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Development of Android-Based Interactive Learning Media Using Ispring Suite Application

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INTISARI

Pembelajaran di era revolusi 4.0 memelukan adanya penyesuaian dan pemanfaatan teknologi informasi dalam pelaksanaannya. Pada kenyataannya penggunaan teknologi masih kurang maksimal terkhusus perangkat android di SMKN 1 Tanjung Raya. Sehingga pembelajaran cendrung monoton dan satu arah mengakibakan siswa cepat jenuh. Penelitian ini memiliki tujuan untuk mengetahui hasil uji validitas dan praktikalitas aplikasi media pembelajaran yang di buat menggunakan aplikasi *Ispring Suite.* Metodologi yang diadopsi adalah *Research and Development (R&D)* dengan model 4-D. Model pengembangan 4-D mempunyai langkah-langkah yaitu Pendefinisian, Perancangan, Pengembangan, dan Penyebaran tetapi pada penelitian ini diadopsi sampai ke tahap ke-3 yakni Pengembangan karna keterbatasan tenaga dan waktu. Uji validitas dilakukan oleh 4 orang, yakni 2 orang ahli media dan 2 orang ahli materi. Hasil validasi ahli media yang ditotalkan adalah 94% dengan katagori sangat valid. Hasil validasi ahli materi adalah 93% dengan katagori sangat valid. Uji praktikalitas dilaksanakan kepada siswa kelas X TAV SMKN 1 tanjung raya sebanyak 9 orang. Hasil penilaian uji praktikalitas kepada peserta didik adalah 91% dengan katagori sangat praktis. Bersumber pada hasil penilaian tersebut, dapat di ambil kesimpulan bahwa aplikasi media pembelajaran berbasis android menggunakan aplikasi *Ispring Suite* yang dihasilkan sudah valid dan praktis untuk dapat pakai oleh guru dan peserta didik.

Kata kunci: Pengembangan dan penelitian, Aplikasi media pembelajaran, *Ispring suite,* Teknik pemograman

ABSTRACT

Learning in the 4.0 revolution era requires adjustments and the use of information technology in its implementation. In fact, the use of technology is still not optimal, especially for Android devices at SMKN 1 Tanjung Raya. So that learning tends to be monotonous and one-way resulting in students getting bored quickly. This study aims to determine the results of the validity and practicality of learning media applications made using the Ispring Suite application. The methodology adopted is Research and Development (R&D) with a 4-D model. The 4-D development model has steps, namely Definition, Design, Development, and Deployment, but in this study it was adopted to the 3rd stage, namely Development due to limited manpower and time. The validity test was carried out by 4 people, namely 2 media experts and 2 material experts. The total validation results of media experts are 94% with very valid categories. The results of material expert validation are 93% with a very valid category. The practicality test was carried out to 9 students of class X TAV SMKN 1 Tanjung Raya. The results of the practicality test assessment for students are 91% in the very practical category. Based on the results of the assessment, it can be concluded that the Android-based learning media application using the Ispring Suite application produced is valid and practical to be used by teachers and students.

Keywords: *Development and Research, learning media application, Ispring Suite, programming technique*

INTRODUCTION

Education is the main component in community development to educate the life of the whole community. The dynamic learning process should be adapted to the conditions of society and the increase in science and technology where the teacher's role is very decisive in the learning process [1]. The learning system currently being implemented by the school is not optimal because teachers still use conventional teaching methods or lectures. Even though the students who are being faced by the teacher are Generation Z. Teachers are required to be able to use technology to improve their competence in dealing with Generation Z.

The generation that has the characteristics of using symbols, images, visuals and optimizing technology to support the learning process effectively and efficiently. This generation has been accustomed to using technology since childhood such as TV, gadgets, cyberspace and so on. Another characteristic of this generation is multitasking activities, which can do several jobs at one time [2].

