Development of Adobe Flash Based Floor Gymnastics Media Learning on Health Sport Education Lesson

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Abstract This study aims to produce Adobe Flash-based Floor Gymnastic learning media and its use in Sports Physical Education Subjects in SMKs in the South KualuhSubdistrictLabuhanBatu Utara District. This study uses a qualitative method. The determination of subjects in this study was carried out purposively. The informants in this study were the teachers of Sports Health Physical Education in Vocational Schools in the South KualuhSubdistrict, LabuhanBatu Utara Regency, totaling 7 (seven) people, and the XI grade students from 3 (three) schools totaling 35 (thirty five) person. Data collection is done by examining all data collected from various sources, namely product design and validation, giving questionnaires, observation and documentation. Data analysis is done by collecting data needed in the development and use of Adobe Flash interactive multimedia-based learning media. The results of this study are the creation of Adobe Flash interactive multimedia based learning media that can be used by teachers and students easily in understanding Floor Gymnastic learning,

Keywords: Research and Development (R & D), Interactive Multimedia, and Gymnastics.

I. INTRODUCTION

Modernization has made various activities in the world easier. The development of information and communication technology (ICT) has minimized the geographical partition, time and distance, as if the world was only a 'small village'. The development of ICT in the world of education today has contributed to the progress of education. ICT is used to produce effective, efficient, innovative and fun learning models that make it easier for teachers to deliver learning material.

The use of ICT in schools should be carried out to carry out the functions and objectives of national education. The Law on the National Education System in Article 3 states that, national education functions to develop the ability and shape of dignified national character and civilization in order to educate the lives of the nation, aiming for the development of the potential of students to become believers and fear of God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and a democratic and responsible citizen.

The advantages possessed by computer-based learning media indicate that the media has an important role in theprocess of achieving learning goals, such as sports. The difficulty in learning to practice sports material is generally due to the limited ability of the teacher to practice it, understand it, and apply concepts that will be studied properly in everyday life.

According to Sadiman, media is everything that can be used to channel messages and senders to the recipient of the message so that it can stimulate the thoughts, feelings, attention and interests and attention of students in such a way that the learning process occurs (in Magribi, 2015: 10). The main function of learning media is as a teaching aid that influences the climate, conditions, and learning environment that is organized and created by the teacher.

The benefits of using media according to Arsyad (2013), among others; First is to clarify the presentation of messages and information so as to facilitate and improve learning processes and outcomes. Second is to increase and direct the child's attention so that it can lead to learning motivation, more direct interaction between students and their environment and enable students to learn on their own according to their abilities and interests.

Conventional learning in its delivery is more likely to be in the form of words, written or oral which causes students to be less attractive. According to Arief S. Sadiman, et al. (1996: 16) the use of learning media can clarify the presentation of material so as not to be verbalistic.

The theory of media use in the teaching and learning process proposed by Dale's Cone Of Experience that the influence of media in learning can be seen from the level of learning experience that students will receive (Arsyad, 2012: 10). Based on the existing problems, it is necessary to develop a learning media as a tool to assist teachers to deliver Floor Gymnastics material so that the competence of the material can be achieved.

The learning revolution facilitated by Information and Communication Technology has had a lot of positive impact on the learning process. Information and Communication Technology makes the learning process of teachers and learners not limited to space and time anymore, students can easily manage their own learning activities so that they are able to maximize the use of all learning resources facilitated by Information and Communication Technology so they can master.

The use of instructional media by teachers in addition to learning activities can also be used by students to study independently. This Learning Media will later be in the form of a file that can be stored in various storage tools that can be reopened on any computer, such as; pieces of CD (Compact Disk), DVD (Digital Versatile Disk), Flashdisk, External Hard Disk, Memory Card, or others, so that they can be used repeatedly and disseminated to reach many people. This learning media is expected to be able to help students to learn independently and also improve understanding of the material presented therein. This media can be used as a form of development of learning media in the form of textbooks / handouts that can help facilitate the delivery of Floor Gymnastics material.

Program (software) applications that can be used to create learning media one of which is Adobe Flash or also known as Adobe Animations, which was launched by Adobe Inc. According to Andi and Syafi'i (2005) Adobe Flash is a software (application software) that is in great demand by most people because of its reliability that is capable of doing all things related to making cartoon movies, banner ads, web sites, presentations, games, and other things. Adobe Flash can also be combined with other programs, such as graphics like Photoshop, Corel Draw, Camtasia and so on. Adobe Flash can also be combined with programming languages, such as ASP, PHP, and other multimedia. The reliability of Adobe Flash compared to other programs is in terms of the size of the animation file is small, besides that the animation produced by the Adobe Flash program is also widely used to make a web to be more interactive.

