Android-Based Learning Media to Improve Understanding of Indonesian Vocabulary

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Abstrak

Penggunaan bahasa Indonesia dalam forum resmi merupakan hal yang sudah sepatutnya dilakukan mengingat masyarakat Indonesia terdiri atas beberapa daerah dengan bahasa daerah yang bisa jadi berbeda. Kenyataan yang saat ini terjadi adalah masih ditemui guru yang menggunakan bahasa daerah sebagai bahasa pengantar pada saat pembelajaran di kelas. Namun peserta didik memiliki pemahaman kosakata bahasa Indonesia yang minim dan membuat hasil belajar mereka tergolong rendah. Penelitian ini bertujuan untuk mengembangkan media pembelajaran berbasis android untuk meningkatkan pemahaman kosakata Bahasa Indonesia. Jenis penelitian ini yaitu pengembangan dengan menggunakan model ADDIE. Penelitian ini menggunakan desain Pre-Experimental Design dengan One-Group Pretest-Posttest Design dan diuji coba pada peserta didik dengan skala kecil dan skala besar dengan subjek penelitian peserta didik kelas V. Subyek penelitian ini adalah ahli materi dan ahli media. Teknik observasi, wawancara, dan angket digunakan untuk pengumpulan data.Instrumen pengumpulan data menggunakan lembar kuesioner. Teknik yang digunakan untuk menganalisis data adalah analisis deskriptif kualitatif dan statistik kuantitatif dan inferensial. Hasil penelitian yaitu aplikasi Teko terbukti layak berdasarkan hasil uji validitas oleh ahli materi dan ahli media Aplikasi Teko mendapatkan penilaian dengan kriteria sangat baik oleh pengguna. Uji coba keefektifan aplikasi Teko menunjukan bahwa aplikasi Teko mempengaruhi atau meningkatkan hasil belajar siswa. Disimpulkan bahwa aplikasi Teko dapat meningkatkan pemahaman kosakata Bahasa Indonesia.

Kata Kunci: Media Pembelajaran, Bahasa Indonesia, Aplikasi Berbasis Android, Sekolah Dasar

Abstract

Using Indonesian in official forums should be done, considering that Indonesian society consists of several regions with regional languages that may be different. The reality is that we still find teachers who use regional languages as the language of instruction when teaching in class. However, students need moreal understanding of Indonesian vocabulary, which makes their learning outcomes relatively low. This research aims to develop Android-based learning media to improve understanding of Indonesian vocabulary. This type of research is developed using the ADDIE model. This research used a pre-experimental design with a one-group pretest-posttest design, which was tested on students on a small and large scale, with the research subjects being class V students. The subjects of this research were material experts and media experts. Observation, interview, and questionnaire techniques were used for data collection. Data collection instruments used questionnaire sheets. The techniques used to analyze data are qualitative descriptive analysis and quantitative and inferential statistics. The results of the research were that the Teko application was proven to be feasible based on the results of validity tests by material experts and media experts. The Teko application received an assessment with very good criteria by users. Testing the effectiveness of the Teko application shows that the Teko application influences or improves student learning outcomes. It was concluded that the Teko application could improve understanding of Indonesian vocabulary.

Keywords: Learning Media, Indonesian, Android Based Applications, Elementary School

1. INTRODUCTION

Language is important because humans use language to communicate both orally and in writing. Three types of languages are used in Indonesia: the national language (Indonesian), regional languages, and foreign languages. Indonesia itself is known as a country with many regional languages, and the many regional languages do not confuse Indonesian people when communicating because of Indonesia (Maghfiroh, 2022; Motimona & Maryatun, 2023). In this way, Indonesian has become the nation's unifying language. Using two or more languages in communication is commonplace in everyday life. However,

using Indonesian in learning is mandatory because students receive Indonesian language subjects (Banggo, 2023; Pramesti et al., 2018; Putera & Shofiah, 2021). Teachers act as learning resources by providing knowledge and skills to students (Masunah et al., 2021; Yestiani & Zahwa, 2020). Students in the class have diverse backgrounds and many differences. Therefore, teachers adapt by explaining the material using Indonesian so that all students understand what is being conveyed and use regional languages as support (Imron, 2023; Susmiati, 2020; Triwulandari et al., 2021). Even using Indonesian when studying is an obligation. So, regional languages are used only to support the national language used during learning, making it easier for teachers to teach.

