

DEVELOPMENT OF WONDERSHARE QUIZ CREATOR MULTIPLE CHOICE EVALUATION TOOLS IN ECONOMIC MATHEMATICS

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Abstract-This study aims to develop a multiple choice evaluation tool based on Wondershare Quiz Creator in economic mathematics courses, so as to produce valid evaluation tools that can be applied to students in understanding learning. This type of research is development research with the ADDIE development method which consists of 5 stages namely Analysis (Analysis), Design (Design), Development (Evaluation), Implementation (Implementation), Evaluation (Evaluation). Before the trial, the Wondershare Quiz Creator-based evaluation tool was first conducted a validation test by media experts and material experts. In addition, a questionnaire for students' responses to the Wondershare Quiz Creator-based assessment tool was also conducted. The results of the media expert validation were good, the results of the validated material expert validation were very good and the results of the questionnaire responses of the students were very good, namely for media experts 89.58%, for material experts 89.58% and student responses questionnaire 90.67%. So the evaluation tool is feasible to use. From the results of the calculation of the final analysis of the average student test using the right-t test shows that the value of t_{count} is greater than $t_{(table)}$ which is $15.12 > 1.70$ then H_0 is rejected. In addition, the completeness test was carried out stating that the experimental class was completed in a classical manner with a percentage of 94%. This means that the multiple choice evaluation tool based on Wondershare Quiz Creator in mathematics courses at STEKOM Semarang is better. The conclusion in this study is the Wondershare Quiz Creator based multiple choice evaluation tool in valid economic mathematics courses according to media experts, material experts, and student responses, as well as classically completing that the experimental class is better than the control class.

Keywords: *Development of evaluation tools, Wondershare Quiz Creator.*

I. INTRODUCTION

Education is one of the efforts to educate the nation's life and improve the quality of Indonesian people who are faithful, devoted, knowledgeable and capable in technology to realize an advanced, prosperous and prosperous Indonesian society according to Pancasila and the 1945 Constitution. Education is an unlimited

investment that is a priority and the attention of all parties. All involved in the world of education certainly want the best in quality. While efforts to improve the quality of education must include efforts to improve the assessment system used [1]. Assessment is a very important activity in learning mathematics. Assessment can provide constructive feedback for teachers and students. The results of the assessment can also provide motivation to students to perform better [2]. Assessment can be used as a measurement tool for teachers and students in relation to the analysis of the success rate of the learning process. The important role of assessment for teachers is that assessment can be used as a reference in achieving learning objectives while also providing input on the condition of students. Whereas for students assessment is to know only what their ability to take part in learning [3]. Learning is a systematic or systemic process or activity, which is interactive and communicative between educators (teachers) with students, learning resources and the environment to create a condition that allows the learning action of students, both in class and outside the classroom, to be attended teacher physically or not, to master the competencies that have been determined [4]. In the learning process it is expected that students have good competency qualifications, not only in attitude competencies and skills competencies. Active involvement by teachers and students in the learning process will have a positive impact on the development of students. A sense of responsibility will grow in students, if supported by learning on subjects that have structured concepts [1].

Economic mathematics is the basic knowledge needed by students to support their learning success in order to pursue higher education and mathematical applications in trade. Economic mathematics is an applied science that is arranged hierarchically, one concept being the basis for learning the next concept related to the economy. Considering the importance of economics

mathematics courses, lecturers need to design an assessment model that can clearly reveal students' mastery of mathematical concepts step by step [1]. One of the stages in learning to achieve the learning goal itself is the stage of evaluating student learning outcomes. Evaluation is a subsystem that is very important and very much needed in every education system, because evaluation can reflect how far the progress or progress of educational outcomes [5].

During this time there were still obstacles in the implementation of evaluations, especially seen from the mechanism for preparing learning outcome assessment instruments, developing the assessment instrument items, and obstacles in applying assessment techniques and determining the type of assessment. Then in terms of the mechanism of assessment of learning outcomes, teachers also still experience obstacles such as in the implementation of remedial for students who have not achieved competence, obstacles in conducting enrichment, and obstacles in preparing reporting of assessment results [6]. Some things can be done to make it easier for teachers to assess student learning outcomes. One of them is with the help of computer technology, namely certain programs or software as supporting the learning process [7].

