

Implementation Learning Multimedia Based on Adobe Captivate in the Information System Concepts and Applications Classrooms

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ABSTRACT. This research was conducted at the Institute of Technology and Business STIKOM Bali. The model used is Borg & Gall's development research. At the design stage, detailed specifications have been made regarding the preparation of the Development of Information System material along with the instruments and objective questions, that determine the media selection, format selection and initial design of the product to be developed. This design is used to develop interactive learning multimedia in the Information System Concepts and Applications course for students of the Institute of Technology and Business STIKOM Bali. Data analysis used three techniques, namely qualitative descriptive analysis techniques, quantitative descriptive analysis techniques, and descriptive narrative analysis techniques. Student learning outcomes in the Information System Concepts and Applications course after using interactive multimedia have an average of 81.33, higher than before using media (65.67). Thus, the research conducted on 150 students from 5 classes at the Institute of Technology and Business STIKOM Bali concluded that the use of interactive learning media had a positive and significant effect on learning outcomes in the second semester of Information System Concepts and Applications subjects.

Keywords: *Adobe Captivate, descriptive narrative analysis, interactive multimedia, qualitative descriptive analysis, quantitative descriptive analysis.*

1. INTRODUCTION

Education is a conscious and planned effort to create an atmosphere of learning and the learning process so that students actively develop their potential to have spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves and society. The teaching and learning process is a communication process, namely the process of delivering messages from message sources through certain media to message recipients. The most important thing in the teaching and learning process is the process that determines whether the learning objectives will be achieved or not. Achievement in the teaching and learning process is marked by changes in behavior. Behavior changes are related to changes in knowledge (cognitive), skills (psychomotor), and those concerning values and attitudes (affective).

A good education system can make the learning process interesting and fun by making the media as learning materials that can improve student learning outcomes in class. This, of course, reinforces that the media in the learning process has an important and useful role to help facilitate student learning. The most prominent problem in the learning process is the limited learning media that is

attractive and the ineffective time in one meeting material to understand Information System Concepts and Applications, especially Development of Information System. The use of media that is still very conventional, such as whiteboards, is no longer attractive, so it greatly affects students' interest and motivation to learn.

In this study, the Borg & Gall development model used with interactive multimedia applications is expected to support the improvement of student learning outcomes in the Information System Concepts and Applications courses that have a systematic procedural view of developing any material available in the course syllabus. Therefore, this study entitled the implementation of interactive learning multimedia based on Adobe Captivate in learning Information System Concepts and Applications to improve student learning outcomes at Institute of Technology and Business STIKOM Bali.

2. LITERATURE REVIEW

A. *Interactive multimedia*

Interactive multimedia is the use of computers to create and combine text, graphics, audio, moving images (animation and/or video) by combining links and tools that allow users to navigate, interact,

create and communicate (Hofstetter). The development of interactive multimedia learning can provide new colors in the learning process and increase learning interactions between students and lecturers. If designed carefully, the development of interactive learning multimedia can make it easier for lecturers to deliver course material in the teaching and learning process.

B. Adobe captivate

In making learning media, many application programs can be used in developing computer-based multimedia learning, one of which is Adobe Captivate. Adobe Captivate is an electronic learning tool for Microsoft Windows, and from Mac OS X V.5 which can be used for software demonstration simulations, branching scenarios, and random quizzes in swf format. It can also convert the generated file formats from Swf to Avi

so that it can also be uploaded to video hosting sites. For software simulation, Adobe Captivate can use the left or right mouse click, key pressed, and scroll the image. Adobe Captivate is software used to create presentation documents or create tutorials. With Adobe Captivate, content delivery in learning media becomes more attractive in making slides, outlines, animations, etc.