Physical, Sports and Health Education (PJOK) is essentially an educational process that utilizes physical activity to produce holistic changes in individual quality, both in terms of physical, mental, and emotional. PJOK as a subject is a medium to encourage physical growth, psychic development, motor skills, knowledge and reasoning, appreciation of values (mental-emotional-sportsmanship-spiritual-social attitudes), as well as habituation of healthy lifestyles that function to stimulate quality growth and development balanced physical and psychological.

The PJOK subject in the 2013 curriculum structure is grouped into group B subjects, namely subject groups whose content is developed by the center and complemented by local wisdom content developed by the local government. The application pattern can be integrated with the basic competencies already contained in the curriculum of SMP / MTs / SMA / MA, or can be formulated by adding its own basic competencies.

Floor Gymnastics is one of the PJOK subject matter that is always present at every grade level, especially in high school / vocational high school / MA equivalent. Based on interviews conducted by the author of several PJOK teachers, preliminary data was obtained that there were difficulties with the PJOK teacher in teaching floor gymnastics material. According to observations, the teacher's difficulty in learning Floor Gymnastics material was due to the absence of learning media that were relevant to this material. The ability of teachers to understand the concept of Floor Gymnastics theory is not accompanied by the ability to practice Floor Gymnastics material properly.

The results of the author's observation of the students themselves and other teacher's students when learning the Floor Gymnastic material, obtained information on the students' difficulties in understanding this topic due to the lack and lack of examples of relevant learning media. Many students consider that this Floor Gymnastics material is difficult material, while students are required to be able to master the basic exercises of Floor Gymnastics.

Floor Gymnastics Learning requires students to carry out a series of movements through the theory and practice directly taught by the teacher. Floor Gymnastics Materials include, among others; Understanding gymnastics, gymnastics development, gymnastic benefits, and basic floor gymnastics techniques. Less effective learning can be seen when students only depend on the teacher with conventional learning methods, causing students to experience difficulties in understanding the material presented. Observations show the importance of developing a learning media that can overcome learning problems and support the achievement of learning objectives. The use of Adobe Flash in Floor Gymnastics learning is expected to be able to overcome the problems that have occurred so far.

The use of learning media on adobe flash based Gymnastics allows a more conducive learning atmosphere, because students learn according to their ability and speed in understanding the knowledge and information presented. This learning media is expected to create an effective learning climate for students who are slow but can also accelerate learning effectiveness faster. Adobe Flash can be programmed to be able to provide feedback on student learning outcomes and provide confirmation of student learning outcomes.

Given the many problems that can arise from the topic of this problem, then with the limitations of time, cost, and difficulty to be solved in one study, the authors make the fundamental problem in this study namely; development and use of Adobe Flash-based Floor Gymnastic learning media on Sports Physical Education Subjects in SMKs in the South Kualuh Subdistrict Labuhan Batu Utara Regency.

The objectives to be achieved from this research are:

1) To produce an Adobe Flash-based Floor Gymnastic learning media on Sports Physical Education Subjects in SMKs in the South KualuhSubdistrict, North LabuhanBatu Regency.
2) To find out how to use Adobe Flash-based Floor Gymnastic learning media in Sports Physical Education Subjects in SMKs in the South KualuhSubdistrictLabuhanBatu Utara Regency.

II. METHODS

A. Research Design

This research uses research and development methods or often called Research and Development (R & D). Research and

development is a research method to develop and test products in the world of education. In addition to developing and testing products this research is used to find new knowledge regarding fundamental phenomena, as well as educational practices. Functioning to find fundamental phenomena is done through basic research. Then for research on educational practices applied (applied research).

According to Sukmadinata (2009: 165) research and development is a process or steps to develop a new product or improve existing and accountable products ". Research and development in the field of education begins with the need for problems that require solving by using a particular product.

This research and development author uses a research model adapted from the ADDIE (Analysis, Design, Develop, Implement, and Evaluate) development model. The ADDIE model began in the 1990s developed by Dick and Carry (in EndangMulyatiningsih, 2012: 200). The ADDIE model is used to guide development in building effective training programs and equipment. This model uses 5 stages: Analysis, Design, Development, Implementation, and Evalution.