Based on the results of interviews that the researchers did with economics mathematics lecturers in lecture learning were often overwhelmed when conducting evaluations. There are still many lecturers who carry out tests using written examinations that allow students to cheat dishonestly during the test. The timeliness of testing is also less efficient. Moreover, the graduation exam is now computer-based, if every evaluation of the teacher still uses paper as a test, students will find it difficult if they are not accustomed to evaluating using a computer. The teacher is one of the leading and strategic pillars in supporting the implementation and improvement of the quality of education. The importance of the teacher's role encourages each teacher to improve its quality, so the teacher needs to also follow the development of the era of globalization and information technology in developing evaluation tools [8]

Evaluation is an action taken by an evaluator on an event or event. The tool used as a means to determine value is a test. Tests are generally used to assess and measure student learning outcomes, especially cognitive learning outcomes regarding mastery of teaching materials in accordance with education and learning at that time. In the practice of learning, tests are held in writing, both essays and multiple choices. The multiple choice test model is widely used in elementary school level tests to the general high school level. Tests with the form of multiple choice questions so many students do cheating,

for example with a hand code that shows an answer. The cheating of students when working on multiple choice questions is expected to be overcome by using an online evaluation system that allows students to take tests honestly [9]. Multiple choice test models are chosen because they offer advantages, among others, all the chapters are represented in the questions arranged, so that the qualitative level of students can be known for sure, the correction process can be done quickly and accurately, so as to reduce the element of subjectivity. In addition, multiple choice test models can be developed computerized [10]. The quality development of learning evaluation tools that utilize information technology is considered capable of suppressing the weaknesses of conventional evaluation systems that exist today. This product evaluation tool developed is a software that can be used as a conventional evaluation substitute [11]. It is undeniable that learning now is very dependent on the development of technology itself because indeed technology is found to help all human work. [12]. The progress of technology and information now also makes teachers more skilled in their use to be applied in the evaluation process. There are many computer-based evaluation tools that are easy to access. This software can be used as an evaluation of knowledge, skills and abilities of students, more economical and easier to improve the learning process. Wondershare Quiz Creator can be a solution for teachers in conducting evaluations in schools [13].

Wondershare Quiz Creator is a special application maker for online questions that has the ability of programming languages that are easy to operate and can directly display the results of student evaluations. Using the Wondershare Quiz Creator software as an evaluation tool is expected to save the time needed during evaluation. Thus can improve the quality of the learning process [14]. Wondershare Quiz Creator is used as a substitute for conventional evaluation tools. Some of the advantages that can be given by the evaluation tool are wondershare quiz creator, which are more efficient, minimizing human error, questions can be randomized quickly so as to reduce cheating in the exam such as cheating, time allocation determined according to plan and evaluation results can be immediately seen so that it makes it easier for the teacher to make corrections and the results of the evaluation are accurate because they use a computer in correction. This replication can be done online and offline [15]. Looking at some of the problem factors in the conventional exam, the researchers have conducted research on "Development of Multiple Choice Evaluation Tools Based on Wondershare Quiz Creator in Economics Mathematics Courses".

II. METHOD

The method in this study uses research and development. Research and development methods or in English language Research and Development is a research method used to produce certain products, and test the effectiveness of certain products . The research model uses the ADDIE learning design model. This model, according to its name consists of five main phases or stages, namely (A) nalysis, (D) esign, (D) evelopment, (I) mplementation, and (E) valuation. The five phases or stages in the ADDIE model, need to be done systemically and systematically). The design model of the ADDIE learning system with its components can be shown in the following Chart 3.1:

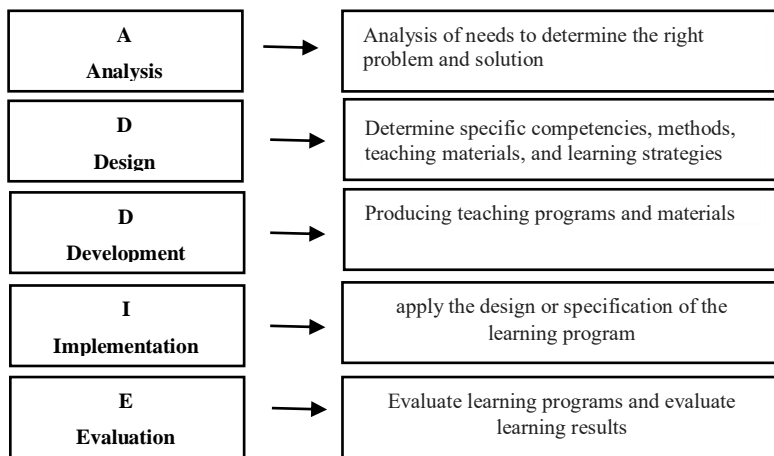


Chart 3.1 ADDIE Research Model

III. DISCUSSION

Components of ADDIE learning model (Analysis, Design, Development, Implementation, Evaluation)

a Analysis (analysis)

From the results of the interview on September 5, 2018 with Semarang STEKOM lecturers, the average student copied the answers of his friends while working on the test and the evaluation tool did not use modern technology and still used an inefficient portfolio in terms of cost and time. Therefore we need a development of a modern evaluation tool that can foster a sense of honesty with students.

