THE DEVELOPMENT OF ANDROID BASED "ELECTRONIC BANKING DICTIONARY" FOR STUDENTS AT SMK N 1 MANDIRAJA

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Abstrak: Pengembangan "electronic banking dictionary" berbasis android bagi siswa SMK N 1 Mandiraja. Penelitian ini bertujuan untuk 1) mengembangkan media pembelajaran *"Electronic Banking Dictionary"* berbasis android bagi siswa SMK Negeri 1 Mandiraja; 2) Mengetahui penilaian kelayakan dari ahli media, ahli materi, dan praktisi pendidikan. Penelitian pengembangan ini dilakukan dengan model *Four-D* yang terdiri dari beberapa tahapan yaitu *Define, Design, Develop, dan Disseminate.* Subjek penelitian adalah siswa kelas XI PKM 4 SMK Negeri 1 Mandiraja sedangkan objek penelitian adalah mengembangkan media pembelajaran *"Electronic Banking Dictionary"* berbasis android. Hasil dari penelitian ini yaitu 1) Skor rata-rata pada aspek materi adalah 4,26 yang dapat dikategorikan "Sangat Layak" 2) skor aspek media sebesar 4,75 yang dapat dikategorikan "Sangat Layak" 3) hasil dari uji uji coba 10 siswa kelas XI PKM 2 terhadap aplikasi *"e-banking dictionary"* menunjukan skor rata rata keseluruhan sebesar 4,46 dengan kategori "Sangat Layak" 4) hasil rata rata pengujian aplikasi terhadap subjek penelitian yaitu pada kelas XI PKM 4 menunjukan skor sebesar 4,37 dengan kategori "Sangat Layak".

Kata kunci: : *Electronic Banking Dictionary*, *Android*, Media Pembelajaran

Abstract: The Development of Android Based "Electronic banking dictionary" for student at SMK N 1 Mandiraja. The aim of this study are 1) to Develop an android-based "Electronic Banking Dictionary" learning media for students of SMK Negeri 1 Mandiraja; 2) Knowing the feasibility assessment of media experts, material experts, and education practitioners. This Development research was carried out using a Four-D model consisting of several stages, namely Define, Design, Develop, and Disseminate. The research subjects were students of class XI PKM 4 at SMK Negeri 1 Mandiraja, while the object of this research was to Develop an Android-based "Electronic Banking Dictionary" learning media. The result of this research are 1) the average score on the material aspect is 4.26 which can be categorized as "Strongly Feasible" 2) the average media aspect is 4.75 which can be categorized as "Strongly Feasible". 3) the results of the trial of 10 students of class XI PKM 2 against the "e-banking dictionary" application showed an overall average score of 4.46 with the category "Strongly Feasible" while the average results of application testing on research subjects, namely in class XI PKM 4 showed a score of 4.37 in the "Strongly Feasible" category

***Keywords**: Electronic Banking Dictionary, Android, Learning Media*

INTRODUCTION

Economic activity in a country cannot be separated from banking practices. Banking is an activity of collecting and maintaining several funds from the public or certain entities and then lending funds to

other parties in need to carry out economic activities (Otoritas Jasa Keuangan, 2020). The practice of banking is very close to people's lives. There are many banking services or products that provide benefits to the community in meeting their needs. In studying banking practices, there are currently many school institutions, especially vocational schools that have opened majors in banking science.

According to basic SMK data, currently the number of Vocational High Schools that open banking and microfinance majors are 210 schools spread throughout Indonesia (Kemdikbud, 2021). In the banking department, students still have difficulty understanding the material regarding various banking and microfinance institution services. This can be seen in the survey results which show that 96.4% of students have difficulty understanding the material in the subjects of banking services and microfinance institutions.

Students' ability to understand the service material of banking and microfinance institutions is considered lacking. This is because students do not understand the various meanings of the term banking. Students who have difficulty understanding the meaning of certain terms can broaden their horizons by reading and matching the meanings of existing sentences with the help of a dictionary. The use of dictionaries has great benefits in the learning process in certain fields of science, whether we realize it or not, dictionaries have a role, namely helping students' difficulties in studying sentences on certain terms.

