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Interactive Learning Media Based on RPP ICT

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Abstract— The students meet constrains in process of teaching and learning activities in the classroom in handicraft materials with the videos of handicraft making process taken from YouTube as these videos are incompatible with the subject and have low quality. The research subjects were the application of interactive learning media for handicraft made-of-soft materials and multimedia-based entrepreneurship. The data collection in this research employed literature study; observation methods done by directly observing the learning methods in class; and interviewing the teacher of handicraft and entrepreneurship subject of the eleventh grade. At the needs analysis, the stages system conducted were user need analysis and data analysis. Subsequently, it was followed by system design, including the design concept (learning scenario in classroom, ICT learning scenarios, evaluation scenario), content design, script design and graphic design. The system testing used two test stages, namely Black box test and Alpha test. The Black box testing tried by the teacher is aimed to determine learning materials validity and the feasibility of multimedia application. Based on these data RPP ICT, it can be concluded that the application of interactive learning media based on RPP ICT field entrepreneurship is feasible to be used in the learning process.

Keywords—Learning Media; Multimedia; Entrepreneurship; RPP ICT.

I. INTRODUCTION

The 2013 curriculum implementation training module explains that one of elements contributing to realize potential quality development process of the students is the curriculum. Competency-based curriculum initiated since 2004 and 2006 SBC have developed and continued into 2013 curriculum, covering integrated attitude, knowledge and skills competences. The active student learning through observing, asking, analyzing and communicating become the principle in the development of 2013 curriculum. In the observing activities, the students can observe, read, hear and listen the learning. Asking activities with is done orally or in writing and analyzing activities by connecting, determining relevancy, building the story/ concept in learning. And the students can communicate orally, using writing, images, graphics, tables, chart and others in the learning process [1].

SMK Negeri 1 Pengasih is one high school/ vocational school in Kulon Progo which runs 2013 curriculum. One compulsory RPP ICT curriculum in 2013 is handicraft and entrepreneurship. Handicraft made-of-soft materials and entrepreneurship learning material is a part of the course. This learning material is related handicraft with main materials which is soft in characteristics. Meanwhile, entrepreneurship material contains tips and ways to be entrepreneurs and business opportunities in the field of handicraft products.

The handicraft-making material is learned by the students by watching the tutorial videos from YouTube. Tutorial materials from *YouTube* are incomplete and incompatible with the subject, and the video's low quality become an obstacle for students in understanding the process of making handicrafts. Meanwhile, for the entrepreneurial materials, the students simply read from books and listen to the stories of entrepreneurial experience, hence examples are needed for real entrepreneurial experiences and presented before the students to motivate and foster the students' mindset in entrepreneurship.

Therefore, the teaching and learning activities in the classroom is less effective because the students spend too much time searching for information on the Internet. Curriculum 2013 which requires the students to learn actively and independently makes the students experiencing difficulties. Moreover, the presented materials are new and the aid is inadequate.

A teacher or educator is demanded to be more creative in implementing their learning, especially on teaching methods and learning media used. The learning media, as one of factors

that can improve the learning quality also need to be supported by the innovation of teachers/ educators in the learning process. A teacher/ educator today with rapid technological developments should not be passive, without making innovations in their learning process. A teacher/ educator needs to be up-to-date with current technology, thereby in giving the material in their field, it would be interesting, full of innovation, particularly in the use of learning media, especially if the material being taught can be developed through the technological sophistication. In addition, the presence of innovations in the learning will greatly assist students in receiving the material provided. The technology usage in learning can be done in the use of media and multimedia learning [2].

Hofstetter explained in the book by M. Suyanto [3] that multimedia is the use of computers to create and combine text, graphics, audio, moving images (video and animation) by combining links and tools that allow the user to navigate, interact, create and communicate. The assistance of multimedia "Interactive Learning Media of Handicrafts Made-of-Soft Materials and Entrepreneurship" is later applied to SMK Negeri 1 Pengasih. Learning media is made according to 2013 curriculum and is expected to facilitate teachers in presenting the handicraft made-of-soft material and entrepreneurship to the students. In addition to facilitate the teachers, this learning media is expected to improve the students' interest in learning the material.

