Development of Interactive Multimedia Using Powerpoint Applications Combined With Ispring Suite Application

Refni Aryanti[1]*, Marwan[2]

[1, 2] *Universitas Negeri Padang, Padang, Indonesia*
Correspondence Author,email:refniaryanti644@gmail.com

ABSTRACT

This study aims to develop interactive multimedia learning based on android using the combined PowerPoint application with the iSpring Suite application in financial accounting for class XI SMKN 1 Tembilahan. This type of research is development research with the ADDIE model. The test subjects were all students of class XI AK 1 SMKN 1 Tembilahan totaling 32 people. Types of data consist of primary data and secondary data. Data collection instruments using observation and questionnaires. Data analysis techniques used validation analysis by material experts and media experts and practicality by students.The results of the study state that the feasibility of android-based multimedia with financial accounting subjects, bank reconciliation material based on material expert judgment, gets a validity level of 80%, valid category. The feasibility of Android-based multimedia with financial accounting subjects and bank reconciliation material based on the media expert's assessment received a validity level of 84%, very valid category. Based on this assessment, Android-based multimedia is valid for use as learning multimedia for class XI AK 1 SMKN 1 Tembilahan. The feasibility of Android-based learning multimedia gets a practicality level of 82%, the category is very practical to use. Based on the results of this study, it is suggested that schools and teachers can take advantage of this multimedia as online learning during the corona virus pandemic.

Keywords: *Development of multimedia learning, Multimedia learning, Android based learning.*

1. INTRODUCTION

Professional educators are required to fulfill 4 basic competencies, including pedagogical, professional, personal and social competences. Pedagogic and professional competencies require educators to design appropriate learning designs. Learning design also supports the development of learning technology which is then used as a reference in developing computer-based learning media and smartphone.

In this industrial era 4.0, humans must be smart and able to keep up with developing technology. Education and learning must move forward so that they do not always use conventional learning models only. Technologies such as the internet, computer media, cellphones, search engines , and other software that support learning activities must be utilized. Thus an educator will become a professional in his profession.

Media is a tool in teaching and learning activities. Learning materials that are difficult to understand can be absorbed by children effectively through tools. The teacher uses aids to represent something that cannot be conveyed through words or sentences [1]. Students' interest in learning can arise through this tool. The use of tools can also provide Umpa n Behind the good of the students.

Android-based Interactive Multimedia is a combination of several media, for example text, images, animation, audio, video accompanied by user controls so that users can control what and when elements in multimedia will be sent or displayed. Interactive Multimedia that can be used when learning must meet three criteria, namely valid, practical and effective.

Android-based learning multimedia can be developed using software that is specifically used to design learning media. One software that can be used to develop learning media is PowerPoint combined with the iSpring Suite application . Powerpoint is an application designed to develop interactive presentation applications.

The low reading interest in books and the high use of smartphone in finding learning resources make smartphone a primary need in learning. Coupled with the corona virus pandemic that hit all countries in the world which affected all sectors including the world of education. Schools are closed, making many students and students have to study at home. The Ministry issues online learning rules, either through smartphone or computers. Schools and teachers must be able to innovate in transferring knowledge to students even though schools must be closed until an uncertain time. This method of learning certainly has shortcomings in its implementation. The requirement to study online is to have a smartphone or computer with a good internet connection. This of course has an adverse effect on students who are less able and are in areas with poor networks. Students will also be charged with quotas to access the internet.

Some of the problems that the researchers found at SMKN 1 Tembilahan were that teachers only used the lecture learning model. The use of digital media is still not optimal. The use of learning media by educators is only in the form of less than optimal powerpoints .

This fact makes researchers interested in conducting research on developing multimedia learning for students. Researchers develop powerpoints that most teachers are able to use. This Powerpoint was developed by researchers into interactive learning multimedia and can be accessed on smartphone without an internet network. The application capacity is also small and students only need to install the multimedia learning. A solution also to save internet quota.

1.1 Learning Multimedia

Multimedia learning is the product of an intensive empirical study program undertaken in the 1990s onwards by Professor Richard Mayer and his colleagues on the basics of effective multimedia presentations for learning [2]. The growing use of multimedia in education, business, medicine, government, military, the Internet, and others [3].

Active learning occurs when students are physically involved in learning activities such as pressing keys on the keyboard, moving the joystick, or using the mouse to click on words or pictures on a computer screen [4].

Interactive learning multimedia is a learning program that contains a combination of text, images, graphics, sound, video, animation, simulations in an integrated and synergistic manner with the help of computer devices or the like to achieve certain learning goals where users can actively interact with the program [5].

