Development of Kahoot Evaluation Tool Based on Mobile Learning in Economic Lessons for 10 Graders of SMA Negeri Taruna Nala Jawa Timur

Wahyu Rizki Aris Suseno, Sri Handayani

Faculty of Economics, Universitas Negeri Malang, Indonesia

Abstract

The purpose of this research and development is to develop Kahoot evaluation tools based on mobile learning in economy class X subjects of Taruna Nala High School in East Java. The research method used is the method of research development (research development) according to Borg & Gall with 7 stages consisting of 7 steps that have been approved. The results of this study indicate that the Kahoot evaluation method based on Mobile Learning that was developed included in the criteria suitable for use in the learning process with a total percentage of 90.33%.

Correspondent Email:
wahyurizkiarissuseno@gmail.com

INTRODUCTION

The determinant of success and qualified education is measured through the existence of an evaluation or assessment of the learning outcomes in the learning process. Assessment of learning outcomes conducted by teachers is not only to measure students' understanding of the learning process but also aims to measure the success of the teaching strategies conducted by teachers. The evaluation must be done properly and appropriately. A good evaluation is an evaluation that considers practicality, reliability, validity, and authenticity. In addition to the four evaluation criteria or assessment of learning outcomes, the evaluation also has several principles including the principles of integrated, open, comprehensive, and continuous, and systematic.

In the world of education, there are various kinds of evaluation instruments or tools that can be used in assessing the process and learning outcomes of students. The evaluation instruments or tools can be classified into two groups, the test, and non-test instruments. The test instruments can be divided into two forms, including objective form tests and subjective form tests. In addition to the form of test instruments, there are also instruments with non-forms including observations/interviews, interviews, questionnaires, attitude scales, and case studies.

The forms of instruments mentioned above tend to be used by teachers in the learning processor can also be called by giving evaluations with conventional methods. When evaluating using conventional methods students tend to be less interested, less motivated, and lazy so that it can cause students to be bored, afraid, and less enthusiastic in working on the problem. Seeing the current conditions of students who are increasingly familiar with sophisticated technologies, then it requires a revolution in the teaching method, especially in providing evaluations to students. In addition, the use of mobile learning in the learning process can also be used because the existence of mobile learning is one example of the renewal of sophisticated information and communication technology.

One of the evaluation tools developed in economic learning with the use of mobile learning is the Kahoot application. Kahoot application is developed in the form of an online application where there are test questions that are developed and presented in the form of a game. Based on the description that has been explained above, the writer wants to develop an evaluation tool based on mobile learning, namely by Kahoot.

METHOD

The research method used in this research was the Borg & Gall research and development method. The research and development model in this study used the Borg & Gall research and development model. The selection of the Borg & Gall research and development model was based on several considerations, among others, because the implementation steps are systematic, easy, and clear so that it will be easily applied when in the field. In addition, previous studies using the Borg & Gall research and development model also experienced success in conducting their research.

The research and development steps (research and development) that have been explained by Sugiyono (2016: 409) are illustrated in the following Figure 1.
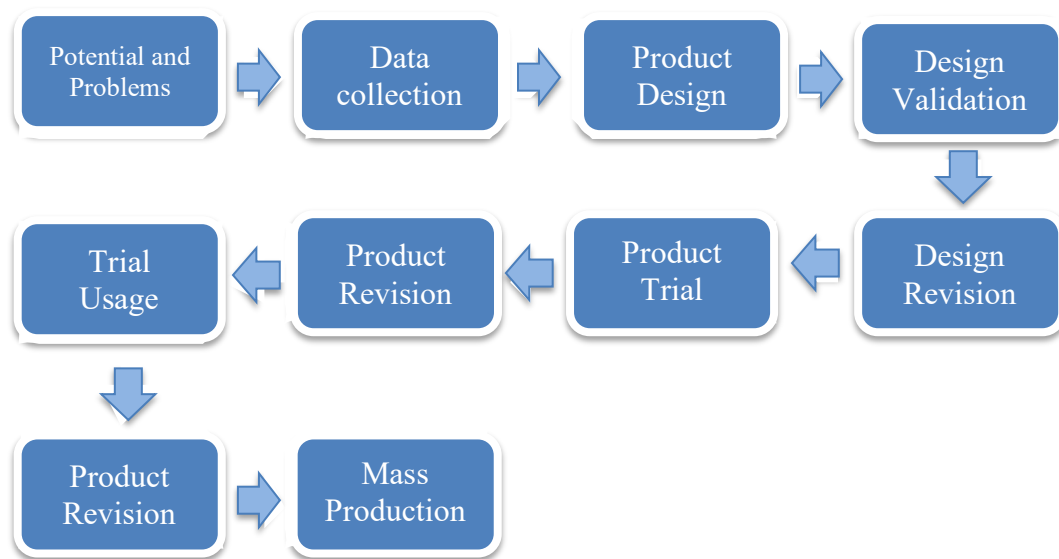
Figure 1. Steps of the research and design development
Source: (Sugiyono, 2016:409)