This development research is a research with a procedural model, which shows the steps of the product development process. Product development in this study is in the form of learning media. The media developed will be validated to media experts, and material experts. Teachers and students will be asked to respond to the results of the development of this material as users of learning media. This learning media is expected to be used in the learning process of Floor Gymnastics in PJOK Subjects.

1. Place and Time

This research will be carried out in Vocational Schools in the South Kualuh Subdistrict, Labuhan Batu Utara Regency. There are 3 Vocational Schools found in Kualuh Selatan Subdistrict, namely: Kualuh Selatan 1 Vocational High School, Kualuh Selatan Vocational High School 2, and Kualuh Selatan Zauhari Private Vocational School. The research will be carried out in the even semester of 2018/2019 Academic Year, namely July to August 2018.

2. Population and Samples

The determination of subjects in this study was carried out purposively. There are two types of participants who will be asked for their opinions regarding the development and use of Adobe Flash-based Floor Gymnastic learning media in PJOK Subjects, namely teachers and students. Researchers will look at the process of using Adobe Flash-based interactive multimedia learning media in PJOK Subjects for Floor Gymnastics Materials, while students will see how students respond after the teacher presents the material using the learning media.

3. Data Measurement Techniques

The procedure for developing interactive multimedia based development media (in this case Adobe Flash) based on the ADDIE Development Model takes several steps, namely:

1. Analysis phase

The analysis phase is carried out by the developer to collect the data needed in the development of Adobe Flash interactive multimedia based learning media. In this analysis phase researchers analyze several things including:

a. Data collected in the form of indicator competency standards from subject matter. This is done so that the media that is made still refers to the learning objectives.

b. Collect data related to problems that arise in learning competency standards outlining management information systems, especially in terms of availability of learning resources.

c. Collecting data about the analysis of students is done to find out the characteristics of students.

d. Collecting data about the carrying capacity of the use of interactive multimedia-based learning media.

2. Planning phase

The media development planning stage is formulated based on the data obtained from the analysis phase. There are several things done by researchers, namely:

a. Determine competency standards in the subject matter of the management information system. and determine the purpose of making instructional media in accordance with the PJOK Subject Curriculum and syllabus.
b. Determine basic competencies and indicators of the subject matter of Floor Gymnastics
c. Making a flowchart, which is a development flow diagram that gives a final picture of a view that is poured into a media script.
d. Creating a Storyboard that is done with a flowchart as a reference.

3. Development phase

After the planning phase, the researcher conducts the next stage, namely the development stage. The stages of this development are as follows:

a. Product manufacture

The developer collects supporting materials such as animation, sound, video, images and others. Then learning media was developed using the Adobe Flash application.

b. Validation

In the validation, there was a validation of material experts and the validation of media experts was carried out by expert lecturers who were appointed by universities to validate the material and media.

c. Revision

After the validation process, the product is revised based on comments and suggestions from material experts and media experts to be interesting and in accordance with the needs of students.

4. Implementation phase

After validation, the implementation phase is carried out where the activities carried out are assessing the products developed in accordance with the characteristics of students.

Here the product is tested by involving students. At this stage there are 2 cycles, namely the small group trial phase and the large group trial stage. Small group trials were carried out involving only 4-5 students and large group trials were conducted involving students in several schools.

5. Final Product

Based on the results of validation and small group trials, revisions were made to the learning media. The final product produced is in the form of an interactive multimedia based File Application using the Adobe flash application that is ready for use. This functions so that learning media can be implemented in a broader learning process.

e. Data Analysis

Data analysis techniques carried out in research are the process of systematically searching and compiling data obtained from interviews, field notes, and other materials, so that they can be easily understood, and their findings can be informed to others. Data analysis is done by organizing data, describing it into units, synthesizing, compiling into patterns, choosing which ones are important and what will be learned, and making conclusions that can be told to others (Sugiyono, 2009: 244).

According to Bogdan & Bikien (1982, in Moleong, 2006: 248) qualitative data analysis is an effort made by working with data, organizing data, sorting it into manageable units, synthesizing them, finding and finding patterns, finding what important and what is learned, and decide what can be told to others.

Qualitative Data Analysis Process according to Seiddel (1998, in Moleong, 2006: 248) should proceed with the following stages:

a. Recording that produces field notes, with that being coded so that the data source can still be traced.
b. Collecting, sorting out, classifying, synthesizing, summarizing, and indexing.
c. Thinking, by making the categories of data have meaning, finding and finding patterns and relationships, and making general findings.