There are various dictionaries used to expand vocabulary such as dictionaries for English, synonyms, thesaurus, and bausastra (Isnaini & Mulyana, 2019). However, of all the existing dictionaries, they are still focused on searching for the meaning of language programs, even though terms in other fields of science are also needed to make it easier to understand learning. So it is necessary to develop learning media in the form of an electronic dictionary that will make it easier for students to understand the meaning of a certain term in the field of banking science.

The ability of students to understand the material provided will also affect student learning outcomes. A study conducted by (Yuliana & Listiadi, 2021), it shows the influence of understanding the material, especially the accounting cycle on the accounting computer learning outcomes of class XI AKL students. This shows that in the learning process it is very important for students to be able to understand the material given

Learning media has a very important role in the learning process. Learning media

are all tools that can be used to facilitate the learning process (Latuheru, 1988). The benefit of using learning media for students is that students will get more concrete and precise knowledge and easy to understand. Learning media also provide great benefits, especially on student learning outcomes, this is expressed in research (Kartikasari, 2016) which shows that when teachers use learning media in the teaching and learning process it can improve and have an influence on student learning outcomes.

Along with the development of technology, nowadays many students have used technology in the form of gadgets. Many students have used gadgets, both mobile phones, tablets, and notebooks in the learning process, considering that the learning process that occurs is carried out online. The use of Android-based technology for students in the learning process is currently considered appropriate, where Android itself is an open and comprehensive platform. Seeing this, the author argues that it is necessary to make a learning media that can be applied to gadgets, especially those based on Android, this is because the use of gadgets with the Android system is widely used by students and is easy to access.

Based on the results of a pre-research survey conducted on 32 students regarding access to download an application on their gadget, 96.4% of students stated that they could access an application either through Google Playstore or from other sources. This pre-survey research was conducted to determine the needs of students in the learning process, both the difficulties encountered in understanding the terms and in understanding the material provided.

The problem of students' lack of knowledge about terms in banking at SMK N 1 Mandiraja can be solved by making alternative learning media in the form of an Android-based electronic dictionary. The selection of the media is based on several advantages that the dictionary has, such as the use of a very simple dictionary, you only need to look for terms according to the alphabet and the information presented by the dictionary is easy to understand (Hutomo, 2014). Android-based media provides convenience in daily learning activities because it is easily accessible using a smartphone. In addition, based on research conducted (Safitri, Khermarinah, & Mukti, 2021) stated that the use of android-based media can also improve student learning outcomes.

This study aims to Develop an android-based “Electronic Banking Dictionary” learning media for students of SMK Negeri 1 Mandiraja, Knowing the feasibility assessment of media experts, material experts, and education practitioners. This application is expected to be one of the

learning media used by students to make it easier to understand the material so that student learning outcomes will be good because they can understand the material presented.

LITERATUR REVIEW

Learning Media

Media comes from the Latin medius which means middle, intermediary, or introduction. In Arabic, the media is an intermediary for messages from the sender to the recipient of the message. Media in the teaching and learning process tends to be interpreted as a means of graphic, photographic, or electronic tools to capture, process, and reconstruct visual or verbal information (Arsyad, 2011). According to Gagne and Briggs in their research (Fitriana, 2018), the tools in question are physical devices in the form of books, tape recorders, tapes, video cameras, videos, recorders, films, slides (frame pictures), photos, graphic images, television, and computers. With a variety of existing media, it can provide stimulation in terms of the willingness and feelings of students so that students will better understand the message given. All stimuli provided are of course purposeful, deliberate, and controlled.

Flutter

Flutter is Google's UI toolkit for creating beautiful, natively compiled apps for mobile, web, and desktop from a single codebase (flutter.dev, n.d.). Flutter is also often referred to as the SDK (Software Development Kit) which is a set of tools needed by a developer to create applications whether it be in the form of games, OS, and others. Flutter itself can create an application based on Android and iOS with the same code base, making it easier for developers to create applications on two operating systems at once.