These research and development steps are not steps that must be followed as a whole. In this research and development, it was adjusted to the field conditions, limited human resources, time, and cost without reducing the value of the research and development itself. With a variety of limitations that have been described, this research and development used the steps of Research and Development according to Sugiyono as follows: (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) design revisions, (6) product trials and (7) product revisions based on trials. The research and development was conducted at Taruna Nala East Java State High School in X IPS 2 with the material of Financial Institutions and Financial Services Authority.

The subjects in this study were material experts as people who are competent in the field of economics, especially in the material of financial services institutions and financial services authorities, media experts as people who are competent in Kahoot media developed in this study, and also students of class X Taruna High School Nala East Java with a total of 27 students for the test subjects using Kahoot. The type of data obtained was qualitative data and quantitative data. While the techniques used in this research and development were questionnaires, observation, and documentation.

Data analysis was done by processing the data to make conclusions until the data processed can be understood by yourself and others. The data analysis stage in this research and development using qualitative descriptive and quantitative descriptive. Qualitative data analysis techniques were used to analyze the results of suggestions, critics, and inputs obtained from several expert validations about the evaluation tools to be developed. While quantitative analysis techniques were used to analyze data in the form of figures obtained from the results of questionnaires that had been distributed to several validation experts and test subjects.

After validating, to find out the conclusions that have been reached, the following table 1.

Table 1. Media Eligibility Criteria

No	Percentage Achievement	Category	Information
1.	80% - 100%	Eligible/attractive /valid	Can be used immediately without any improvement
2.	60% - 79%	Pretty decent /interesting enough/valid enough	Can be used immediately but needs a little improvement
3.	50% - 59%	Unworthy/less attractive/less valid	Needs a lot of improvement and is recommended not to be used
4.	<50%	Inappropriate/not attractive/invalid	Cannot be used

Source: Akbar 2013: 41

Based on the above table it can be concluded that the Kahoot evaluation tool in 10-grade economic class can be feasible to use if the percentage level is more than or equal to 61.00%. However, if the percentage level is less than 61.00%, then the Kahoot evaluation tool in economic class X is recommended not to be used in the learning process and must be repaired.

RESULTS AND DISCUSSION

The results of research and development that have been carried out by researchers are evaluation tools using the Kahoot application in class X economic subjects with the Financial Services Institution and Financial Services Authority (OJK). This research and development use research and development methods or Research and Development. The research and development model (Research and Development) uses several stages, namely: (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) design revision, (6) testing products and (7) product revisions based on trials. User or student trials were only executed once because the results of the trials are partial (overall), where the revised data is comprehensive if the results are retested the results will remain the same.

Item validation was used to test the validity of evaluation tools that had been created with online test forms that were validated by several experts. The material validator was Mrs. Rizza Megasari, S.Pd., M.Pd., a lecturer in the Department of Development Economics, State University of Malang. The validator was Mrs. Rizky Dwi Putri, S.Pd., S.E., M.Pd., a lecturer in the Department of Development Economics, State University of Malang. After the validation expert, the next explained stage is the results of data validation from the two validators. The validator results obtained from filling out the questionnaire that has been given by researchers using a Likert scale.

The data obtained from the material expert validator contains the questions carried out to assess the suitability of the material and the images for the questions to be presented. Obtained 4 indicators with 15 which will be filled by the validator using 4 Likert scales.