The current reality is that some teachers still use regional languages as the language of instruction during classroom learning. Previous research findings also stated that teachers used regional languages to explain material because students had difficulty responding to Indonesian teachers, resulting in low mastery of Indonesian vocabulary (Agustina et al., 2021; Rahmi & Syukur, 2023). Other research also confirms that many students still need help learning Indonesian, which results in low student abilities (Ernawati & Rasna, 2020; Marizal et al., 2021). The difficulty students experience learning Indonesian also impacts their low mastery of Indonesian vocabulary. The results of observations carried out in class V of SD Negeri Sambiduwur 1 also found several problems. The results of the data analysis showed that 60% of students still needed help understanding Indonesian. That means only 40% of students understand Indonesian well. The observations and interviews also show that students still need to understand Indonesian vocabulary, making their learning outcomes low.

One way to improve students' understanding of Indonesian vocabulary is by reading (Alam & Lestari, 2020; Yesika et al., 2020). Through reading, students are taught the process of reading and understanding both the words and the content of the reading (Alpian & Yatri, 2022; Ritonga & Fathiyah, 2023). Therefore, equipping students with reading skills is important because it can help them understand information (Canuto et al., 2024; Irma Sari et al., 2021). One thing that can improve students' vocabulary understanding is through Android-based learning media. Currently, learning media is developed based on technology so that it can keep up with current developments in the educational aspect. Teachers use technology-based media to present material, give homework, and even for exams (Christiana, 2021; Roemintoyo et al., 2022; Squire, 2022). Technology-based learning media was chosen because technology has the potential to increase student involvement, encourage students to collaborate, and access several other learning resources (Pradhan & Dey, 2023; Utaminingsih et al., 2023). Students' critical thinking, creativity, collaboration, and communication skills are needed to face future changes (Niu et al., 2021; Pradhan & Dey, 2023).

Android-based learning media was chosen because smartphones are very popular (Mudiartana et al., 2021; Ramadani & Nurharini, 2024). Smartphone users in Indonesia in 2020 are estimated to reach 81.87 million users (Ariyani et al., 2022). Smartphone use by students is usually limited to playing games or accessing social media. The use of smartphones for learning needs to be done to develop a deep understanding of the importance of today's technology (Ikhbal & Musril, 2020; Levido, 2024). Choosing learning media using smartphones can increase students' interest in learning. Android is software created for portable devices and is open to application developers (Abdul Karim et al., 2020; Borman et al., 2018). Application development can be done with software, one of which is Kodular. Kodular was chosen because the application can adapt to students' situations and conditions to create a pleasant learning atmosphere. Creating applications with Kodular also tends to be easy because it uses a drag-and-drop system with program blocks, whereas creating applications with other platforms usually uses a coding system that requires developers to install additional software (Furima et al., 2023).

Previous research findings also state that learning media can improve students' understanding of vocabulary (Liyana & Kurniawan, 2019; Taulany & Ilham Prahesti, 2019). Other research also states that using Android media can help students learn anywhere and anytime (Murtiningsih et al., 2022; Rakimahwati et al., 2022; Sari et al., 2019). This research was conducted to improve students' vocabulary understanding using Android-based learning media that is easy for all students to access and use. Even activities such as reading have been done digitally via smart devices, so they are easily accessible anytime and anywhere (Day et al., 2024). However, there has yet to be a study regarding Android-based learning media to improve understanding of Indonesian vocabulary. The development of audio-visual media answers the problem of students mastering Indonesian vocabulary. This begins with increasing student interest in learning with this media. Apart from that, teachers responded positively to using media because it made it easier for teachers to teach. Based on this, this research aims to develop Android-based learning media to improve understanding of Indonesian vocabulary.

