Developing Problem-Based Learning Model Assisted by Tutorial Video in Entrepreneurs Subject

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Abstract: The current research aimed to produce a model of learning namely problem based learning-assisted video tutorials that have met the eligibility criteria to be used in the learning process. This approach used in the research was research and development (R&D). The setting of the study was taken place in class XI of Vocational High School Empat Lima in Surakarta city. The result reveals that the descriptive analysis of media video tutorial has been declared worthy of use. Based on the results of the assessments; the media expert, the material expert, the linguist and practitioner expert were all included in the "very good" category. In addition, based on the assessment carried out by expert teams (the expert judgment), it can be concluded that the media learning video tutorials developed have met the eligibility criteria: therefore, the media can be used in the learning process of entrepreneurial subjects.

1   INTRODUCTION

Competition in this globalization era appears competitiveness among nations: therefore, the existence of quality development of human resources is very crucial. Education is one of the important aspects of the development of human resources. For the government, this situation becomes a challenge in enhancing educational system quality; meanwhile, for the teacher, it becomes a challenge to integrate computer technology into the learning system. As a result, it will be better in quality and it will be meaningful and interesting to motivate students. However, data in the real situation show that many teachers who have not been able to develop learning media yet. It reveals that the learning process is still dominated by conventional methods.

Vocational High School (SMK) is a formal education that aims to produce graduates to be ready to work and compete. In vocational school, there are entrepreneurship lessons that can be implemented in the real life. Hence, it is very necessary to implement innovative learning strategies in entrepreneurship learning process that adapted to the teaching materials, characteristics of students and materials that will be taught. One of them is by applying problem-based learning with the assist of tutorial video. Problem-based learning (PBL) is learning model where teachers bring learners to solve a problem by using the variety of intelligence that makes students more active and creative in thinking. To further facilitate students in solving problems, tutorial videos used as a media that helps students.

There are six basic categories of media, namely text, audio, visual, video, engineer (manipulative/things), and people. The purpose of the media is to facilitate communication and learning (Smaldino, Lowther, and Russell, 2011: 7; Anitah, 2014: 1). However, there is a need for media selection that will be used in the learning process to consider several aspects, including the expected capabilities of learners, the characteristics and learning styles of learners, the learning environment, and the development environment (Anitah, 2014: 87-89).

Therefore, in this research, the researcher developed learning model namely problem based learning with the assist of tutorial video as an effort to improve student learning outcomes in entrepreneurship subject of class XI at SMK Empat Lima Surakarta. The problems formulation in this research is "Is the learning model of problem-based learning with the assist of tutorial video of development result have met eligibility criteria to be used in the learning process of entrepreneurship subject?" The purpose of this research is to obtain

learning model that is problem-based learning with the assist of tutorial video that has met the eligibility criteria to be used in the learning process of entrepreneurship subject.

Some previous studies are considered relevant to this current study, among others are Hamidi et al. (2011) conducted a study by comparing the interactive multimedia (CD) and non-interactive multimedia (Films) to see the learning speed, accuracy, and memorization in the Biological science course. This previous study is clearly different from the current study in the field of study and in the method of study. however, these two studies are similar in using the CDs and the tutorial media which can be used off line. Another relevant study conducted by Yuliandari and Wahyudi (2013) about developing the teaching material based interactive multimedia on the economic subject. This relevant study is similar to the current study in the form of utilizing the interactive media and on the subject of the economy. However, the difference is the current study only focused on one multimedia namely tutorial video while the previous study used various interactive multimedia.

The next relevant study conducted by Dwi, et al. (2013) about the influence Problem-Based Learning based ICT toward the conceptual understanding and the ability to solve the physic problem. However, the previous study conducted in Physic education, while this current study conducted in entrepreneur subject. Another relevant study conducted by Yi-Hsuan Lee et al. (2014) about the effect of various multimedia instructional materials on students' learning response and outcome. This previous study has the different focus on utilizing the media. It was used various multimedia instructional materials in education in general while this current study focused on one media called tutorial video and also focused on the entrepreneur subject. The next relevant study conducted by Endrayanti et al. (2014) about developing the multimedia of interactive teaching by utilizing 4D in the social subject. The difference between the previous study and the current study is the subject of the research, while the similarity is in the form of utilizing multimedia and development research.