"E-banking dictionary" Android based application

An E-banking dictionary is a learning media in the form of a dictionary that can be run on the Android operating system. This media was created to be able to assist students in understanding various terms that exist in the banking world

Media Research and Development Model

Research and development methods used to produce certain products and test the effectiveness of these products (Sugiyono, Metode Penelitian Pendidikan, 2015). According to Borg and Gall (1988), research and development is a research method used to develop or validate products used in education and learning. There are several development model, namely ADDIE, Brog and Gall models, Dick and Carry models, and Four-D models. This study uses the Four-D development model.

Banking Curriculum

The curriculum that applies nationally starting in the 2016/2017 school year is no longer the 2013 curriculum, but the 2013 curriculum which had been revised. One of the changes to the revised 2013 curriculum is the National Education Standards. The National Standard for Vocational High School Education is a minimum criterion regarding the education system throughout the jurisdiction of the unitary state of the Republic of Indonesia to achieve graduate competence according to the needs of graduate users (Peraturan Pemerintah Nomor 34, 2018).

Relevan Research

Study from Nur Hanifah Insani and Mulyana (2019), entitled the development of an Android-based digital Javanese language dictionary. The results of this study are the results of the feasibility test from material experts of 94.23% which means the media has a very good category, while the feasibility test of media experts is 93.33% with a very decent category.

Study from Afied Hutomo (2014) entitled the development of the command line dictionary (FYComm) android application as a learning aid for students of SMK Negeri 1 Bantul with competence in computer and network engineering skills. The results showed the details of the test results per factor, namely functionality of 89.9%, the efficiency of 91.11%, usability of 86.67%, and portability of 100%, and overall included in the very feasible category.

Study from I Made Agus Wirawan dan Ida Bagus Made Ludy Paryatna (2018) entitled The *Develop*ment of an Android Based Anggah-Ungguhing Balinese Language Dictionary. The result of the student's motivation measurement shows that the motivation of the students that the learns Anggah - Ungguhing Balinese languange using mobile dictionary is in the positive category

Research Framework

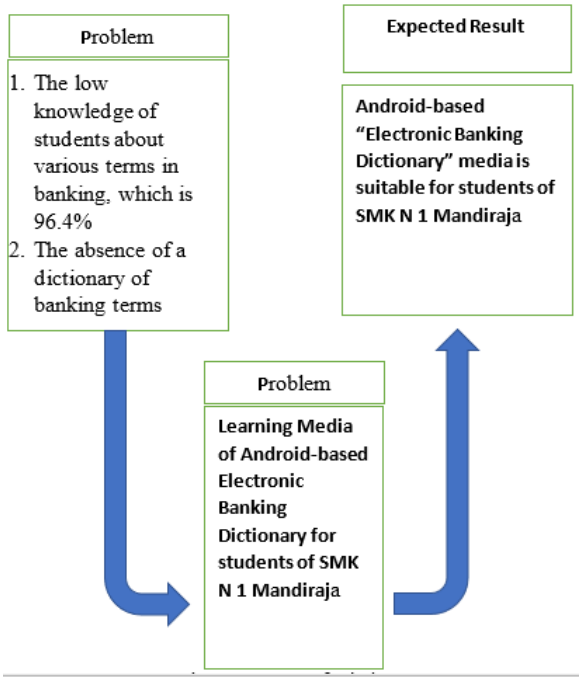

Figure 1 Frame of Mind

Research Question

1. How is the Android-based "e-banking dictionary" learning media developed?
2. How is the feasibility of the material, media, practitioners, and students towards

the android-based “e-banking dictionary” learning media?

RESEARCH METHOD

This research is a type of research and development (Research and Development) using the Four-D model. The research consisted of 4 (four) stages, namely (1) Define, (2) Design, (3) Develop, (4) Disseminate. The research subjects were students of class XI PKM 4 SMK Negeri 1 Mandiraja, while object of this research was an android-based “e-banking dictionary” learning media.