2. METHODS

This type of research is Research and Development (R&D) (Sugiyono, 2017). The Research and Development method was chosen to solve problems by creating a product or improving an existing product by expectations so that the product is more optimal. The development of Android-based "Teko" learning media uses R&D research with ADDIE development stages, namely 1) A (Analysis), 2) D (Design), 3) D (Development), 4) I (Implementation), and 4) E (Evaluation) (Sugiyono, 2017). This research used a Pre-Experimental Design with One-Group Pretest-Posttest Design and was tested on small-scale and large-scale students. In carrying out the research, activities were carried out which included 1) pretest to determine learning outcomes, 2) implementation of the Teko application, and 3) posttest to measure learning outcomes

The subjects of this research are material experts and media experts. Observation, interview, and questionnaire techniques were used for data collection. Observations were carried out by observing the Indonesian language learning process in class V, teaching methods, the media used, and student involvement in learning. Interviews were conducted with the teachers who were concerned about all the information needed for the research. To find out students' needs, researchers gave a questionnaire. In this research, the questionnaire instrument was given to material expert validators, media experts, and users using the grid presented in Table 1, Table 2, and Table 3.

Table 1. Material Validation Instrument Grids

Aspect	Indicator	No. Questions
The suitability of learning materials on learning media	1. Appropriateness of learning materials	1, 2, 3, 4, 5
	2. Learner interest	6
	3. Helps students learn	7, 8, 9
Feasibility of learning media for learning materials	1. Appropriateness of learners' characteristics	10, 11
	2. Develop cognitive domain	12
	3. Ease of understanding the material	13, 14, 15

Table 2. Media Validation Instrument Grids

Aspect	Indicator	No. Question
Media to learning material	1. Appropriateness of learning materials	1, 2, 3, 4
Display of learning media	1. Appropriateness of learner characteristics	5
	2. The attractiveness of learning media	6, 7, 8, 9, 10
	3. Ease to use	11, 12
Interactivity of learning media	1. Provide feedback to the user	13, 14, 15
Language	1. Language is easy to understand	16, 17
Program	1. Ease of media access	18, 19

Table 3. User Response Questionnaire Grids

Aspect	Indicator	No. Question
Aspect of learning materials	1. Completeness of learning materials	1, 2, 3, 4
Display aspect of learning media	1. Attractiveness of learning media	5, 6, 7, 8, 9, 10
Use of	1. Ease to use	11, 12
	2. Ease of media access	13
Language	1. Language is easy to understand	14, 15

The techniques used to analyze the data are qualitative descriptive analysis and quantitative and inferential statistics. There are three types of data analysis carried out, namely 1) analysis of learning media validation data, 2) analysis of media user response data, and 3) analysis of pretest and posttest scores (Ramadani & Nurharini, 2024). Validation data analysis was carried out based on material and media experts' validation results. Analysis of user response data is carried out based on the results of user responses to learning media. Validation instruments for material experts, media experts, and user responses use a Rating Scale with four levels. The Rating Scale measures a person's opinion of an object (Purwanto, 2018). These results obtain a percent value and can be converted into several eligibility criteria.

Pretest and posttest scores were analyzed based on the results of the pretest (before treatment) and posttest (after treatment). The test instrument was tested using normality and reliability tests. The normality test in this study uses the Shapiro-Wilk test and can be said to be normal if the significance results are equal to or more than 0.05. The reliability test uses the Alpha-Cronbach test and can be said to be reliable if the significance results are more than 0.5. Next, to determine whether there were differences between before treatment and after treatment, calculations were carried out using the Paired Sample T-test. If there is an increasing influence, then tcount > ttable means the significance result is also > 0.05.