The data obtained through the trial activities are classified into two, namely qualitative data and quantitative data. Qualitative data in the form of criticism and suggestions put forward by material experts, media experts, and students gathered to improve this interactive multimedia-based learning media products. Quantitative data obtained from the questionnaire is then converted to qualitative data on the Reference Reference Approach (PAP) developed by Widoyoko (2009: 238) with a scale of 5 (Likert scale) to determine product quality with the following description:

- Very Less (SK) given a score of 1
- Less (K) is given a score of 2
- Good enough (CB) given a score of 3
- Good (B) given a score of 4
- Very Good (SB) given a score of 5

III. DISCUSSION

The process of making multimedia learning through various stages, namely design and production so as to produce the initial product in the form of multimedia Adobe Flash-based Floor Gymnastics.In making this multimedia using research and development procedures.In making this multimedia learning through the stages of planning, production, and evaluation. The development of multimedia learning is assisted by the Adobe Flash CS3 application. After the initial production of multimedia learning is complete, the next step is to validate the learning multimedia. The validation process is through the assessment of material experts and media experts before they can be tested to teachers and students.

The material expert validation process has two stages of validation. Phase I validation is an assessment of the initial multimedia learning products. The assessment on the validation of material experts in Phase I was used as a basis for improvement to be further validated in Phase II, so that the product was ready to be tested. After validating the material expert, then proceed to the validation process to media experts. In the validation process by media experts, suggestions and comments were made that made this multimedia learning improvement material.

The validation process by media experts also goes through two stages, namely phase I and phase II validation. In the validation data, the first phase media expert is used as material for improvement in stage II validation, until the product is ready to be tested on teachers and students. Media experts claim that multimedia learning is feasible to be used without trial revision, so the next step is to test the teacher and students. During the one-on-one trial phase, suggestions and input from teachers and students were used to conduct stage II revisions. Phase II of the revision was completed, so that the final product is ready to be used by teachers and students to study independently.

In data analysis performed on validation data, assessment of multimedia learning is included in the criteria of "good" and "very good". Evaluation of these criteria comes from material experts who provide a "very good" assessment, by media experts "very good", and assessments by teachers and students who provide an assessment of multimedia learning products included in the criteria of "very good". The teacher is helped in the learning process and students are interested in learning and can use this multimedia learning as a reference for independent learning.

IV. CONCLUSION AND RECOMMENDATIONS

A. Conclusion

Based on the results of the research and development of multimedia products based on Adobe Flash Floor Gymnastics, it can be concluded as follows:

a. The process of developing multimedia Adobe Flash-based Floor Gymnastics has been through several stages. The stages of developing multimedia learning that have been passed start from the preliminary stage, development of learning design, production, and product evaluation. The preliminary stage is determining and identifying needs, then determining the material to be included in the learning multimedia product. The second stage is, developing learning design by identifying basic competencies, developing materials, developing test items and learning strategies, then developing evaluations. Furthermore, the production stage is, making flow charts, compiling manuscripts, collecting materials that will be included in multimedia learning, and then proceeding with the development of floor gymnastic learning multimedia.

b. The process of developing multimedia learning also includes the making of the application and the process of creating a basic skill in the Floor Gymnastics learning video. The last step is evaluation or validation process by material experts, media experts, teachers and students. Then in the end it produced the final product in the form of Adobe Flash based multimedia Floor Gymnastics.

3. The results of the assessment of material experts on the quality of multimedia of Gymnastics Floor learning are included in the criteria of "very good", according to media experts regarding the quality of multimedia learning is included in the criteria of "very good", as well as assessments of teachers and students as a whole included in the criteria " good". In the assessment of the aspect of the appearance of the average in the criteria of "good", the aspect of the content / material in the criteria of "very good", then in the aspect of learning included in the criteria of "very good". Assessment of the teacher and students as a whole on aspects of appearance, aspects of content / material, and aspects of learning are included in the criteria of "good".

B. Recommendations

Based on the conclusions and limitations mentioned in above, it can be recommended for this learning multimedia product as follows:

1. This learning multimedia product should be used as a learning medium by the teacher and as a companion material for students so that the learning process can be effective and efficient.
2. This learning multimedia product can be uploaded to the internet site to be used by the wider community.
3. The teacher must get used to making the media to facilitate students' understanding of learning and students must get used to independent learning by utilizing learning resources from anywhere, not just glued to the material provided by the teacher.

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