DEVELOPMENT OF ANDROID BASED INTERACTIVE LEARNING MEDIA WITH INSPRING SUITE 10 IN SIENCE LEARNING

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Abstract— The background of this study is the low interest and learning outcomes of students regarding material classification, caused by the use of conventional teaching methods that are less engaging This study aims to develop Android-based interactive learning media using iSpring Suite 10 in the context of learning Natural Sciences (IPA) for grade VII junior high school students. The research method employed is Research and Development (R&D) with a focus on creating media that meets the criteria of validity and practicality. Validation results from material experts showed an average validity score of 9.5 percent , while media experts provided a score of 90.38 percent , indicating that the developed media is very valid. Product trials demonstrated that this learning media is practical to use, achieving a practicality level of 8 9 percent . The Android-based application is designed to enhance student interaction in the learning process, allowing for independent and flexible learning. *This research is anticipated to improve the effectiveness of science learning and contribute to educational innovation, particularly in addressing the issue of low interest in learning about material classification. Consequently, the developed Android-based interactive learning media can serve as an engaging and effective alternative for use in science education at schools.*

Keywords— l earning media , interactive , a ndroid , ispring suite

I. INTRODUCTION

Education has an important role in the learning process to develop the knowledge possessed and supported by increasingly developing technology in improving the quality of humans to obtain knowledge [1] . The role of Science and Technology (IPTEK) which is increasingly developing makes every educational institution compete in improving the quality of education [2] . Schools are educational institutions that are affected by the sophistication of technology. Various innovations carried out to improve the quality of education such as curriculum updates, changes to assessment systems, learning models learning, learning methods and learning media [3] .

Media Interactive learning is a learning method based on information and communication technology. Interactive learning media is a tool in the learning process to meet the target learning objectives by using audio, visual, audio-visual, or print media-based methods [4] . These tools can be television, books, radio, magazines, newspapers, and so on. It is said to be interactive because this media is designed to involve active user responses. One alternative learning media that can be used is interactive learning media assisted by technology. An innovation that will develop innovative, creative, interesting and student-centered media. Various devices that can support the creation of learning media include Lectora, *Powerpoint, Adobe Flash* , and other devices. One device that has not been widely used in developing learning media is *Powerpoint* assisted by *iSpring Suite* [5]

In junior high school level, the use of interesting and interactive learning media is very important. Science materials, especially abstract ones that are difficult to teach directly and not all of them can be displayed in real terms such as material classification materials, are often considered difficult to understand by students [6] . According to De Vito in [7] effective science learning is science that connects with daily activities, students are given the opportunity to hone their skills, and build understanding in students that science lessons are important in this life.

Based on the results of interviews with teachers at SMPN 1 Gondang, it was found that: (1) science teachers at SMP Negeri 1 Gondang have not used interactive learning media, (2) science teachers at SMP Negeri 1 Gondang still use conventional methods in the learning process, (3) During science learning in class, science teachers at SMP Negeri 1 Gondang only use textbooks in delivering material, (5) Students seem uninterested in science subjects, especially material classification material because this material is considered boring and difficult for students to understand because of its abstract nature . Based on these problems, the researcher developed an interactive learning media based on Android with ispring suite 10 in science learning for class VII.

II. EASE OF USE

A. Accessibility

Students can access learning materials anytime and anywhere via their Android devices.

B. Interactivity

Learning materials are presented interactively, so that students are more involved and motivated. Using quiz and simulation elements in the application to test students' understanding of science concepts.

C. Concept Visualization

Difficult concepts in science can be visualized clearly. Using animation to explain particle shapes, so students can see in real-time.

D. Direct Feedback

Students get immediate feedback from the results of the quizzes or exercises they work on. After completing the quiz, students immediately know their grades and areas for improvement.

E. Media Integration

Using various types of media (text, images, video) in one platform

III. PREPARE YOUR PAPER BEFORE STYLING

This research uses a research and development approach, namely a method used to produce and test new products. [8] . The development procedure to be carried out refers to the 4D development model, one of the R&D models developed by Sivasailam, et al. in 1974. This research was designed using the 4D (Four D) development model. The 4D development model follows the flow of Sivasailam Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel in 1974. The model includes 4 stages, namely define , design , develop *and* disseminate *[* 9 *]* .

This research was conducted at SMPN 1 Gondang, and the subjects of this research were Science Teachers of SMPN 1 Gondang and 36 students of class 7A of SMPN 1 Gondang. The research instrument used expert validation, teacher and student response questionnaires. The expert validation in question is expert validation. material and media experts. The teacher and student questionnaires are in the form of a questionnaire to assess the media learning.