2 METHODS

The research was conducted by utilizing research and development (R&D). According to Borg & Gall (2007:58) research and development is defined as follows: "Educational research and development is an industry-based development model in which the findings of the research are used to design new

products and procedures, which are then systematically field-tested, evaluated, and refined until they meet specifies criteria of effectiveness, quality, or similar standard."

The setting of the study was taken place in class XI of VHS Empat Lima in Surakarta city. The subjects of the research were grade XI in XIB with 33 number of students. The characteristics of the subject of this research are the average score of the student in grade XIB is under the minimum score, most of the students always remedial in entrepreneur subject, they are unmotivated in learning the entrepreneur subject, the learning process is still dominated by the teacher or teacher-center, the teacher still use the conventional strategy in teaching, the teacher does not use the teaching media in teaching and learning process, and the last reason is the teacher do not know how to integrate the media with the technology.

The data were collected through the introduction, observation, interview, document analysis, questionnaire, validation sheet and the documentation. To analyze the data, the technique used was data reduction, data display, and make a conclusion.

3 RESULTS AND DISCUSSION

3.1 Preliminary Study

There are several analyses that were carried out in the preliminary study: curriculum analysis, teachers, school facilities and infrastructure, student characteristics and needs analysis. Needs analysis is the essential one in this study, it was conducted by carrying out the interview and administering questionnaires to some students of class XI at SMK Empat Lima. Based on the questionnaire result, the students' needs are shown in the histogram below:
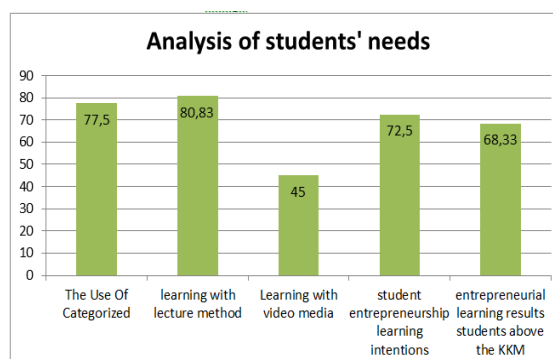

Figure 1: The Histogram of students' needs analysis

Based on Figure 1 above, it is shown that 77.5% of students utilized LKS as a learning resource. In addition, there are 80.83% students who argued that the learning process is still using lecturing method. Additionally, 45% students said that video is used in the entrepreneur learning process. Furthermore, 72.5% students have less intention in entrepreneurial learning and 68.33% students get the score that is less than KKM.

In addition, to gain the deeper information, the questionnaire was also administered. Besides, the unstructured interview was also utilized in which the result shows that: students are interested in attending entrepreneurship class that used leaning media. Learning media used is a combination of several media such as audio, video, and visual. Moreover, teachers want to provide an interesting entrepreneurial learning. The is the main reason why researcher wants to conduct research and development in the form of learning problem-based learning model assisted by tutorial video on entrepreneurship subjects for class XI.

3.2 Product Design

The result of the preliminary study become a stepping stone in preparing and developing the product draft of problem-based learning model assisted by tutorial video. The conceptual model adopted in the development of problem-based learning model assisted by tutorial video is Dick, Carey & Carey model (2001). There are several things that should be conducted in product draft development that can be seen on the concept model used is Dick, Carey & Carey model (2001). The Application of conceptual model by Dick, Carey & Carey (2001) in the development of problem-based learning model assisted video tutorial has been conducted up to the ninth step that is: formulating the learning objectives, conducting learning analysis, analyzing students' previous ability, formulating expected ability after learning, developing assessment instruments, developing learning strategies, developing and selecting teaching materials, designing and developing formative evaluation, revising and refining Moreover, there are some activities things conducted to produce problem-based learning model assisted by tutorial video, among others: Determining core competency, basic competency, learning objectives, making GBPM (the Outline of Media Planning), creating flow charts, creating story boards, collecting multimedia materials and programming.