The use of the Wondershare Quiz Creator software proved to be feasible, used in teaching and learning activities, as evidenced by the results of the study [15]the media can be seen that the evaluation tool belongs to a very valid category. The practical percentage in the initial field trial was 79.07% and the main field trial was 86.24%. From the practicality assessment obtained from the responses of students in the initial and main field trials having different categories, the initial field trials were classified as good and the main field trials were classified as very good. The effectiveness percentage was 83.3% in the initial field trial and in the main field trial

of 85%. This proves that the Wondershare Quiz Creator-based evaluation tool can improve student learning achievement.

Before this research and development was carried out, researchers conducted observations on the evaluation tools used and analyzed the curriculum. The research and development of evaluation tools that have been studied are questions in material compound interest rates

This initial design needs to be known so that the research objectives that have been formulated are expected to be achieved in accordance with what is expected.

The next steps taken include:

1. Establish a title that is in accordance with the curriculum analysis that has been carried out.
2. Prepare source books and other reference books.
3. Identifying the syllabus, namely: core competencies, basic competencies, and indicators to be achieved.
4. Creating a question frame for evaluation tools.
5. Test the questions to students to find out the level of validity of the questions in the evaluation tool.
6. Designing a format for making Wondershare Quiz Creator based evaluation tools with valid questions.
7. Make instruments in the form of questionnaires for the team of media experts and material experts who are then validated by lecturers and practitioners, and make questionnaires for students' responses to the evaluation tool, namely to determine the feasibility of evaluation tools that will be tested to students.
8. Test compound interest questions using Wondershare Quiz Creator-based evaluation tools for 32 students. The test of this evaluation tool is done once, in order to determine the level of student understanding of the material that has been taught.
9. Assess Wondershare Quiz Creator based evaluation tools through student attitude questionnaires to determine responses to evaluation tools.
10. Conduct a questionnaire analysis that has been filled out by students to find out the Wondershare Quiz Creator-based evaluation tool is feasible and effective.

b. Design

This product design in the ADDIE development model is located at the design stage. The product produced in this study is an assessment tool based on the Wondershare Quiz Creator. This media design is compiled using the Wondershare Quiz Creator, here are the media designs using the Wondershare Quiz Creator, here are the media designs.

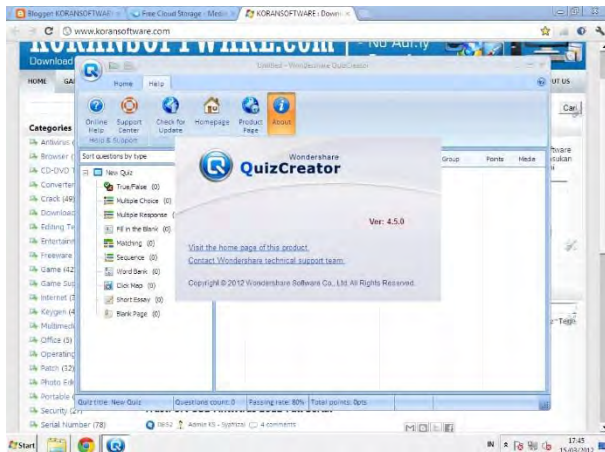


Figure 4.5 Wondershare Quiz Creator's Media Design

In this design step there is a need to clarify learning programs designed so that the program can achieve the learning objectives as expected. An important step that needs to be done in design is to determine the learning experience or learning experience that students need to have during the learning activities. The design step must be able to overcome the gap problem that describes the difference between the abilities possessed by students with ideal abilities. This is in which states that in design activities a lecturer must know the ability of students and know the learning objectives to be achieved so that the lecturer is able to design a learning process that is meaningful and interesting.