In fact, the current learning process is still not in accordance with the basic characteristics of students currently in school. Based on the results of observations at SMKN 1 Tanjung Raya and the results of interviews, the majority of teachers still do not use technology, currently teachers still use the lecture method and the blackboard sometimes uses a projector to deliver material.

The growth of technology and information is experienced in various aspects of life in various parts of the world. Indonesia as one of the countries that is open to advances in technology and information, causes the use of technology to be large [3]. If you pay attention to the ability of students to use technology, it will be very effective if education can be combined with technology. The device that will be used is a Smartphone.

Smartphone devices are an alternative solution for now because they are easier to use than other devices such as computers or laptops. Smartphones are still a prima donna device in the midst of society, especially nowadays among young people, including among educated people at the high school level. Currently, smartphones are the main needs of humans apart from housing, food, and clothing. The rapid development of smartphones is a fact that we cannot deny, because nowadays everyone needs communication, information and is used to surf the internet.

*Mobile learning*is an interesting learning media because students can use it at any time and place. This will foster student interest in being able to pay attention to the material, make students pervasive, and can encourage the spirit of learning for lifelong learning [4][13]. Android provides an even approach to application development, where one android application that is formed can run on various features that use the android system [5].

Learning media is a media that can support the teaching and learning process of students to be more interesting, with the learning media the material that is distributed becomes clearer so that the learning process can run well [6]. The learning media currently used by TAV teachers at SMKN 1 Tanjung Raya still have not aroused students' interest in participating in learning followed by Basic Programming subjects which are considered less attractive and difficult for students. While the subject of Programming Engineering students are required to pass and understand these subjects with these conditions required learning media that attracts student motivation.

The use of technology in the form of smartphones is currently not fully utilized by students at SMKN 1 Tanjung Raya, especially class X TAV in programming engineering subjects. Students use it more for selfies, games, playing social media and others.

*Ispring suite*is a software that is used to create a learning media by loading several media features such as sound, images, and videos [7]. Ispring Suite then publishes powerpoints that have been designed into HTML5 format, using the APK 2 Builder Website application, the learning media in HTML5 format turns into APK format. From this, the author has a new idea to create an Android-based learning media application using the Ispring Suite application[15].

METHOD

The development model used in this study is 4-D (Four-D). The 4-D model has the steps shown in Figure 1.

Figure 1. Four-D Research Model [8][14]

The 4-D development model has four stages but in this study it was only used until the 3rd stage, namely Development. The simplification and limitation of this development model is due to the lack of manpower and time.

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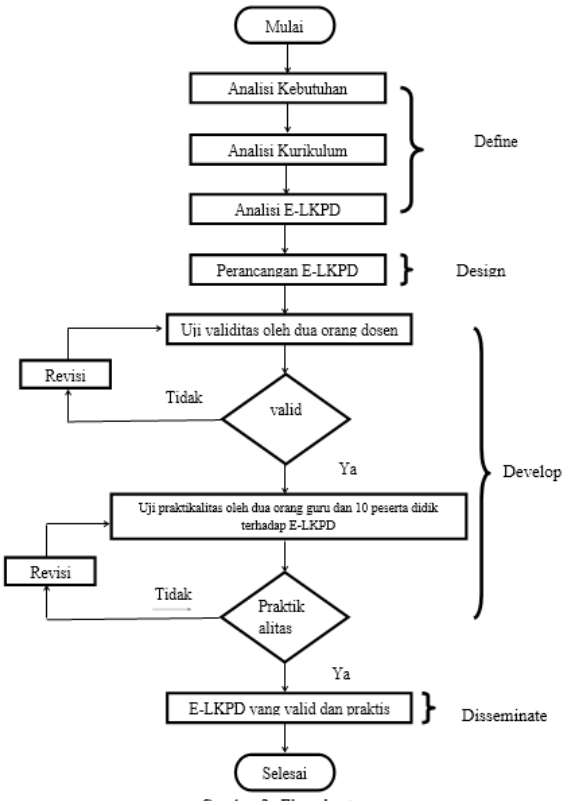


Figure 2. Development flow

The research subjects in this study were 4 validators of learning media applications, namely 2 media experts consisting of 1 lecturer majoring in Electronics Engineering and 1 TAV teacher at SMKN 1 Tanjung Raya, then 2 material experts namely 1 lecturer majoring in Electronics Engineering and 1 teacher. TAV SMKN 1 Tanjung Raya. Practical test of learning media application was given to students of class X Audio Video Engineering SMKN 1 Tanjung Raya.