C. Borg & Gall development model

The Borg & Gall development model uses waterfalls at the development stage. The development stages ranging from requirements analysis to deployment are arranged in detail to facilitate the development process. The revision of the Borg & Gall model was carried out after individual trials, small group trials, and field trials. Figure 1 below shows 10 stages in the development of Borg & Gall (2007:775)

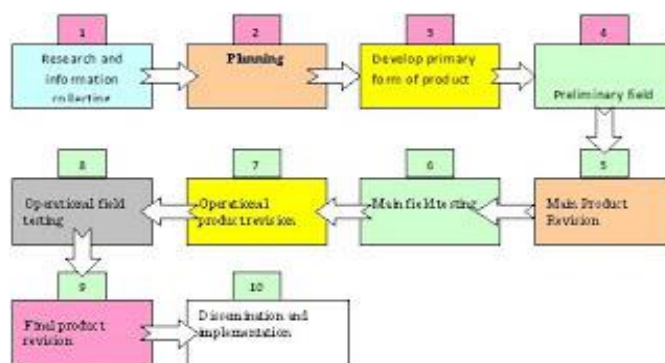


Figure 1. Borg & Gall Development Model Scheme

Source: Borg & Gall (2007: 775).

3. RESEARCH METHODS

The research procedure carried out by the researcher in this development was adapted from the development steps developed by Borg & Gall with some limitations. Borg & Gall stated that it is possible to limit research to a small scale, including limiting the steps of the study. Given the limited time and funds the researchers have, these steps are simplified into four development steps. The development steps taken by the researcher are:

A. Data collection

The data collection stage was carried out to determine the learning needs in the field. The data collection stage was carried out through field studies and literature studies.

- The field study was conducted to determine the need for learning resources in the Information System Concepts and Applications classrooms odd semester. Field studies are carried out by analyzing the applicable curriculum in schools, analyzing the stages of student development, and analyzing the

availability of learning resources in the field.

- Literature study on theory related to learning resources for studying Information System Concepts and Applications and literature studies on multimedia learning.

B. Planning stage

The planning stage begins with the preparation of the research team. Then the team determined the multimedia learning design. After the design is determined, the mapping of the learning material will be carried out. Mapping the material begins with an analysis of Core Competencies and Basic Competencies, then continues with determining the theme. At this planning stage, an evaluation of learning resources is also planned, namely by creating an evaluation box.

C. Product development stage

The product development stage starts with material gathering, materials management, and finally application development with Adobe Captivate. The material collected is in the form of

pictures, theories, practical exercises as the main presentation, and other materials to complement the planned multimedia learning.

D. Validation and testing phase

Interactive multimedia that has been produced, then evaluated. The form of product evaluation as a learning resource for Information System Concepts and Applications is validation. Validation is carried out in two stages. Phase I is validation by material experts and media experts. Through this stage, product feasibility data and expert advice are obtained. The suggestions are then used for stage I product revisions. The results of the phase I revisions are used for validation II by the lecturer, lecturers' suggestions are used for revision II. The results of the two revisions were used for student use trials.

E. Development Research Method

In this study, the authors used a development research model. Development research is used as an effort to develop and produce products in the form of materials, media, tools, and/or learning strategies, which are used to solve learning problems in class and do not test theories. Borg & Gall's development model is suitable for development research of interactive learning media that examines learning products to develop innovative products or programs.

The development of interactive multimedia based on Adobe Captivate must be tested for its validity and effectiveness. The results of this validity activity are carried out in two stages, namely: a) review by content experts in the field of study or subject, instructional media design experts and instructional media experts, b) individual trials,

small group trials, and field trials. Testing of data collection instruments to determine the level of validity and reliability of measuring instruments carried out directly during the study where the measuring instruments of student learning outcomes in the tests that will be distributed as data analysis are (1) validity testing, (2) reliability testing, (3) strength different, (4) test difficulty levels.

In the validity of the results of developing interactive learning media, six main points will be explained, including the validity of interactive learning media according to (1) subject matter experts, (2) learning design experts, (3) instructional media experts, (4) individual trials, (5) small group trials, and (6) field trials. The procedure for developing interactive multimedia learning data communications and computer networks can be seen in the following chart in the figure. 2.

The inferential descriptive analysis technique is used to determine the level of product effectiveness on student learning outcomes in the Information System Concepts and Applications students of the Institute of Technology and Business STIKOM Bali before and after using interactive learning multimedia development products through the pretest and posttest answer sheets distributed to students in the Information System Concepts and Applications class. The statistical analysis used to process the data is the t-test. The t-test is a type of inferential statistic used to determine whether there is a significant difference between the means of two groups, which may be related to certain features.