This research was carried out at the Department of Banking and Microfinance class XI PKM 4 SMK Negeri 1 Mandiraja which is located at Jalan Raya Glempang, Mandiraja District, Banjarnegara Regency, Postal Code 53473, Telephone (0286) 5211032 and will be held for five months in December 2020-April 2021. In this study, the research instrument was a questionnaire (questionnaire). Data collection techniques in this study are to use a questionnaire. Questionnaires in this development research were used to obtain data from media experts, material experts, education practitioners (teachers), and students. The research questionnaire used in this study was adopted from (Wahono, 2006) with modifications according to the need for assessment of learning materials and media. The following is the instrument grid used in this study:

Table 1 Material expert instrument grid

No	Aspect	Indicator	Number of Instrument items	Number Instrument
1	Content Feasibility	a. The suitability of the material with the Basic Competence	1	1
		b. The suitability of the material with the indicators	1	2
		c. Material equipment	1	3
		d. Ease of understanding terms	1	4
		e. Accuracy of theory and definition	2	5, 6
		f. Clarity of material logic flow	1	7
		g. Confusion of terms	1	8
		h. Reference sources used	1	9
2	Usability	a. Usability for student	1	10
		b. Usability for teacher	1	11
3	Interactivity	a. Program navigation buttons	1	12
		b. Program consistency	1	13
4	Conformity	a. The suitability of the program with the technology owned	1	14
		b. Program efficiency in terms of cost	1	15
5	Linguistic	a. Straightforward	2	16, 17
		b. Communicative	1	18
		c. Conformity with language rules	1	19

Table 2 Media expert instrument grid

No	Aspect	Indicator	Number of Instrument items	Number Instrument
1	Display	a. Font type	1	1
		b. Font Size	1	2
		c. Alphabet	1	3
		d. Text legibility	1	4
		e. Error rate	1	5
		f. The text color contrasts with the background color	1	6
		g. Background Composition	1	7
		h. Layout accuracy	1	8
		i. Clarity of instructions for using media	1	9
		j. Button placement consistency	1	10
		k. The letters used are attractive and easy to read	1	11
2	Convenience	a. Ease of use	1	12
		b. Ease of selecting the display menu	1	13
		c. Ease of opening and closing products	1	14
		d. Media attraction	1	15

Table 3 Practitioner instrument grid

No	Aspects	Indicator	Number of Instrument items	Number Instrument
1	Content Feasibility	a. The suitability of the material with the Basic Competence	1	1
		b. The suitability of the material with the indicators	1	2
		c. Material equipment	1	3
		d. Ease of understanding terms	1	4
		e. Accuracy of theory and definition	2	5, 6
		f. Clarity of material logic flow	1	7
		g. Confusion of terms	1	8
		h. Reference sources used	1	9
2	Usability	a. Usability for student	1	10
		b. Usability for teacher	1	11
3	Interactivity	a. Program navigation buttons	1	12
		b. Program consistency	1	13
4	Conformity	a. The suitability of the program with the technology owned	1	14
		b. Program efficiency in terms of cost	1	15
5	Linguistic	a. Straightforward	2	16, 17
		b. Communicative	1	18
		c. Conformity with language rules	1	19
6	Display	a. Font type	1	20
		b. Font Size	1	21
		c. Alphabet	1	22
		d. Text legibility	1	23
		e. Error rate	1	24
		f. The text color contrasts with the background color	1	25
		g. Background Composition	1	26
		h. Layout accuracy	1	27
		i. Clarity of instructions for using media	1	28
		j. Button placement consistency	1	29
		k. The letters used are attractive and easy to read	1	30
7	Convenience	a. Ease of use	1	31
		b. Ease of selecting the display menu	1	32
		c. Ease of opening and closing products	1	33
		d. Media attraction	1	34

Table 4 Student instrument grid

No	Aspects	Indicator	Number of Instrument items	Number Instrument
1	Usability and Interactivity	a. Benefits for students	1	1
		b. Program navigation buttons	1	2
		c. Program consistency	1	3
2	Conformity	a. The suitability of the program with the technology owned	1	4
		b. Definition of terms	1	5
		c. Program efficiency in terms of cost	1	6
3	Linguistic	a. Straightforward	1	7
		b. Communicative	1	8
		c. Conformity with language rules	1	9
4	Display	a. Font type	1	10
		b. Font Size	1	11
		c. Text legibility	1	12
		d. The text color contrasts with the background color	1	13
		e. Background Composition	1	14
		f. Layout accuracy	1	15
		g. Clarity of instructions for using media	1	16
5	Convenience	a. Ease of use	1	17
		b. Ease of selecting the display menu	1	18
		c. Ease of opening and closing products	1	19
		d. Media attraction	1	20

Qualitative analysis techniques in the form of data acquisition of criticism, suggestions, and comments that are used for improvement or revision of the developed media. The data was obtained from a questionnaire in the form of criticism, suggestions, and comments given by material experts, media practitioners, and students of SMK N 1 Mandiraja.