Collected data in this research consists of 2 data, namely qualitative and quantitative obtained on the results of the assessment questionnaire from the validator and practicality test.

The value of the validity and practicality of the questionnaire results with the formula 1 :

$$\text{Percentage Appropriateness} = \frac{\epsilon the\ score\ that\ can\ be}{\epsilon expected\ score}$$

Type equation here.

Information :
Score obtained = Total score of respondents
Expected score = Total number of each indicator value and number of respondents [9]

Giving the value of the results of the validity of this learning media application using the following criteria:

Table1. Category of Learning Media Validation

No	Tingkat Pencapaian (%)	Tingkat Kevalidan
1.	0%-20%	Sangat Tidak Valid
2.	21%-40%	Valid
3.	41%-60%	Cukup Valid
4.	61%-80%	Valid
5.	81%-100%	Sangat Valid

Source: Riduwan (2011) [10]

The practicality test phase was carried out on Subject Teachers and the test was limited to 10 students using the following practicality category assessment.

Table2. Category of Learning Media Practicality

No	Tingkat Pencapaian (%)	Tingkat Kepraktisan
1.	0%-54%	Tidak Praktis
2.	55%-59%	Kurang Praktis
3.	60%-75%	Cukup Praktis
4.	76%-85%	Praktis
5.	86%-100%	Sangat Praktis

Source : Purwanto (2013) [10]

RESULTS AND DISCUSSION

This research development product is an android-based application on programming engineering subjects that will be used by students with the ".apk" format.The ultimate goal of application development this learning media is to create a valid and practical learning media. In this section, the author describes the results and reviews in the adaptation research using the 4-D model development stages.

The presentation of the data was obtained from the results of the validation of material experts and media experts as well as practicality tests by students on the application of learning media. Validator responses and students are needed as instruments in research and development of learning media applications.

At the design stage of the learning media application, it is designed according to the needs that exist in the learning process, the results of observations and information that have been obtained. Learning media applications are developed using the Powerpoint application which has been integrated with the Isping Suite application. The development of appearance,

navigation, images, etc. in the application uses the tools available in the Powerpoint application, while for the material in the application, the application is using the integrated Ispring Suite or additional tools in the Powerpoint application.

The Ispring suite application will then publish the results of the application design into .Html format. Furthermore, the published results in .Html format will be exported to .apk format using the Website 2 APK builder application.

The display of this learning media starts with the initial display as a cover, motivation page, page to start the application, has five main menus, namely: material, syllabus, lesson plans, and quizzes, then has a main menu tab, namely: motivation, motivational video, Al-Qur' and Games. The initial display (cover) contains some information about making learning media applications in the form of the Padang State University logo, the Department of Electronics Engineering, and SMKN 1 Tanjung Raya as well as the name of the author. The Motivation page contains motivational words to students about the importance of studying. On the next page that is subject information and clicking on the start icon for students to enter the main page.

The cover display contains the identity of the developer in the form of the name and logo involved as well as an initial motivation page for students about the importance of studying. The following is a cover page display and initial motivation in Figure 3.