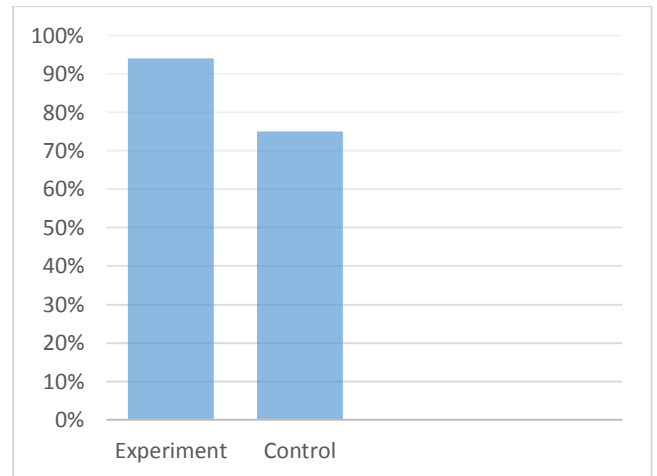
c. Development

The validation test aims to assess the Wondershare Quiz Creator-based evaluation tool products in compound interest material at STEKOM Semarang as a result of the development of the feasibility level. Validation test is done by submitting a validation questionnaire and product in the form of the Wondershare Quiz Creator media. Questionnaires that have been filled out by experts are then analyzed to determine the validity percentage of the Wondershare Quiz Creator. In this study validation tests contained three validations, namely media expert validation, material expert validation and student response. Results of Media Expert Validation, Material Expert and student response The results of the media expert validation were good, the results of the validated material expert validation were very good and the results of the questionnaire responses of the students were very good, namely for media experts 89.58%, for material experts 89.58% and student responses questionnaire 90.67%. So the evaluation tool is feasible to use

d. Implementation (implementation) Student response

After getting revisions from experts and the product has been improved based on expert advice, the product is then tested to class. Questionnaires are

given to students after students finish learning or see assessment tools. This is done so that researchers know how well this assessment tool is used for students. The product tested was in the form of an evaluation tool based on the Wondershare Quiz Creator. This assessment tool was responded to by 32 from the experimental class. students provide responses to assessment tools by filling out questionnaires given by researchers to students. from the calculation of student responses that is from the aspect of student responses to software by 89.88%, aspects of student responses to evaluation tools used amounted to 90.31%, aspects of student responses to the questions given amounted to 91.46% and aspects of student responses to teachers at when the evaluation process was 91.67%. Evaluation (evaluation) The hypotheses used are $H_0: \mu = 70$ and $H_a: \mu > 70$. From the calculation results obtained by the value of t-count = 15.12 while t-table = 1.70. Based on the testing criteria that H_0 is accepted if $t_{count} < t_{table}$ and H_0 are rejected if $t_{count} > t_{table}$, it turns out that $t_{count} = 15.12 > t_{table} = 1.70$. So that H_0 is rejected, it means that the average test of students from the evaluation is more than 70. So the significance is proven by using the t-test and $\alpha = 0.05$ so it can be concluded that the use of Wondershare Quiz Creator-based evaluation tools is effective to be used as a student evaluation tool.



Supported by Winarno's research (2014) which shows that the use of the Wondershare Quiz Creator-Based Evaluation Tool for teachers and students is very effective to use. Based on the data obtained through the validation questionnaire, 83.3% of the validators said it was very good. The expert validation results state that the product is feasible to be tested in the field. In this trial, students are asked to work on evaluation questions. Then the lecturers and students are also asked to fill out a questionnaire to respond to the evaluation tool that will be used to analyze the product. The response of lecturers and students shows a percentage of 90% and 91% which means good. Calculation of the final analysis of the

average student test using the right t-test shows that the tcount is greater than t, which is $3.877 > 1.833$, then the H_0 table is rejected. So, the conclusion is the use of an effective Wondershare Quiz Creator-based evaluation tool for students in the evaluation process.

IV. CONCLUSION

Based on the results of research and development that have been carried out it can be concluded that:

1. Calculation of the results of validity tests The results of the media assessment of the general aspects obtained 92.22% results, the aspect of visual communication obtained 92% results, the design aspects obtained 84% results, so that the average score was 89.58%. The results of the assessment of the general aspects of the material obtained 91.66% results, the aspects of the questions obtained 88.33%, the design aspects obtained 93.33% results, so that the average value of 89.58% was obtained. From the above calculations it can be concluded that a valid evaluation tool based on Wondershare Quiz Creator is used.
2. Calculation of practicality test results The results of the assessment of student responses to the software obtained results of 89.88%, the results of the assessment of student responses to evaluation tools obtained results of 90.31%, the results of assessment of student responses to questions obtained 91.46%, the results of student responses to lecturers during the evaluation process obtained results 91.67%. From the above calculations it can be concluded that the evaluation tool based on Wondershare Quiz Creator is practically used.
3. Calculation of the results of the effectiveness test The development of Wondershare Quiz Creator-based evaluation tools is said to be effective, because it meets the indicators of effectiveness, namely the average posttest value exceeds the KKM of 82.25, and the classical completeness of students in the class using Wondershare Quiz Creator's 94% learning media evaluation tool

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