Quantitative data obtained from questionnaires were converted to qualitative data with a Likert scale to determine product quality with the following step: calculate the average score of each indicator and then the average score of each component obtained is converted into qualitative data in the form of product quality criteria. The questionnaire on

the feasibility of this learning media uses a Likert scale with five alternative answers, namely:

Table 5 Convert actual score qualitative

Interval Skor	Kategori
X > 4,20	Strongly Feasible
3,40 < X ≤ 4,20	Feasible
2,60 < X ≤ 3,40	Adequate
1,80 < X ≤ 2,60	Unfeasible
X < 1,80	Strongly Unfeasible

RESULT AND DISCUSSION

Define Step

At this step, an analysis of student needs is carried out regarding what media students need in helping the learning process so that students easily understand the material provided. This step will be held in December 2020. In this step consist of fron-end analysis, and learning analysis.

The purpose of needs analysis is to find out what problems students face in the learning process. This analysis is carried out by conducting a survey using a questionnaire distributed to the research subject. The outcome of a survey conducted on class XI PKM 4 students at SMK N 1 Mandiraja showed that 96.4% of students had difficulty understanding some terms in banking.

Learning analysis is done by adjusting the material to the basic competencies. When conducting this analysis, the researcher understands the learning syllabus in the class XI banking department, especially in the subjects of Banking Institution Services and Microfinance.

Design Step

The next step is planning. In this step, the developer design an Android-based e-banking dictionary application. The planning step is carried out from January to February 2021. The following activities are carried out at the planning stage: 1) Create Flowchart, 2) Create a Storyboard, 3) Making Media, and 4) Making research instrument

Development Step

The development staep is the third stage in developing the "e-banking dictionary" application. At this step, it is divide into two, namely expert appraisal to determine the feasibility of the application and developmental testing to determine student responses outside the subject to the "e-banking dictionary" application. This step was carried out in March 2021. The result of the assessment from material expert, media expert and practitioner are as follows:

Table 6 Average of result material expert

No	Aspects	Score	Category
1	Content Feasibility	3,2	Adequate
2	Usability	4	Feasible

3	Interactivity	3,5	Feasible
4	Conformity	4	Feasible
5	Linguistic	3,75	Feasible
Average		**3,69**	**Feasible**

The average result of the material expert's assessment of the "e-banking dictionary" application is 3.69. Based on the results that have been obtained when converted into qualitative data based on a scale of five according to Sukarjo (2005), the material aspects of the application are included in the "Feasible" category. So that the media is feasible to be used in the learning of class XI PKM 4 students at SMK N 1 Mandiraja.

Table 7 Average of result media expert

No	Aspect	Score	Category
1	Display	4,4	Strongly Feasible
2	Convenience	4,6	Strongly Feasible
Average		**4,5**	**Strongly Feasible**

The average result of the media expert's assessment of the "e-banking dictionary" application is 4.5. Based on the results that have been obtained when converted into qualitative data based on a scale of five according to Sukarjo (2005), the media aspect of the application is included in the "Strongly Feasible" category (Sukarjo, 2005).

Table 8 Average practitioner result

No	Aspects	Score	Category
1	Content Feasibility	4,1	Feasible
2	Usability	5	Strongly Feasible
3	Interactivity	5	Strongly Feasible
4	Conformity	5	Strongly Feasible
5	Linguistic	5	Strongly Feasible
6	Display	5	Strongly Feasible
7	Convenience	5	Strongly Feasible
Average		**4,87**	**Strongly Feasible**

The average result of the practitioner's assessment of the application of the "e-banking dictionary" is 4.87. Based on the results that have been obtained when converted into qualitative data based on a scale of five according to Sukarjo (2005), the assessment by practitioners on the application is in the "Strongly Feasible" category. So that the media is Strongly

Feasible to be used in the learning of class XI PKM 4 students at SMK N 1 Mandiraja.