(a) (b)

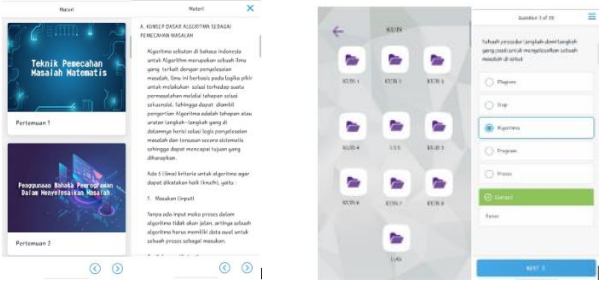
Figure 3. Cover Page View (a), Initial Motivation Page (b)

The main page will appear after clicking the start button. On the main page displays menu options for learning, namely Material, Syllabus, RPP, Quiz and Profile. On the main page there is also a main menu option that functions to add features to the application, namely motivation, motivational videos, Al-Qur'an, games, questions and instructions. The following displays the main menu and main menu in Figure 4.

(a)

Figure 4. Main Page Display (a)

In the material display there are eight choices of material to be studied which are written based on the number of meetings. On the quiz page there are eight quizzes that are adjusted to the material, UTS and UAS.



(a) (b)

Figure 5. Display of material menu page (a), Material (b)

On the syllabus page there is a one-semester syllabus for programming engineering subjects. On

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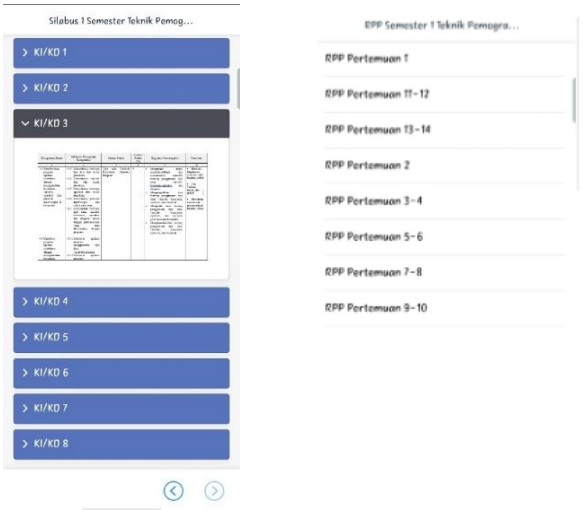
this page the syllabus for one semester is divided into eight choices of KI/KD,which displays the KI/KD menu according to the syllabus which can be reviewed and enlarged by clicking on the KI/KD table.On the RPP page there is a lesson plan for one semester of programming engineering subjects. In programming engineering subjects, there are eight lesson plans,which displays the RPP menu which, when clicked, one can be reviewed, then goes to the RPP page based on the meeting. In addition, it can be enlarged by clicking on the part that is not clear



(a) (b)

Figure 6. Syllabus page display (a), lesson plans (b)

The results of the validation of this learning media application have been processed and made in the form of a diagram. The validation results from media experts in every aspect of the assessment can be seen in Figure 7.

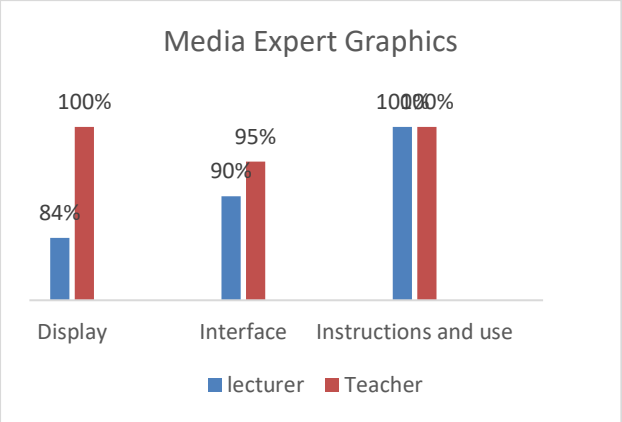


Figure 7. Diagram of media expert validation results

From Figure 7, it can be seen the results of the media expert's assessment to the application of learning media from several aspects: the aspect of displaying the percentage of lecturers 84% and teachers 100%, interface aspects of lecturers 90% and teachers 95%, and aspects of instructions and use of 100% lecturers and 100% teachers. If assessed as a whole, then the learning media application gets a score of 94%. The results of the data processing were then converted using a data conversion reference for the validity assessment category, then the media aspects of the learning media application could be categorized in the very valid category.

