trials were carried out at SHS 10 Padang in class X.E2 with a total of 38 students. 20 pre-test questions were distributed to students, then after using the Kahoot application, 20 post-test questions were distributed with the same question criteria. The results of the students' pre-test and Post-test scores are as follows (Table 1).

Table 1. Pre-test Post-test results

Name	Pre-test	Post-test	Information
Student 1	30	90	complete
Student 2	60	100	complete
Student 3	40	80	complete
Student 4	30	80	complete
Student 5	40	80	complete
Student 6	50	80	complete
Student 7	30	60	Nocomplete
Student 8	40	100	complete
Student 9	50	100	complete
Student 10	60	100	complete
Student 11	50	80	complete
Student 12	40	100	complete
Student 13	40	100	complete
Student 14	60	100	complete
Student 15	70	90	complete

Name	Pre-test	Post-test	Information
Student 16	40	90	complete
Student 17	20	70	Nocomplete
Student 18	50	90	complete
Student 19	30	100	complete
Student 20	10	70	Nocomplete
Student 21	60	90	complete
Student 22	50	90	complete
Student 23	60	100	complete
Student 24	70	90	complete
Student 25	40	90	complete
Student 26	20	70	Nocomplete
Student 27	50	90	complete
Student 28	30	100	complete
Student 29	10	70	Nocomplete
Student 30	60	90	complete
Student 31	50	90	complete
Student 32	30	90	complete
Student 33	60	100	complete
Student 34	40	80	complete
Student 35	30	80	complete
Student 36	40	80	complete
Student 37	50	80	complete
Student 38	40	80	complete
Total	1630	3320	-
Average	42.89	87,4	-

Based on Table 1 above, it can be seen that after carrying out the pretest, it can be seen that the average student pretest score is 42.89. The post-test results obtained by students had an average value of 87.4. So from an increase in pretest scores to posttest students become big45so using the Kahoot! can improve student learning outcomes. This is proven by the number of students who answered correctly at ≥61% after being given treatment. The minimum completion level percentage obtained was 87.4% where 33 students were declared complete and 5 students were incomplete.

3.3 Student response to using the Kahoot! as a medium for evaluating student learning outcomes

Student response sheets were distributed via Google Form and obtained results as in Fig 4 below.
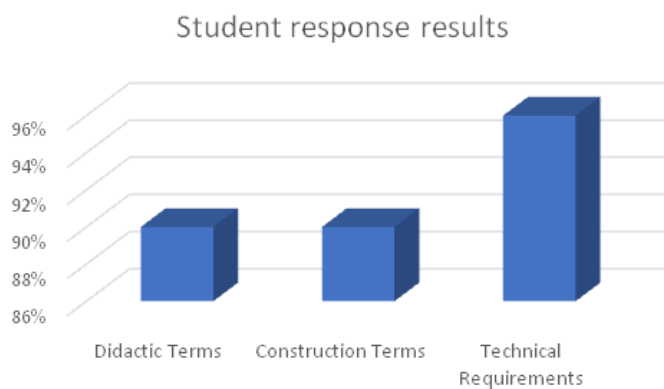

Figure 4. Results of Student Responses

From Table 1 above, it can be seen that the results of student responses made to 38 students via Google Form showed that the average of all components was in the "very feasible" category with a percentage of 92% (very feasible) consisting of didactic requirements of 90% (very feasible), requirements construction was 90% (very feasible) and technical requirements were 96% (very feasible)

This research and development resulted in Kahoot! as a medium for evaluating student learning outcomes at SHS 10 Padang. Kahoot! which was developed contains questions about cooperative concept material with a total of 20 questions, where each question has an answer time limit of 20 seconds to 30 seconds. Students can answer quiz questions by selecting the code listed on the Kahoot web quiz! via the smartphone they use. After the quiz is finished, the score obtained by students can immediately find out. So that the scores obtained by students can be used by teachers as a medium for evaluating student learning outcomes. Kahoot! research on application development as a medium for evaluating learning outcomes carried out in class X E2 SHS 10 Padang with hydrosphere material. The student response shows very good research, students are enthusiastic and interested in using Kahoot! in learning because students have never used Kahoot! previously. Even though learning is carried out through an online system, it does not reduce student enthusiasm.

CONCLUSIONS

Based on the research that has been carried out, the results show that using the Kahoot! valid, effective, and practical for use in learning as a medium for assessing learning outcomes. This research also proves that the use of technology in learning activities can improve student outcomes.

REFERENCES

Dou, H., Song, Y., Liu, X., Yang, L., Jiang, N., Chen, D., & Hou, Y. (2014). A novel benzenediamine derivate rescued mice from experimental sepsis by attenuating proinflammatory mediators via IRAK4. American Journal of Respiratory Cell and Molecular Biology, 51(2), 191-200.

Graham, K. (2015). TechMatters: Getting into Kahoot!(s): Exploring a game-based learning system to enhance student learning. Loex Quarterly, 42(3), 4.

San Fauziya, D., & Suhara, A. M. (2015). Evaluasi Pembelajaran melalui Penulisan Jurnal Reflektif Berbasis Penilaian Diri di PBS. Indonesia STKIP Siliwangi. Jurnal Ilmiah P2M STKIP Siliwangi, 2(1), 46-52.

Irawan, E., & Suryo, T. (2017). Implikasi multimedia interaktif berbasis flash terhadap motivasi dan prestasi belajar matematika. Beta: Jurnal Tadris Matematika, 10(1), 33-50.

Iwamoto, D. H., Hargis, J., Taitano, E. J., & Vuong, K. (2017). Analyzing the efficacy of the testing effect using KahootTM on student performance. Turkish Online Journal of Distance Education, 18(2), 80-93.

Mustaqim, I. (2017). Pengembangan media pembelajaran berbasis augmented reality. Jurnal Edukasi Elektro, 1(1).

Muthoharoh, V., & Sakti, N. C. (2021). Media pembelajaran interaktif menggunakan adobe flash CS6 untuk pembelajaran IPS siswa sekolah menengah atas. Edukatif: Jurnal Ilmu Pendidikan, 3(2), 364-375.

Sanjaya, W. (2012). Strategi Pembelajaran Berorientasi Standar Proses Pendidikan. Jakarta: Kencana.

Setiawati, H. D., Sihkabuden, S., & Adi, E. P. (2018). Pengaruh kahoot! terhadap hasil belajar siswa kelas XI di SMAN 1 Blitar. JKTP: Jurnal Kajian Teknologi Pendidikan, 1(4), 273-278.

Supriadi, N., Tazkiyah, D., & Isro, Z. (2020, June). Pemanfaatan Aplikasi Kahoot Sebagai Media Evaluasi Hasil Belajar Bahasa Mandarin Berbasis Kearifan Lokal Di Purwokerto. In Prosiding Seminar Nasional LPPM Unsoed. 9(1).

Thiagarajan, S. (1974). Instructional development for training teachers of exceptional children: A sourcebook.