According to Barbara Schroeder the reasons for using multimedia in education [6] are:

1.1.1 Portability which means learning anywhere.

1.1.2 Flexibility, namely learning materials can be directly simulated and students can also seek additional knowledge online and discuss it directly with the teacher.

1.1.3 Individualized Learning means that various kinds of multimedia resources can meet the needs of various types of learners.

1.1.4 Colloration and Community Building , with the presence of social media networks makes it easy for students to interact with their teachers and classmates.

1.1.5 A broader view of the world, namely with the existence of multimedia resources, students can easily learn the culture of other countries through language styles, places that can be visited, and the characteristics of a country.

1.2 PowerPoint combination with Application iSpring Suite

The powerpoint application has features such as video, text, images, and others. Powerpoint is kompli package for multimedia learning combined with the application iSpring Suite . Take advantage of the hyperlink feature so that access becomes more interactive when used in learning [7].

This interactive multimedia can not only be accessed with a computer but by utilizing the 2 APK build website application, this application can be converted into interactive multimedia based on Android. The development guide can be found on youtobe. The combination of these two applications makes PowerPoint more special and can be juxtaposed with other multimedia applications. The resulting application capacity is also not large so that makes it easy to install it.

1.3 Relevant Research

According to Florence Martin and Jeffrey Ertzberger in their research entitled Here and now mobile learning: An experimental study on the use of mobile technology to investigate the effects of mobile learning on student achievement and attitudes. Analysis of the achievement and attitude data revealed positive and significant differences in results[8].

Online Learning and Multimedia (OlaM) in several studies has had a positive effect on academic achievement. The authors suggest that OLaM is indeed an effective teaching method and

does have a significant effect on learning outcomes when compared to traditional methods. OLaM can be a positive tool for academic growth in schools [9].

Static graphics in the form of illustrations, photos, diagrams, and dynamic graphics such as animation and video are popular teaching models for conveying important information. Two-way representations using words and images (i.e. subtitles and videos, printed text and illustrations, or spoken text and animation), have been used to enhance learning and do produce better learning outcomes compared to verbal presentations alone [10].

Thus it can be concluded that multimedia has a positive influence and good learning outcomes for students. Multimedia learning is a popular and more effective teaching model.

2. METHOD

This research is a research development [11]. It is called development research because it develops learning media using the iSpring Suite combination powerpoint application on financial accounting subjects for class XI bank reconciliation material at SMKN 1 Tembilahan. In this study, researchers used the ADDIE model, namely Analysis, Design, Development, Implementation, and Evaluation [12]. Limitations in the study led the researchers to only carry out the implementation stage . The types of data in this development research are primary and secondary data. The trial subjects of this study were students of class XI SMKN 1 Tembilahan accounting major totaling 32 people . The research was conducted from December 2019-July 2020.

The data collection instruments used in this study were observation and questionnaires. The assessment column on the questionnaire is filled using a Likert scale. Questionnaire is addressed to material experts and media experts to test the validity of multimedia. Questionnaires aimed at students are useful for testing the practicality of multimedia.

The data analysis technique in this development research uses a descriptive analysis technique. The descriptive analysis technique was carried out using descriptive statistics.

3. RESULTS AND DISCUSSION
3.1 Research result
3.1.1 Analysis

This analysis stage has a first step, namely the researcher analyzes the needs by making observations at SMKN 1 Tembilahan. Observation activities were carried out by researchers on December 11, 2019. Observations were carried out

in 3 stages. The first stage was carried out by researchers by delivering a permit to make observations and see school facilities in supporting teaching and learning activities. The second stage the researcher made observations by observing the teacher and students and asking a few things about learning. The third stage, the researcher made observations by looking at the learning atmosphere at school and asking students about learning online. Once the researchers conducted observations at school, can be taken outline in stage analysis is that A nalisis Needs Students come to the conclusion that students need a variety of learning and fun. Learning can be done anywhere and anytime using smartphone . Learning can be studied independently or in groups. Curriculum analysis with the conclusion that the curriculum used is curriculum 13, whose learning activities are student centered so that this learning multimedia is in accordance with the objectives of curriculum 13.

3.1.2 Design
3.1.2.1 Designing Product Design

The researcher designed an android-based multimedia design in the form of a storyboard . The storyboard design can be seen in the research attachment obtained from the syllabus used at SMKN 1 Tembilahan. The material is determined according to the competencies taught by the school teacher and the syllabus. The main material to be presented in android-based multimedia is Bank Reconciliation. The complete syllabus can be seen in the Appendix. Researchers are looking for books to reference in making questions and learning materials.