Table 2. of the Instrument Validator Grid

No	Validator	Indicator	Source	Instrument
1.	Material expert	a. presentation b. quality of contents c. construction d. use	Material validator	Questionnaire
2.	Media expert	e. presentation f. content design g. design h. ease of use	Media validator	Questionnaire

Based on the results of expert data validation data obtained an average score of 93%. Based on the eligibility criteria, the percentage obtained from the validation calculations of material experts shows that the evaluation tools are categorized in the proper classification. This evaluation tool that has been validated in the second phase is already valid and can be used in the field without making revisions.

Data obtained from the media expert validator contains questions in the Kahoot application. The four indicators with 17 items which will be filled by the validator using 4 Likert scales. Based on the results of data processing, media experts obtained an average score of 86%. Based on the eligibility criteria the percentage obtained from the expert validation calculation of the valuation materials about the appraisal tools is included in the proper classification. The existing evaluation tool version 2 is feasible/valid and can be used in the field without making revisions.

In the pilot use for students, this study took 27 students to use a trial that represented students from class X IPS 2. The data obtained from the trial use consisted of a questionnaire on the Kahoot assessment tool media that had been developed by researchers. After the questionnaire was distributed to students, the desired data was obtained by the researcher. And from the results obtained, researchers obtain quantitative data and qualitative data in the form of comments and suggestions from students. The following are the instruments that were given to users (students).

Table 3. Indicator of instruments

Indicator	Source	Instrument
Happy feelings	Student	Questionnaire
Involvement and motivation	Student	Questionnaire
Interest	Student	Questionnaire
Attention Students	Student	Questionnaire

From the results of the validation of media users (students) obtained an average score of 92% with a valid and interesting category so that it can be used in learning. Even though the average score was 92% and stated that the Kahoot evaluation tool was suitable for use in learning, there were still some components that must be revised according to students' comments and suggestions. One of the comments and suggestions was to add time to the work on the questions because the initial time given was too short and not enough to read and answer the questions presented.

The products that have been developed in this research and development are in the form of developing Kahoot evaluation tools based on mobile learning using laptops. The research and development method used by researchers is the Borg & Gall research and development method. With a variety of limitations that have been described, this research and development will use the steps of Research and Development according to Sugiyono as follows: (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) design revisions, (6) product trials and (7) product revisions based on trials.

The Kahoot evaluation tool that was developed contains evaluation questions on the Financial Services Institution and the Financial Services Authority (OJK) with a total of 25 multiple choice questions and true or false. The evaluation tool is used to measure the ability to understand the material that has been obtained by students in the form of quizzes and games. Based on a questionnaire that has been obtained researchers showed a figure of 91% which shows that the Kahoot evaluation tool can foster enthusiasm and high learning interest. Besides, 92% of the results were obtained which showed that the evaluation of economic learning would be more interesting if using the Kahoot evaluation tool. This is by the opinions of Jalinus & Ambiyar (2016: 219) which states that the use of mobile learning can make learning interesting and can increase attention so that the evaluation process will be persuasive and can increase motivation in teaching and learning.

Kahoot evaluation tools developed by researchers have gone through several stages of validation testing, namely material expert validation conducted by Ms. Rizza Megasari, S.Pd., M.Pd, and media experts conducted by Ms. Rizky Dwi Putri, S.Pd., SE, M.Pd. The following are the results obtained from the material validation test conducted by Ms. Rizza Megasari, S.Pd., M.Pd., showing the validation results of 93% with a total score of 56 obtained from the ideal score of 60. While the results were obtained from the media validation test conducted by Ms. Rizky Dwi Putri, S.Pd., SE, M.Pd. shows the results of validation of 86% with a total score obtained is 59 of the ideal score of 68. Based on the results of the data obtained according to the feasibility table the results of the validation are included in the valid criteria and are suitable for use in the learning process.

CONCLUSION

Research and development have been done to produce a product in the form of a game quiz using the Kahoot application. Game quiz products that have been developed can provide benefits in teaching and learning in class, especially when giving evaluations to students. The following are some suggestions given to Kahoot's game quiz products so that the products produced can be used optimally, namely (1) giving an evaluation in the teaching and learning process using Kahoot can be used by teachers and students in the classroom and outside the classroom ; (2) The evaluation test using Kahoot can be done by the teacher to find out the degree of student understanding and can be used in further subject matter; (3) users (both teachers and students) are expected to understand how Kahoot works and operating instructions before using it in the learning process; (4) need to be considered for the network used because the Kahoot evaluation tool can only be used online, so the existence of a network / WIFI is very important and must be considered.

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