Table 9 The Average Assessment by students of XI PKM 2

No	Aspect	Average	Category
1	Usability and Interactivity	4,37	Strongly Feasible
2	Conformity	4,6	Strongly Feasible
3	Linguistic	4,23	Strongly Feasible
4	Display	4,5	Strongly Feasible
5	Convenience	4,63	Strongly Feasible
Final Score		**4,47**	**Strongly Feasible**

Based on the results of the development test conducted on ten students of class XI PKM 2, the average results on the aspects of usefulness and interactivity were 4.37 (Strongly Feasible), conformity aspect was 4.6 (Strongly Feasible), linguistic aspect was 4.23 (Strongly Feasible), the display aspect is 4.5 (Strongly Feasible), the convenience aspect is 4.63 (Strongly Feasible). There were no criticisms and suggestions given by students to the application, so the "e-banking dictionary" application was declared Strongly Feasible to be tested on XI PKM 4 students.

Disseminate Stage

After getting good assessment results from material experts, media experts, practitioners and students outside the research subjects, the application was then tested on XI PKM 4 students as research subjects. At this stage the application was tested on 32 students with the results as shown in the following table:

Table 10 Average Assessment by students of XI PKM 4

No	Aspect	Average	Category
1	Usability and Interactivity	4,26	Strongly Feasible
2	Conformity	4,46	Strongly Feasible
3	Linguistic	4,36	Strongly Feasible
4	Display	4,39	Strongly Feasible
5	Convenience	4,42	Strongly Feasible
Final Score		**4,38**	**Strongly Feasible**

Based on the results of application development to XI PKM 4 students as research subjects, the average results in the usability and interactivity aspects were 4.26 (Strongly Feasible), the conformity aspect

was 4.46 (Strongly Feasible), the linguistic aspect is 4.36 (Strongly Feasible), the display aspect is 4.39 (Strongly Feasible), the convenience aspect is 4.42 (Strongly Feasible). The final gain on all aspects of media assessment obtained an average of 4.38, which means that the "e-banking dictionary" application is Strongly Feasible to be used as a student learning media.

There were no criticisms or suggestions given by students to the "e-banking dictionary" application so that this application was declared "Strongly Feasible" to be used as a learning media. The results of the assessment of the "e-banking dictionary" application are following the opinion of Widyoko (2015: 112) which states that a product is said to be feasible if it obtains a minimum value of B or is in a feasible category (Widyoko, 2015).

CONCLUSION AND SUGGESTION

Development of the “e-banking dictionary” application was developed using the Four-D model which was carried out in 4 stages, namely Define, Design, Develop, and Disseminate. In the Define stage, information was obtained that as many as 96.4% of class XI PKM 4 students had difficulty understanding some terms in banking so that an application was needed that helped students understand the meaning of terms in banking. The next stage is Design, at this stage the application to be made is designed with a framework either through storyboards or flowcharts. In addition to making designs, at this stage research instruments are also made. The next stage is to develop an "e-banking dictionary" application assessed by experts and tested on students. The last stage is Disseminate, that is, after the media is revised by experts and tested on students outside the subject, the application will be disseminated to the research subject.

The results of the feasibility assessment on the "e-banking dictionary" application carried out by material experts, media experts, and practitioners showed that the average score of the assessment of material experts was 3.69 which could be categorized as "Feasible", the average score of the assessment of media experts of 4.5 which can be categorized as "Strongly Feasible", the average score of assessment from practitioners is 4.87 which can be categorized as "Strongly Feasible". The results of the trial of 10 students of class XI PKM 2 against the "e-banking dictionary" application showed an overall average score of 4.47 with the category "Strongly Feasible" while the average results of application testing on research subjects, namely in class XI PKM 4 showed a score of 4.38 in the "Strongly Feasible" category.

Sugestion

1. Based on existing limitations, namely application development only to the disseminate step, the e-banking dictionary needs to be done further research to know the effectiveness of the use of media as learning media
2. Based on the results of the application feasibility questionnaire, item number 3 has the lowest score, namely regarding application consistency, it is necessary to improve the consistency of terms in the application.
3. Based on the results of the application feasibility questionnaire, item number 6 has the highest score, students can access the application without spending a fee

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