

DEVELOPMENT OF TEACHING MATERIALS TO IMPROVE THE UNDERSTANDING OF MATERIALS IN THE COMPUTER APPLICATIONS COURSE OF PGSD STUDENTS OF WIJAYA KUSUMA UNIVERSITY SURABAYA

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Abstract

This research was conducted because students felt that the existing teaching materials were boring, less interesting, and less able to make students understand the material easily. Teaching materials that can make it easier for students to understand the material are teaching materials that are made by themselves between students and lecturers, so that they do not only buy books at publishers, but students can be directly involved in writing the material. The computer application teaching materials themselves have never been made by lecturers before. So it is necessary to develop teaching materials in computer application courses so that students can more easily and understand the material. The purpose of this study is to describe the procedure for developing teaching materials, producing appropriate teaching materials, and describing the effectiveness of developing teaching materials. The type of research is Research & Development (R & D). The results of the research that has been conducted, it is known that the computer application teaching materials have been validated by media expert lecturers and learning material experts. Based on the validation results from media experts, an average of 36.00 was obtained, which is included in the "Good" criteria with an ideal percentage of 90%. Meanwhile, the validation results from material experts obtained an average of 47.50 which is included in the "Very Good" criteria with an ideal percentage of 79%. The trial stage was carried out twice, namely a limited trial and a broad trial. From the limited trial, the weaknesses and strengths of the computer application teaching materials created were known, so the researcher made a second revision after conducting a limited trial. In the 2nd trial, namely a broad trial, several results were obtained to see whether the computer application teaching materials were effective or not. The hope of developing this teaching material can produce quality teaching materials as a source of learning for students in receiving lecture materials.

Keywords: *Teaching Materials, Computer Applications, PGSD Students*

INTRODUCTION

Teaching materials are materials or learning materials that are systematically arranged and used by teachers and students in the learning process (Andi, 2011: 16). Teaching materials are an important part of implementing education in schools. Through teaching materials, teachers will find it easier to carry out learning and students will be more helped and easier to learn (Depdiknas, 2009: 6).

Teaching materials are a set of learning tools or facilities that contain learning materials, methods, limitations and evaluation methods that are designed systematically and attractively in order to achieve the expected goals, namely achieving competencies or sub-competencies with all their complexities (Widodo and Jasmadi in Lestari, 2013: 1). This definition explains that teaching materials must be designed and written with instructional rules because they will be used by teachers to help and support the learning process. Learning materials or materials are basically the "content" of the curriculum, namely in the form of subjects or fields of study with topics/subtopics and their details (Ruhimat, 2011: 152).

In addition, "the existence of teaching materials plays a very important role in supporting the success of learning because it can bridge, even combine the experience and knowledge of students" (Toharudin, 2011:182). The courses chosen in the creation of teaching materials are computer application courses, because these courses are practical courses that require book guidance that can make it easier for students to understand the material and practice directly through the computer laboratory.

THEORETICAL BASIS

Teaching materials

According to the National Center for Competency Based Training (2007), understanding of materials teaching any form of material used to help teachers or instructors in carrying out the learning process. The materials in question can be written or unwritten. The views of other experts say that teaching materials are a set of materials that are arranged systematically, both written and unwritten, so that an environment or atmosphere is created that allows students to learn. According to Panen (2001) revealed that teaching materials are materials or lesson materials that are arranged systematically, which are used by teachers and students in the learning process (Andi, 2011: 16). Teaching materials are a component of the completeness of the learning process. One part of the teaching materials is textbooks. The availability of textbooks is an ideal supporting element in the learning process. Its existence makes lecturers not

need to explain too much material in class but rather provide more guidance to students. Textbooks for students can increase the appeal of learning both independently or collaboratively and can enrich information. As a printed learning media tool, textbooks are used to facilitate educators and students in improving their competence. Therefore, in compiling it must be well planned according to needs. A textbook is a reference book for a course that is written and compiled by experts in the related field and meets the rules of textbooks and is officially published and distributed.

Effective instructional materials in language teaching are shaped by consideration of a number of factors including teacher, learner, and contextual variables. Teacher factors include language proficiency, training and experience, cultural background, and preferred teaching style. Learner factors include learners' learning style preferences, their language learning needs, interests, and motivation. Contextual factors include school culture, classroom conditions, class size, and the availability of teaching resources in the setting in which the materials will be used. Learning Materials are materials related to the end-results to be achieved.

Some of the benefits of textbooks in the learning process are that students are in group, individual and classical learning, students can study the material topics in advance, educators can save time in teaching, as a support for lectures, lecturers do not give too many lectures, changing the role of educators to facilitators, increasing the learning process that is effective, varied and interactive (Farida, 2017).

Computer Application Course

Computer applications are types of computer programs that are created according to programming languages and are used for various needs. The Introduction to Computer Applications course provides students with the ability to use office computer application software such as creating letters, creating financial reports, creating presentations, creating / sending / replying / forwarding electronic mail (email), and being able to search for data sources and information on the internet.

Software or applications have the following functions: 1. Processing data, commands, or special instructions so that users can operate their computers according to the desired information results. 2. Means of interaction to connect users with other tap devices. The benefits of computers that greatly facilitate humans are such as processing data, speeding up work, sending information, printing important documents, to communicating with certain parties who have relationships with the company.

Student's level of understanding

The level of student understanding can be interpreted as the level of ability that expects students to be able to understand the meaning or concept, situation and facts that they know (Purwanto, 1994). 7 ways to measure student understanding of learning, including:

1. Interpreting

The first way to measure students' understanding of learning is through interpretation. Interpretation occurs when a student can change one form of information into another form of information. For example, from a graph to a sentence or vice versa, from words to numbers or vice versa, or from word to word, for example summarizing or paraphrasing. The assessment format is in the form of a test format, short answers (students look for answers) and multiple choices (students choose answers).