3. RESULTS AND DISCUSSION

Result

The development of the android-based learning media 'Teko' uses the type of R&D research with the ADDIE development model. In this model, five stages of development are carried out according to their names, namely A (Analysis), D (Design), D (Development), I (Implementation), and E (Evaluation). In the first stage of analysis, at this stage, the researcher conducts observations and interviews to find out the situation and conditions in the field to find out the existing problems and the right solution to these problems (the right

product to be developed according to the existing problems). In the second stage of design, researchers make a product design that will be developed based on the analysis stage. In the third stage of development, researchers began to develop products using the Kodular platform by the design that had been prepared and then tested the product and revised the product if there was input during the trial. In the fourth stage of implementation, researchers carried out activities to implement or use the product by sharing a link to download the Teko application. The last stage is evaluation, where researchers evaluate the application or use of the product so that the resulting product is even better. An example of the Teko application display can be seen in Figure 1.
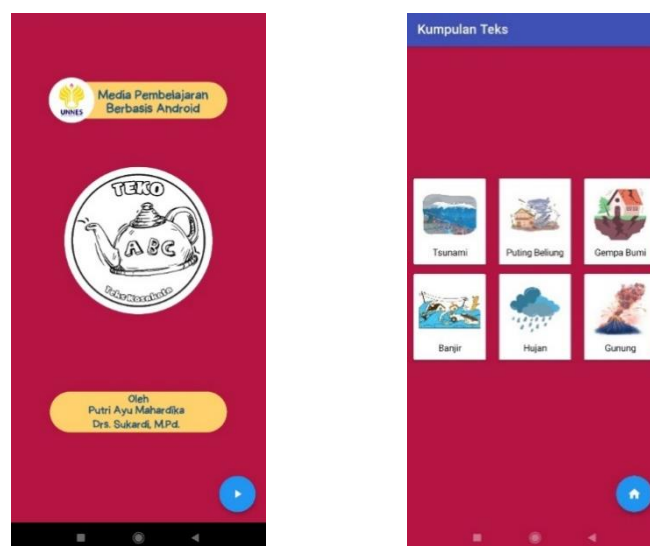
Figure 1. Teko App Home View and Text Set View of the Teko App

Before the implementation activities are carried out, the Teko application must be tested through the validation test stage with two validators, namely material expert validators and media expert validators. This needs to be done to assess the feasibility of learning media that has been developed. The assessment is carried out by looking at several aspects that are tested. The validation results can be known in detail from Table 4.

Table 4. Material Validation Results

Aspect	Maximum Score	Score	Percentage	Criteria
Suitability of learning materials on learning media	36	34	94.44%	Very Good
Feasibility of learning media for learning materials	24	20	83.33%	Very Good
Total	**60**	**54**	**90%**	**Very Good**

Based on Table 4, the material expert validator gave a score of 34 out of a maximum score of 36 on the aspect of the suitability of learning material on the learning media with a percentage of 94.44%, which means that the media has very good results on this aspect. In the aspect of the feasibility of learning media on learning material, expert validators gave a score of 20 out of 24 with a percentage of 83.33% which means it has very good results. From these two aspects, the percentage result is 90% which means that the material presented in the application is very good and feasible. Media Validation Results showed in Table 5.

Table 5. Media Validation Results

Aspect	Maximum Score	Score	Percentage	Criteria
Media to learning material	16	15	93.75%	Very Good
Display of learning media	32	30	93.75%	Very Good
Interactivity of learning media	12	10	83.33%	Very Good
Language	8	7	87.5%	Very Good
Program	8	8	100%	Very Good
Total	**76**	**70**	**92%**	**Very Good**

Table 5 shows satisfactory results with a total percentage of 92% which means the media is very good and feasible. These results are obtained from the conversion of scores that have been given to each aspect by the material expert validator. The results of the Teko application user response showed in Table 6.