II. LITERATURE REVIEW

A. Theoretical Review

The research results conducted by Adang Danu Aw [4] entitled "Multimedia-Based Basic Football Technique Learning". this study employs a visualization program using interactive videos displaying full football movement. The research goal is to build visualization of the basic techniques of playing football based on multimedia as teaching aids in learning the football packed in the form of an interactive CD that can be used in teaching football. This multimedia application contains learning materials equipped with a tutorial and evaluation exercise. Based on the test results, it can be concluded that the program can run well and feasible to be implemented.

The research conducted by Ridwan [5] is entitled "Multimedia-based Physics Subject in the Main Material of Fluid Elasticity for the Eleventh Grade Students". This application provides several material simulations and practice exercise and the solutions for the exercise. Abstract concepts in physics which are hard to imagine should be supported by laboratory practice or physics using learning media aid so that students are helped to understand the physics concepts that are abstract. The objective of this research is to produce multimedia-based physics learning media on the subject of elasticity and fluid to complete and optimize available learning aids. This research results in the application of multimedia-based physics learning media that have been tested; the results can run well and can be used as an alternative media to improve learning process in the classroom.

The research results conducted by Hendriana, Y. et. al [6] The development of information technology, especially the gaming industry which is one of the growing gaming industry is important for brain development, to improve concentration and train properly and solve problems quickly because in the game there are various conflicts which requires us to solve it quickly and precisely

B. Theoretical Basis

1. Computer Based Learning

The use of computers in education is known as computer-assisted instruction (CAI). CAI (Computer-Assisted Instruction) is a delivery system based on microprocessor-based subject of which lesson is designed and programmed into the system. In this mode, the computer can display the learning, use various types of media (text, images, sound, videos), provide activities and learning atmosphere, quizzes or give interaction from students, evaluate students' answers, provide feedback and determine appropriate follow-up activities hence the students can interact actively. There are five types of CAI commonly used [9], namely:

a. Drill and Practice
Drill and Practice type presents the subject materials to be studied repeatedly. This program type is appropriately used when a teacher presents exercises with accompanying feedback.
b. Tutorial
This tutorial type presents the materials that have been taught or presents new material to be studied. This program provides opportunities to add subject materials already studied or not in accordance with the existing curriculum.
c. Simulation
Simulation type provides the opportunity to test the ability of the real application by creating situations involving students to act on such situation.
d. Problem Solving
The problem solving type presents problems for the students to solve it based on the abilities that they have acquired.
e. Instructional / Educational Games
Instructional or Educational Game type is a program that creates the abilities in a game environment.

2. Multimedia Basic Concepts

Vaughan [8] describes that multimedia is a combination of texts, art, sound, images, animation and videos conveyed using computers or digitally manipulated and can be conveyed and/ or interactively controlled.

III. RESEARCH METHODS

1. Research Subjects
Subjects in this research were handicraft made-of-soft materials interactive learning media and multimedia-based entrepreneurship. The system design created was expected to assist in the teaching and learning process at SMK Negeri 1 Pengasih.
2. Data Collection Method
a. Interview Method
The method was conducted by direct interviews with related party namely Eni Dwi Suharyanti as the teacher of handicraft and entrepreneurship subject in the eleventh grade at SMK Negeri 1 Pengasih.
b. Observation Method
The method was done by directly observing the objects and problems occurred on the research object.

This observation method directly observed learning procedure in the eleventh grade in handicraft and entrepreneurship learning [10].

c. Literature Study Method

The data search method was conducted by literature study, including the student book of Handicraft and Entrepreneurship materials, articles and internet, and referential books on the making of multimedia-based learning media.