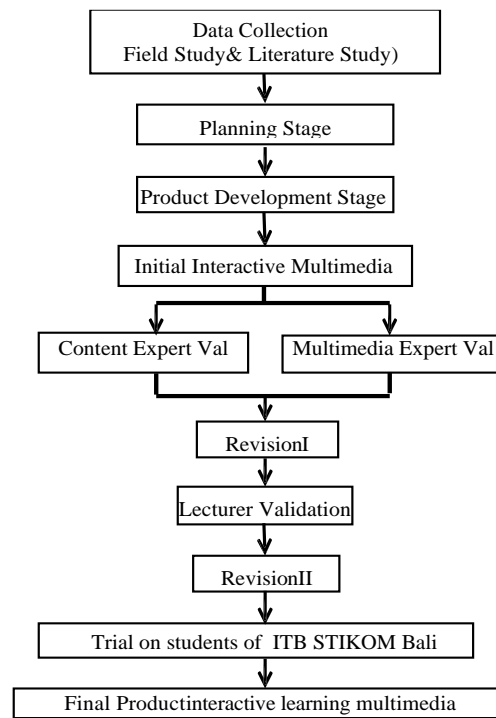


Fig 2. Development Procedure

4. RESEARCH RESULTS AND DISCUSSION

There were three discussions presented by the researchers, namely: 1) How is the interactive multimedia development design based on Adobe Captivate in the Information System Concepts and Applications courses applied to the Information System Concepts and Applications class in the Institute of Technology and Business STIKOM Bali scope? 2) How is the quality of multimedia products based on validation from content experts in the field of study, learning design experts, learning media experts, individual trials, small group trials, and field trials? 3) How is the effectiveness of interactive multimedia learning media development products in improving the odd

semester learning outcomes of Information System Concepts and Applications classes at the Institute of Technology and Business STIKOM Bali?

The final product of this development research is interactive learning multimedia in the Information System Concepts and Applications course with the material "Development of Information System" in the Information System Concepts and Applications classes of the Institute of Technology and Business STIKOM Bali. After revising the media according to input from content experts, the next step is the evaluation results by instructional multimedia design experts, Dr. Muhammad Rusli, MT. The following are the results of evaluations from learning design experts on interactive multimedia products developed.



Figure 3. Opening Screen.



Figure 4. Opening Menu



Figure 5. Profile page



Figure 6. Quiz and result

Based on the product development report designed under the stages of the Borg & Gall model, the second stage of the Borg & Gall development model describes the design phase of interactive learning media development, namely compiling benchmark reference texts such as instruments and objective questions after which determine the media selection, format selection, and product design. beginning to be developed.

Then the product quality is produced through (1) expert test of course material, which states that the media is suitable for use but for the sake of perfection the media developer revises the use of speakers when using the media, (2) learning media design experts with the revised results, namely on the media packaging and the content of interactive learning media, (3) learning media experts state that the media developed is valid and needs to be slightly revised from the intro media content, (4) through individual tests, small group tests and field tests which state that the media developed has obtained very good results. well.

The effectiveness of developing interactive learning multimedia carried out by the test method was measured by giving question sheets to 150 students of the Institute of Technology and Business STIKOM Bali, in the Information System Concepts and Applications classrooms through the pretest and posttest. Based on the pre-test and post-test scores of 150 students, a t-test for correlated samples was carried out.

The findings from the statistical analysis confirm that students studying in a multimedia interactive learning environment achieve better scores ($M = 81.33$) than students studying in a traditional environment ($M = 65.67$). This suggests that there are other potential influence variables. Further investigations on factors such as processes such as facilities, faculty strategies, and student input are suggested. This means, there is a significant difference in student learning outcomes between students before and after using interactive learning media. Judging from the conversion of learning outcomes in the Institute of Technology and Business STIKOM Bali of Information System

Concepts and Applications classes, the average posttest student score (81.33) is in good qualification. So, it can be said that interactive learning media in the Information System Concepts and Applications courses can improve student learning outcomes in the Information System Concepts and Applications class.

5. CONCLUSION

Based on the results, there are significant difference in student learning outcomes between students before and after using interactive learning media. Judging from the conversion of learning outcomes in the Institute of Technology and Business STIKOM Bali of Information System Concepts and Applications classes is in good qualification. So, it can be said that interactive learning media in the Information System Concepts and Applications courses can improve student learning outcomes in the Information System Concepts and Applications class

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