Development of Android-Based Learning Media Subject for Class X Drug Matters in 1st Besitang State Senior High School

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Abstract—**The development of Android-Based Learning Media in Physical Education Subjects for Class X Students at 1st Besitang State Senior High School is based on the rapid development of technology, especially in the field of communication gadgets and the 2019 corona virus disease (covid-19) pandemic which does not allow face-to-face teaching and learning activities. Android is very well known among students. In addition, the facts of Physical Education learning media are very minimal. Therefore, it is necessary to develop Android-based learning media to answer the challenges of the digital era in delivering practical and fun information without reducing the effectiveness and efficiency during the Covid-19 pandemic.The purposes of the research was to describe the procedure of the development of Android-based learning media in subject of Physical Education for grade X in 1st Besitang State Senior High School. Was the development model of Sugiono that consisted 8 steps, they were (1) potensials and problems, (2) data collection, (3) product design, (4) design validation, (5) design revision, (6) product trial, (7) product revision, and (8) mass production. Subjects of the research were lecturers, teachers, and students of X in 1st Besitang State Senior High School. Collecting data using questionnaire and interview. The result of the development were has detail explained the procedure of the development of Android-based learning media.**

Keywords—The Development of Android-Based Learning Media; Physical Education

I. INTRODUCTION

The development of Computer Information Technology (ICT) has encouraged the creation of innovations in all fields, one of the areas that did not escape from this development is the field of education which was born with the concept of Electronic Learning (E-Learning). E-Learning is defined as a processing and learning process that uses electronic circuits to convey learning content, interaction or guidance. In the field of education, ICT plays a role in changing the way of learning, seeking and interpreting information. Beside ICT, the 2019 corona virus disease (covid-19) pandemic which does not allow face-to-face teaching and learning activities.

That the sounds of Article 4 paragraph (1) of Government Regulation Number 21 of 2020 and Article 59 paragraph (3) of Law Number 6 of 2018 are exactly the same. In fact,

government regulations have the role of explaining the implementation of the laws that delegate them. However, this Government Regulation does not clearly state, especially regarding the explanation of the existence of holidays in order to anticipate the transmission of Covid-19, which in fact, schools and workplaces are not closed, but distance learning for school and work from home [1].

Currently the concept of e-learning is used as a form of learning that utilizes electronic devices and digital media which are starting to develop into mobile learning (m-learning). Mobile learning is a form of learning that specifically utilizes communication devices and technologies created by adapting e-learning which is designed to be simpler and can answer deficiencies that occur in e-learning. The concepts offered by mobile learning are short and long distance learning. The concept of close learning is a medium that can be used during the learning process by teachers and students directly, while distance learning is a medium that can be opened and studied when students are outside the school environment and studied when students are outside the school environment.

Mobile learning (m-learning) is learning that utilizes technology and mobile devices. In this case, the presence of mobile learning that uses mobile devices as a learning supplement and provides opportunities for students to learn on their own about material that is not mastered anywhere and anytime. This certainly can provide a different experience in the learning process for students [2].

Learning media is a form of teaching and learning that involves students and teachers by using learning resources both inside and outside the classroom. The use of media in the learning process does not have to be attended by a teacher, because without a teacher the learning process can take place individually with learning materials that have been prepared according to student readiness. Physical education (PE) is one of the compulsory subjects for all levels of education in the national education system. One of the most important materials in learning physical education is drugs.

Drugs are substances or drugs derived from plants or non-plants, both synthesis and semisynthesis that can cause a decrease or change in consciousness, taste awareness, reduce to eliminate pain and can instill dependence on users [3]. The

problems in 1st Besitang State Senior High School, especially for class X in the physical education learning method, drug material still uses conventional learning methods or lecture methods accompanied by explanations, as well as division of tasks and exercises, because this method has long been used as a oral communication tools between teachers and students in the learning process. So this Android-based mobile learning can be used as a solution for physical education learning on drug materials so that the learning process becomes more effective, so that it will be easier for students to implement and absorb. Because all senses possessed by students can respond quickly to learning materials through Android-based mobile learning.

Seeing the problems described above, it is necessary to update the physical education learning method for drugs, so I hope that the making of this Physical Education learning media becomes an alternative to learning media that is able to be a solution to the above problems with the title "Development of Android Based Learning Media Physical Education Subject on Drug Material Class X in 1st Besitang State Senior High School ".

II. METHODS

A. Research and Development Methods

The research method used in this research is the method of research and development. Research and development methods are research methods used to produce certain products and test the effectiveness of these products [4]. To produce certain products that are used in needs analysis research and to test the effectiveness of these products, these descriptions can function in the wider community, so research is needed to test the effectiveness of these products. So research and development is longitudinal / gradual[4].

Development research is a method used to solve problems between basic research and applied research, which can overcome by developing a product, be it hardware or software, which has certain evidence resulting from a combination of concepts, principles, assumptions, hypotheses, procedures deign. with something that has been discovered or resulted from basic research [5]

This research and development methodology is closely related to the field of learning technology. Several decades of research in the field of instructional technology have intersected with issues of product development and design, especially media and teaching materials and learning system design. We know that learning technology can be defined as the theory and practice of design, development, management, evaluation and resources for learning [6]. Therefore, researchers try to develop learning media according to student needs.

B. Research and Development Procedures

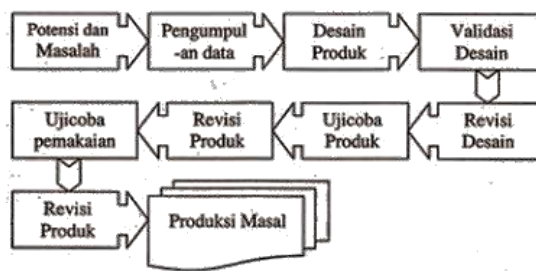The research and development steps are shown in the following figure:

Fig. 1. Steps for using the Research and Development Method Sugiono

The research and development steps carried out according to Sugiyono (2016: 298) use 10 steps consisting of: (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) design revisions, (6) product trials, (7) product revisions, (8) use trials, (9) product revisions, (10) mass production [4]. With the necessary changes, namely in research and development, it does not pass steps (8) and (9) due to limited time, effort and cost from the researcher.

III. RESULT AND DISCUSSION

Seeing the questionnaire that was included in the form of 13 aspects that were assessed with a score between 1 and 4 categories of assessment, then if 13 aspects were associated with 4 the ideal score obtained was 52.

If we match it with the feasibility table previously described, this development product is in the "Very Appropriate" qualification with a value between 86% - 100%, meaning that this development product is considered suitable for use in the field even though there are only a few things that need to be improved. The comments and suggestions from material experts will be taken into consideration for improving the product.

TABLE I.   INTERPRETATION CRITERIA, SUGIONO (2011)

Category	Percentage	Qualification
4	86% - 100 %	Very worthy
3	76 % - 85 %	Worth it
2	56 % - 75 %	Decent enough
1	< 55 %	Less feasible

IV. CONCLUSION

Based on the development process and the results of the trials on the Android-based Physical Education learning media target for class X at 1st Besitang State Senior High School, it can be concluded that:

- The material discussed in the development of learning media products for Android-based Physical Education is the Drugs.

- This development model uses Sugiyono (2016: 298) research and development model which 10 steps consisting of: (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) design revisions, (6) product trials, (7) product revisions, (8) use trials, (9) product revisions, (10) mass

production. With the necessary changes, namely in research and development, it does not pass steps (8) and (9) due to limited time, effort and cost from the researcher.

- In developing this learning media, researchers used the Adobe Flash Player CS 6 application.

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