Furthermore, there are several software used to produce tutorial video as follows:

1. Flash was used to make the video tutorial. There are several stages in making learning tutorial video. Urbani and Purnama (2012) stated that the formulation of production steps of multimedia-based cinema consists of Pre Production, Production and Post Production processes. if in this research video tutorial production also through three stages of activities, namely pre production, production and post production.

2. Camtasia Studio 7 is an application program packaged for recording, editing, and publishing in creating video presentations on a computer screen. Camtasia Studio 7 is software to capture monitor layer display, with added audio and video that can be used to record power point presentation results into video format. Camtasia Studio 7 can help and train in conveying and interacting with the audience. Aripin (2009: 2) points out that Camtasia studio7 is able to record on-screen sounds, including activities on the desktop, power point presentations, voice narrations, and webcam videos. TechSmith (2005: 1) argues that Camtasia Studio 7 is one complete solution to create professional video and desktop PC activity quickly.

3. Pinnacle Studio is an application used to create videos in various file formats. Pinnacle Studio provides users with the ability to add exciting effects to the video, add text, manage sound effects and interesting activities. Prabawati (2009: 16) editing process in pinnacle studio 12 program includes major stages, namely capturing, editing, making the movie.

4. Articulate Story Line 2 that is the last program used in this video tutorial. This application functions to display all videos containing the material core of all materials, so that the students can memorize and remember subject material taught easily. This application is completed with instructions on the use of programs, buttons, music, animation and learning videos as well.

3.3 The Validation of Product Design

The above chart is the result of the design of video tutorial media has been conducted from the pre-production stage until the post production stage. The result of this design was carried out an assessment of

the feasibility of the resulting product. The feasibility assessment of the learning video tutorial media was conducted by the expert judgment consisting of media experts, material experts, linguists and practitioners (entrepreneurship teachers in schools)

3.3.1 The Validation of Media Expert

Aspects assessed by the media expert include the display aspect and the presentation aspect. The instrument used to validate the media was a questionnaire and the result of feasibility assessment of the video tutorial media by the media experts. Validation results from the overall aspect of video tutorial media get a percentage of 85%; therefore, the learning media "tutorial video" can be classified into very good category and worth to be tested and used in entrepreneurship learning process.

3.3.2 The Validation of Material Expert

The aspects assessed by the material expert include content aspects, presentation, learning assessment, learning approaches, and evaluation process. The result of feasibility assessment by the material experts on video tutorial the overall aspect media get a percentage of 90%; therefore, the learning media "tutorial video" can be classified into a very good category and worthy to be tested and used in entrepreneurship learning process.

3.3.3 The Validation of Linguists

The results of the assessment or validation of the language shows that the learning media "tutorial video" can be classified into a very good category and feasible to be tested and used in the entrepreneurial learning process.

3.3.4 The Validation of Practitioner Expert

The result of feasibility assessment by the expert practitioner on the video tutorial media the overall aspect of video tutorial media get a percentage of 90%; therefore, the learning media "tutorial video" can be classified into a very good category and worthy to be tested and used in entrepreneurship learning process.

4 CONCLUSIONS

Based on the results of result and discussion; therefore, it can be concluded that the learning

media "tutorial video" on entrepreneurship subjects, has been declared eligible to be used. It is based on the media expert opinion about 85% of the "very good" category, material experts about 90% with the "very good" category, The linguists about 100% with the "very good" category, and practitioners of 100% with the "Very Good" category Based on the assessment conducted by the expert team (expert judgment), it can be concluded that the Learning media "tutorial video" developed, has met the media feasibility criteria so that it can be used in the learning process of entrepreneurship subjects.

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