The following are the results of the assessment by the material validator in each aspect, which can be seen in Figure 8.

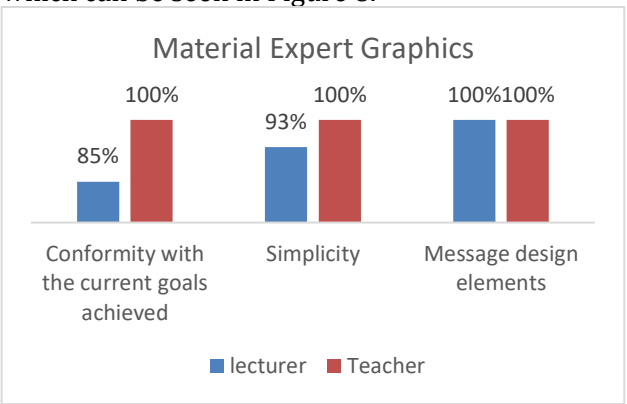


Figure 8. Diagram of material expert validation results

From Figure 8, it can be seen the results of the assessment of the application of learning media from several aspects: aspects of Conformity with the objectives currently achieved by Lecturers 85% and Teachers 100%, Simplicity aspects of Lecturers 93% and Teachers 100%, aspects of Message design elements Lecturers 100% and 100%, and aspects of the organizational elements of lecturer messages 80% and 100% teachers. If assessed as a whole, the learning media application gets a value of 93%. The results of the data processing were then converted using a data conversion reference for the validity assessment category, then the media aspects of the learning media application could be categorized in the very valid category.

The results of the practicality test of learning media applications by students in every aspect can be seen in Figure 9.

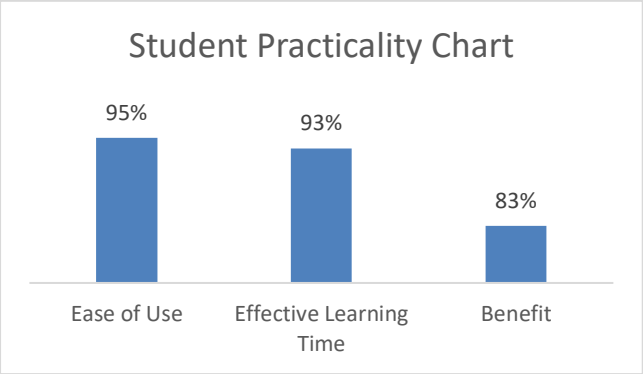


Figure 9. Diagram of the results of the Practicality assessment by students

From Figure 9, it can be seen that the results of the assessment of the practicality test from several aspects: the ease and use aspect is 95%, the learning time effectiveness aspect is 93% and the benefit aspect is 83%. If assessed as a whole, the learning media application gets a score of 91%. These results after being converted using the provisions of the practicality assessment data conversion, the application can be categorized in very practical criteria.

CONCLUSION

The development research that has been carried out is an Android-based learning media application using the Four-D development method. This development method has four stages, namely Define, Design, Development, and Desseminate. However, it is only adopted until the 3rd stage, namely development due to energy and time factors[11][12]. Learning media applications are categorized as valid after being validated by 4 validators, 2 validators of the media expert aspect get a percentage of 94% and are included in the very valid category and 2 material expert aspect validators get a percentage of 93% and are included in the very valid category. The level of practicality of learning media from students was obtained by 91% in the very practical category. Based on the results of the research above, it can be concluded that the application of this learning media can be said to be valid and practical in accordance with the research objectives so that this learning media is feasible to use as one of the learning media. So the research that has been developed, namely the Android-based learning media application using the Ispring Suite application, is feasible to be used as a learning medium in programming Engineering subjects.

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