3.1.2.2 Device

Information on hardware (hardware) and software (software) used by researchers to identify in Android-based multimedia. Hardware is a device or equipment in physical form that is used to create applications. The hardware used in making Android-based multimedia is the ASUS X453S laptop brand with 2GB RAM specifications, an Intel Dual-Core processor, and the Windows 10 Operating System.

Android-based multimedia also requires software in its development. Some of the software that supports the development of this multimedia, namely:

3.1.2.2.1 Power Point

Power Point is used to make slides containing material, learning objectives, animation , pictures, and videos. Power Point is the main software in developing multimedia. PowerPoint is a Microsoft office application program and is easy to operate.

3.1.2.2.2 iSpring Suite

iSpring Suite is used to create evaluation questions on Android-based multimedia. Quiz on this application is very diverse, ranging from multiple choice quizzes , matching tests, essays, and so forth. This application is also used to publish power points into HTML [7].

3.1.2.2.3 Website 2 APK Builder Pro

This application is used to convert multimedia that has been made into HTML into Android-based multimedia. The w ebsite 2 APK builder Pro application can be installed and operated by installing the Java Setup 8u251.exe application . The Java Setup 8u251.exe application does not have much role because it only functions as an application that is used to support the operation of the website 2 APK builder Pro.

3.1.3 Development
3.1.3.1 Android-Based Multimedia Development

Making multimedia is done using PowerPoint applications . The first step is to create a start page consisting of the title of the material, the name of the multimedia author, and menus related to the operation. The menus consist of 5, namely the Start Page, Instructions for Use, Learning Objectives, Materials, and Evaluation. The iSpring Suite application is used for quiz creation or evaluation. Website Application 2 APK Builder Pro is used to convert multimedia that has been made into HTML-based multimedia android.

3.1.3.2 Validation
3.1.3.2.1 Material Expert Validation

Material expert validation is used to assess material that has been compiled in Android-based learning multimedia. The assessment is seen from the content aspect, the construct aspect, and the language aspect. There are two people as material experts, namely from the Riau Islamic University Accounting Education lecturer and from the education practitioner or Accounting teacher at SMKN 1 Tembilahan. Questionnaire data from material experts received a validity level of 80% the valid category.

Table 1. Material Expert Validation

No.	Assessment Aspects	Total Value	Validation Value (%)	Criteria
1	Content Aspects	81	81	Very Valid
2	Construct Aspects	56	80	Valid
3	Language Aspects	38	76	Valid
Total		**175**	**80**	**Valid**

3.1.3.2.2 Validation of Media Experts

Media expert validation is used to assess media that has been developed in Android-based learning multimedia. Assessment is seen from ease of use (support), attractiveness of the display (interface), language and readability. There are two people as media experts, namely from the Riau Islamic University Accounting Education lecturer from education practitioners or multimedia teachers at SMKN 1 Tembilahan. The questionnaire data from the media expert's assessment got a validity level of 84%, the category is very valid.

Table 2. Media Expert Validation

No.	Assessment Aspects	Total Value	Validation Value (%)	Criteria
1	Ease of use (support)	101	84	Very Valid
2	The attractiveness of the display (interface)	41	82	Very Valid
3	Language and legibility	25	83	Very Valid
Total		**167**	**84**	**Very Valid**

3.1.3.2.3 Student Practicality

This stage is the stage after material experts and media experts state that multimedia is valid and feasible to be tested on students. Researchers began testing small groups of 10 people. The trial has a drawback, namely that there are some cellphones that are unable to install the application. The researcher directed to improve cellphone settings and also consulted with Youtober who introduced this multimedia. Researchers improve it and the results can be installed by students. Based on questionnaire data, multimedia is practical and feasible to be tested in large groups with a practicality value of 74% in the practical category.

3.1.4 Implementation

The implementation stage is devoted to class XI AK 1 SMKN 1 Tembilahan. The number of students is 32 people. The next step is for the researcher to send multimedia learning and online questionnaires to find out whether the multimedia is practical and suitable for use through the WhatsApp group . The questionnaire data shows a practicality level of 82%, very practical category. So the conclusion is that Android-based multimedia is very practical to use.