IV. RESULT AND DISCUSSION

A. System Analysis

1. User Requirements

a. Teacher

The system design of the teacher is aimed to help facilitate the materials delivery to the students. The requirement stage of users starts from preparing the data associated with handicraft materials made-of-soft materials and entrepreneurship, exercises and evaluations obtained from handicraft and entrepreneurship teacher of the eleventh grade students at SMK Negeri 1 Pengasih in the form of Lesson Plan Based ICT (RPP ICT) Planning, reference books used and teaching and learning activities in the class. For video material, the data are obtained from image directly taken in the institutions and respondents approved by the teacher. Later on, the data are processed into data which will be implemented in the learning system and cannot be changed because they are already in accordance with the users' needs.

b. Students

The system design from the students is aimed to facilitate the students to learn independently without explained by the teacher. The students therefore can understand the learning material regarding handicraft made-of-soft materials and entrepreneurship; listen to videos on handicraft made-of-soft materials and entrepreneurship; and understand the comprehension level of the materials by doing exercises and evaluation.

2. System Requirements

System requirements analysis is an analysis of the data in the system design requirements. The system built in this research is the application of instructional media about the craft of soft materials and multimedia-based entrepreneurs using Adobe Flash Professional CS6 software, CorelDraw X6, adobe premiere pro, adobe after effects, adobe audition CC.

B. Design Concepts

The learning model Computer Assisted Instruction (CAI) to be a reference in the design concept [11]. CAI models were applied, namely:
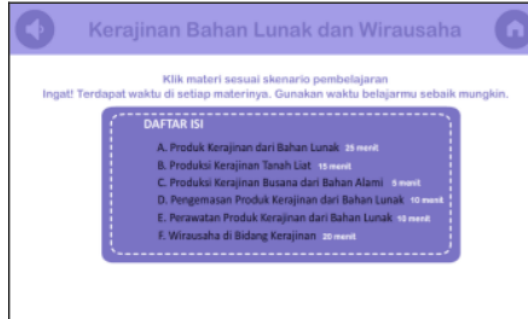
1. Model Tutorial

Fig. 1. Display module pages of material

Fig. 2. Display the sub menu page module material

Model tutorial module presents the material in the form of text summary description and pictures of the craft of soft materials and entrepreneurs. On Figure 1 any material given a different time limit. When opening the material Figure 2 there are sub menus material that serves to facilitate the user when an error occurs while to get into one material.

2. Model Simulation

Fig. 3. Display animation craft pulp

Fig.4. Display animated fashion production from natural materials

Fig.5. Display video tutorial craft production process from clay

Fig. 6. Display entrepreneurship videos

The simulation model presents a simulated form of animation craft pulp Figure 3 which describes the processing of paper into crafts, animation production of clothing from natural materials Figure 4 with a step by step explanation in the manufacture of clothing, video tutorials production process craft of clay Figure 5 and videos about entrepreneurship in the craft who share the experience in entrepreneurship Figure 6.

3.   Model Exercise
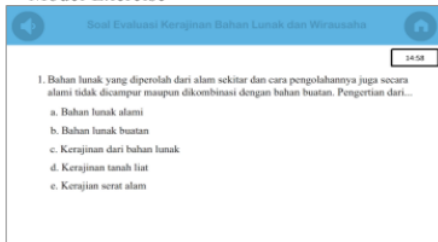
Fig.7. Display page evaluation questions

Fig. 8. Display of evaluation results page with the comment pass

Models present the evaluation exercise Figure 7 to provide a series of multiple-choice questions with a duration of working time 15 minutes and at the end Figure 8 students can see the final value achieved with the comment that states pass or not.