A. Define

At this stage, the researcher conducts problem analysis and needs analysis to create interactive learning media products . Furthermore, the researcher analyzes the concepts in the material to be delivered and examines Learning Achievements to formulate learning objectives that will be developed based on the curriculum and media to be developed.

B. Design

At this stage researchers compile storyboard to be the basis for designing media with multimedia principles (text, images, narration, interactive questions) with the help of *ispring suite* . Starting from the initial display of learning media, initial display of menu, initial display of instructions, initial display of material. After that, the learning media is

validated by media expert lecturers and material expert lecturers before being used for product trials.

C. Develop

The learning media was validated by expert lecturers in media and materials using validity instruments that had been prepared in the previous stage. The data analysis process from the learning media validity sheet was carried out by calculating the values given by respondents ([10] , as quoted in [11]) , then obtaining suggestions and input that were used for the revision stage before the product trial.

After obtaining valid results, the learning media was tested on a limited basis in class VII of SMP Negeri 1 Gondang to assess its practicality. The level of practicality of the learning media was assessed after the completion of learning activities in the classroom. The assessment of practicality was carried out by filling out a questionnaire on the teacher's practicality response and a questionnaire on the student's practicality response to the learning media developed. The process of analyzing data from the questionnaire on the practicality response of teaching materials was carried out by calculating the values given by respondents ([10] , as quoted in [11]).

D. Disseminate

After a limited trial and the instrument has been improved, the next step is to disseminate the final product of the learning media so that it can be utilized by the real target. To expand the scope of distribution, the results of this study were also published in the form of scientific articles in national journals.

IV. USING THE TEMPLATE

At the product development stage *(Development),* The developed learning media were tested for validity using a validity questionnaire instrument by the validator. Validation of the learning media for material classification was carried out through the validation stage of material experts and media experts. The following is a presentation of the results data validation assessment by material experts and media experts in tab el.

TABLE I.   MEDIA AND MATERIAL EXPERT VALIDATION RESULTS

No	Media and Material Expert Validation Results	
	Validators	*Percentage of Scores Obtained*
1	Media expert validator	95%
2	Subject matter expert validator	90.38%
	Total	185, 38%
	Score Percentage	92.69% (Very Valid)

a. Sample of a Table footnote. (*Table footnote*)

Based on the table above, it shows that the android-based learning media with *ispring suite* material classification material developed with the 4D model is very valid. In the

first validation by material experts, an average validity score of 95% was obtained, in the second validation by media experts an average score of 90.38% was obtained. Overall, the validation results show a validation percentage of 92.69% from both material and media aspects, which means that the android-based learning media with ispring suite material classification material is very valid and can be used as a learning media for teaching and learning activities in the classroom. This is based on the assessment criteria by [12] which states that the assessment criteria that are in the average value range of 80%-100% are categorized as very valid.

The results of the study are also relevant to the research conducted by [13] which states that the use of Android-based Ispring Suite learning media is successful in improving the learning outcomes of high school students and the resulting learning media is declared valid and suitable for use in mathematics learning in schools. In addition, this study is relevant to the research conducted by [14] which states that the ispring suite-based learning media developed has met the criteria for good and suitable for use as a vocational school learning tool because the resulting learning media has been declared valid.

Learning media that has been declared valid by the validator will be used in the next stage, namely the *dissemination* stage . At this stage, a product trial stage is carried out to measure the level of practicality of the learning media that has been developed .

TABLE II.   RESULTS OF THE QUESTIONNAIRE ON PRACTICALITY RESPONSES OF TEACHERS AND STUDENTS

No	Results of the Teacher and Student Practicality Response Questionnaire	
	Respondents	**Percentage of Scores Obtained**
1	Teacher	87.5%
2	Learners	90.5%
	Total	178%
	Score Percentage	89% (Very Practical)

Based on the table above, the results of the product trial show that the practicality value of teachers and students during the trial of the use of learning media obtained an average value of 89% of the total presentation with practical criteria. This is based on the assessment criteria by [12] which states that the assessment standard is in the range of an average value of 81% -100% categorized in the very practical category. With details of 87.5% with a very practical category for the practicality value of the teacher, in the assessment of the teacher's practicality includes several aspects, namely the suitability of learning objectives and feedback. While for the assessment of the practicality of students, the results were 90.5%.

Based on validity and practicality, android-based learning media with ispring suite on the material classification material that the researcher developed is suitable for use in learning. The results of this study are relevant to the research conducted by Dwi Ariyanti which stated that there were positive things and also good responses from students. The results of research conducted by previous studies stated that the use of ispring suite-based learning media in learning has an appeal to students so that it increases student motivation in teaching and learning activities. In addition, the media developed was stated to be valid and practical [15]

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