Table 3. Practicality Data

No	Assessment Aspects	Total Value	Practicality Value (%)	Criteria
1	Ease of Application	1575	82	Very Practical
2	Motivation	778	81	Very Practical
3	Feedback	525	82	Very Practical
Total		**2878**	**82**	**Very Practical**

3.2 DISCUSSION

Development of interactive multimedia-based learning media through 4 stages, namely Analysis, Design, Development, Implementation . The development of instructional media was carried out on financial accounting subjects with bank reconciliation material for first class students of class XI majoring in Accounting at SMKN 1 Tembilahan. Android-based learning multimedia development in its manufacture using a power point application in combination with the iSpring Suite application . Multimedia products produced from this combination will be published as HTML which will be converted into multimedia based on Android using the website application 2 APK builder pro. The manufacturing process is carried out in stages and to produce appropriate learning media, a series of material expert validations, media expert validations, small group trials and large group trials are carried out. All of these series are intended to obtain appropriate learning data and multimedia that are also beneficial for its users. Questionnaire data from material experts got a validity level of 80% valid category. The questionnaire data from the media expert's assessment got a validity level of 84%, the category is very valid

After being declared valid or feasible by material experts and media experts, the researchers conducted a trial. The first trial was conducted on students with a small group of 10 people. The small group trial test got a practicality level of 74% in the practical category, so the multimedia was practical to use. After being declared practical, the researchers conducted trials on a large group of 32 people. The trial obtained a practicality level of 82%, the very practical category stated that Android-based multimedia was very practical to use in class XI AK 1 SMKN 1 Tembilahan.

4. CONCLUSION

Android-based multimedia development uses the Power Point application in combination with the iSpring Suite application with the ADDIE development research model, namely Analysis, Design, Development, Implementation, and Evaluation. The researcher limits it only to the implementation stage .

The feasibility of Android-based multimedia with financial accounting subjects and bank reconciliation material based on material expert judgment gets a validity level of 80% valid category . The feasibility of Android-based multimedia with financial accounting subjects and bank reconciliation materials based on the media expert's assessment received a validity level of 84%, very valid category. Based on this assessment, Android-based multimedia is valid for use as learning multimedia for class XI AK 1 SMKN 1 Tembilahan. Field trials in class XI AK 1 SMKN 1 Tembilahan with 32 students obtained a practicality level of 82%, the category is very practical to use.

Schools can take advantage of this multimedia as online learning during a pandemic and not only rely on learning via WhatsApp. This research has a contribution to the school in overcoming the problems at hand. solutions for schools in implementing distance learning during the corona virus pandemic. This learning makes it easier for students because they use Android, do not have the cost to access it, and can be studied anywhere and anytime. a fun learning and renewable innovation.

REFERENCES

[1] Munir. "Multimedia Konsep & Aplikasi Dalam Pendidikan". Bandung : Alfabeta, 2014.

[2] R. Mayer. "Incorporating Motivation into Multimedia Learning." *Learning and Instruction*, vol.29, p.p 1–3, doi: 10.1016/j.learninstruc.2013.04.003

[3] R.C. Clark and R. Mayer, "E-LEARNING and the Science of Instruction"3rd., ed. San Francisco: Pfeiffer 2011

[4] R. Mayer, " Where Is the Learning in Mobile Technologies for Learning", *Contemporary Educational Psychologi*, Vol 19, doi: 10.1016/j.cedpsych.2019.101824.

[5] H.D. Surjono. "Multimedia Pembelajaran Interaktif". Yogyakarta : UNY Press, 2017.

[6] Y. Arifin, M.Y.Ricky, and V. Yesmaya,. "Digital Multimedia". Jakarta : Bina Nusantara, 2015.

[7] (March 2019). Askara Soft. "iSpring Suite 9 Application Guide"[online] . Available: https://ispringindonesia.com

[8] F. Martin and J. Ertzberger, "Here and now mobile learning: An experimental study on the use of mobile technology", *computers and education*, vol.68 pp. 76–85. April 2013, doi : 10.1016/j.compedu.2013.04.021

[9] M. Swerdloff, "Emotions, Technology, and learning". New York : Academic Press, 2016.

[10] Li. J. Antonenko and J. Wang, "Trends and issues in multimedia learning research in 1996–2016: A bibliometric analysis", *Educational Research Review*, Vol.28, pp. 1-21, doi: 10.1016/j.edurev.2019.100282

[11] Sugiyono. "Metode Penelitian Kuantitatif, Kualitatif dan R&D". Bandung: Alfabeta.CV, 2013.

[12] Y.H. Rayanto & Sugianti. " *Penelitian Pengembangan model ADDIE & R2D2".* Pasuruan : Lembaga academic & research Institute, 2020.