2. Giving examples (exemplifying)

The second way to measure students' understanding of learning is through examples. Exemplifying or illustrating can be done by a student who can be said to understand when he can provide an example of a general concept or principle. Providing this example can show that a student as a form can or is able to identify the characteristics of a concept and then use the characteristics of the concept obtained to create an example. Exemplifying involves the process of identifying the main characteristics of a general concept or principle. Assessment format: Test format, short answer (students look for answers) and multiple choice (students choose answers).

3. Classifying

The third way to measure students' understanding of learning is through classification. A student is said to understand when he can recognize that something (an object or phenomenon) falls into a certain category. Including the ability to classify the characteristics of an object or phenomenon. Involves the process of detecting characteristics or patterns that match the example and the concept or principle. Assessment Format: Short Answer Test, students are given an example and are required to create a concept or principle that matches the example. Multiple Choice Test, students are given an example and then required to choose a concept or principle from a selection of concepts or principles. Or students are given a number of examples and are required to determine which ones fall into a category and which ones do not, or are required to place one example into one of many categories.

4. Summarizing

The fourth way to measure students' understanding of learning is through summarizing. Summarizing is an activity of creating a question that represents all information or creating an abstract from a writing. Summarizing requires students to choose the core of information and summarize it, which can specify a condition. The process of creating a summary of information. Other names for summarizing are generalizing and abstracting. Assessment format: Short answer or multiple choice tests related to determining a theme or making a summary.

5. Drawing inferences (inferring)

The fifth way to measure students' understanding of learning is through inference. Inferring occurs when a student is able to abstract a sample or find a pattern from a series of examples or facts. For example, predicting the development of a population in a community based on population development data in a community based on population development data over the past ten years. Also called extrapolating, interpolating, predicting and concluding. The assessment format is in the form of a completion test, analogy test, and exception test.

6. Comparing

The sixth way to measure students' understanding of learning is through comparison. A student can compare when he or she can detect similarities and differences between two or more objects. Involves the process of detecting similarities and differences between two or more objects, events, ideas, problems, or situations such as determining how an event is famous. The assessment format is in the form of mapping.

7. Explaining

The seventh way to measure students' understanding of learning is through explaining. Students can explain when they can provide a model of a theory or can construct and use a cause-and-effect model in a system. Explaining, creating and using a cause-and-effect model in a system. The format of the assessment explains is in the form of reasoning tasks, problem solving, redesign, and prediction.

RESEARCH METHODS

This type of research is development research or Research and Development (R&D) which aims to develop teaching materials in Computer Application courses that are qualified by paying attention to aspects of validity, practicality and effectiveness. The research and development method or Research and Development is research methods used to produce certain products and test their effectiveness the product. (Sugiyono, 2013: 297). In order to produce a particular product, research is used that is in the form of needs analysis and to test the effectiveness of the product so that it can function in the wider community, research is needed to test the effectiveness of the product. So in this study the author uses the research and development method. In this study the type of product produced is computer application teaching materials. In this case, the researcher conducted several stages by collecting the necessary data. Thus, this study will measure how effective the computer application teaching materials developed in learning are on the level of student understanding.

RESULTS AND DISCUSSION

This research was conducted on 20 students in the 6th semester of the 2023/2024 academic year. The initial stage carried out by the researcher was together with students to compile computer application teaching materials by forming groups. Where each group was given the task of compiling teaching materials according to the topics that had been previously given.

After the computer application teaching materials have been completed and printed, the teaching materials are then validated by media expert lecturers and learning material experts. Based on the validation results from media experts, an average of 36.00 was obtained, which is included in the "Good" criteria with an ideal percentage of 90%. While the validation results from material experts obtained an average of 47.50, which is included in the "Very Good" criteria with an ideal percentage of 79%. Based on the validation results from media and learning material experts, the computer application teaching materials are suitable for use even though there are still a few revisions, comments and suggestions that still need to be improved.

The trial stage was carried out 2 times, namely limited trials and extensive trials. From the limited trial, the weaknesses and strengths of the computer application teaching materials created were known, so the researcher made a second revision after conducting a limited trial. In the 2nd trial, namely the extensive trial, several results were obtained to see whether the computer application teaching materials were effective or not. In testing the effectiveness of the product using the Independent Sample t-test calculation, with a confidence level of 95% and $\alpha = 5\%$, the t count was 3.538 while the t table was 2.011. These results indicate that $t \text{ count} > t \text{ table}$, meaning the hypothesis is accepted. So it can be concluded that there is a significant difference in the computer application teaching materials and the old teaching materials used, where the computer application teaching materials are more effective to use as teaching materials for students in computer application courses.

CLOSING

Conclusion

Based on the validation results from media experts, an average of 36.00 was obtained, which is included in the "Good" criteria with an ideal percentage of 90%. While the validation results from material experts obtained an average of 47.50, which is included in the "Very Good" criteria with an ideal percentage of 79%. The trial stage was carried out twice, namely a limited trial and a broad trial. From the limited trial, the weaknesses and strengths of the computer application teaching materials created were known, so the researcher made a second revision after conducting a limited trial. In the 2nd trial, namely a broad trial, several results were obtained to see whether the computer application teaching materials were effective or not. The hope of developing this teaching material can produce quality teaching materials as a source of learning for students in receiving lecture materials.

Suggestion

1. It is necessary to encourage lecturers to also be enthusiastic in creating teaching materials.
2. It is necessary to create other teaching materials to support the student's lecture process.

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