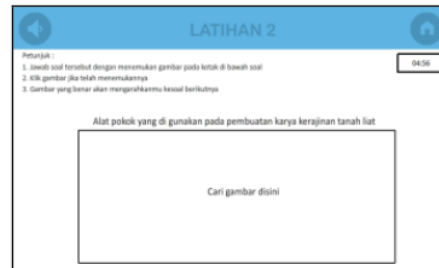4.   Game Model

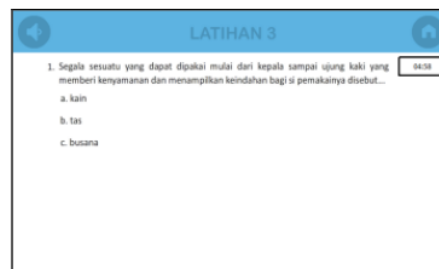Fig. 9. Display exercises page 1

Fig. 10. Page views exercises 2

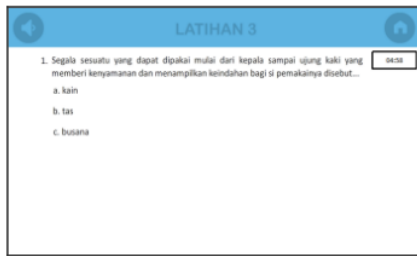Fig. 11. Display page of exercises 3

Fig.12. Display page of exercises 4

Game model presents exercises to provide games that are fun to play while learning. There are four exercises on this application. For exercises 1 to 3 have a duration of 5 minutes. Exercises 1 Figure 9 in the form of guesses to answer the question with an interesting answer to the question the answer box below. Exercises 2 Figure 10 in the form of guesses to answer the question by looking picture right answer. Exercises 3 Figure 11 in the form of multiple choice questions that the end of the matter can know the answer. Exercises 4 Figure 12 in the form of a discussion with a duration of about 10 minutes.

C. Testing

Testing the system uses two types of testing such as:

a. Black Box Test

Testing the system using a blackbox test aims to find out the truth of the subject matter and the feasibility of multimedia applications are tested by Eny Dwi Suharyanti as a craft teacher and class Enterprise XI. Based on the results obtained by counting number of answers divided by the number of questions multiplied by 100%, the percentage of votes against the application system is to agree ratings 17/17 x 100% = 100%, Disagree 0/17 x 100% = 0%. From the results of these assessments can be concluded that the application of interactive learning media handicrafts from soft materials and multimedia-based entrepreneurs are in accordance with the needs of teachers and feasible to be used as an alternative media in presenting material aids handicraft made from soft and entrepreneurs in the craft and entrepreneurial subjects.

b. Alpha Test

Testing the system using alpha test aims to test the feasibility of instructional media as tools for learning more effective and attractive so as to motivate students in independent learning. This trial due by 30 students of class XI by trying to run applications that have been designed learning media. When students have completed work on the problems run the application and evaluation of the application, the result is the best value of 30 students are as follows.

From the results of the students scored above the standard 75 KKM. It can be concluded that the results of student evaluation is very good. The next question questionnaire distributed a questionnaire to each student who has tried learning media applications. Assessment is done by counting the number of each answer choice answers divided by the total number multiplied by 100% in the completed questionnaire sheet. Then the percentage of votes obtained results to strongly agree 62/240 x 100% = 26%, agree 171/240 x 100% = 71%, disagree 7/240 x 100% = 3% and disagree 0/240 x 100% = 0%. Thus, the percentage of the number of the most widely agreed to be used as a tool in the learning process students learn the craft material of the soft material and entrepreneurs.

V. Conclusion

Based on the research results and discussions previously described, the conclusions made are as follows:

1. Attractive and interactive learning media for handicraft-made-of-soft materials and multimedia-based entrepreneurship have been made using several multimedia elements, including text, images, sound, animation and videos.

2. The research impacts are the teaching and learning activities in the classroom becomes easier and more enjoyable, the students are more enthusiastic in the attending the study, the implementation of learning time ismore effective, and helping the students in their independent learning material on handicraft made-of-soft materials and entrepreneurship.

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GENERAL COMMENTS

Instructor

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