Table 6. User Response

Aspect	Maximum Score	Score	Percentage	Criteria
Aspects of learning materials	368	301	81.79%	Very Good
Display aspects of learning media	552	552	80,97%	Very Good
Use of	276	223	80.79%	Very Good
Language	184	162	88.04%	Very Good
Total	**1380**	**1133**	**82.10%**	**Very Good**

User response data was obtained from 23 people, namely 22 grade V students and 1 grade V teacher. Based on the total percentage of 82.10% which is in the very good category, it indicates that users are satisfied with the Teko application in terms of learning material, learning media display, ease of use, and language that is easy to understand. It can be concluded from the results of material validation, media validation, and user response that the Teko application is feasible to be applied in learning.

Indonesian language learning of explanatory text material was carried out twice, namely on a small scale and a large scale. Small-scale learning is carried out with a limited number of students while large-scale learning is carried out with the number of students in one class. In this study, small-scale learning had 10 students and large-scale learning had 22 students. To determine the effectiveness of the Teko application, pretest and posttest activities were carried out. The pretest and posttest scores were then tested to determine whether the data was normal or not using the Shapiro-Wilk normality test. The results of the normality test can be seen in Table 7.

Table 7. Normality Test (Shapiro-Wilk)

Learning Outcome	Statistic	df	Sig.	Result
Small Scale Pretest	0.888	10	0.160	Normal
Small Scale Post-Test	0.904	10	0.245	Normal
Large Scale Pretest	0.918	22	0.068	Normal
Large Scale Post-Test	0.926	22	0.099	Normal

Based on Table 7, it can be seen that the results of the small-scale pretest have a significance value of 0.160, the small-scale posttest has a significance value of 0.245, the large-scale pretest has a significance value of 0.068, and the large group posttest has a

significance value of 0.099. All results obtained from the calculation of the normality test obtained a significance value> 0.05 which indicates that the data is normally distributed. Furthermore, the Teko application was tested for effectiveness with the paired sample T-test parametric test. The test results can be seen in Table 8.

Table 8. Paired Samples T-test Results

Learning Outcome	Mean	t	df	Sig. (2-tailed)	Criteria
Small scale pretest - post-test	-22.500	-9.429	9	0.000	Effective
Large scale pretest - post-test	-20.682	-11.615	21	0.000	Effective

The paired sample T-test conducted obtained a mean of 22.500 for the small scale and a mean of 20.682 for the large scale, which means there was an increase in the post-test. The results of the paired samples test calculation show the small-scale t-count of 9.429 > t-table 2.262 while the large-scale t-count of 11.615 > t-table 2.080. The test also shows the significance value obtained on a large scale and small scale of 0.000 < 0.05. So, the results of the paired samples test calculation can prove that the Teko application has an influence or an increase in student learning outcomes and is effective in learning.

Discussions

The results of data analysis show that Android-based learning media has received very good qualifications from experts and students, so it can be used in learning. Android-based learning media is suitable for use in learning due to several factors. First, Android-based learning media is suitable for use in learning because it can improve understanding of Indonesian vocabulary. The learning media developed uses various subjects and science so that the content presented is more specific and relevant for students. This is supported by previous findings, which state that well-developed learning media can increase students' vocabulary (Kurniawati, 2019; Rokhman & Ahmadi, 2020; Silvia et al., 2021). The use of Android allows the development of applications that can be downloaded and used offline, which is very useful for students who have limited access to the internet (Lukman et al., 2019; Mustadi et al., 2022; Sari et al., 2019). Android-based learning media has an attractive design appearance in terms of color, writing, images, and animation so that it can increase students' attractiveness and creativity in the learning process. Other research also supports that the use of animation can make it easier for students to learn (Asmawati & Dalming, 2019; Candra Dewi & Negara, 2021; Permatasari et al., 2019). This is what causes Android-based learning media to improve understanding of Indonesian vocabulary.

Second, Android-based learning media is suitable for use in learning because it makes it easier for students to learn. Learning media is any form that people use to channel messages or information, making it easier for students to learn (Kurniawati, 2019; Rokhman & Ahmadi, 2020; Silvia et al., 2021). Learning media must be designed as well as possible by the teacher according to the objectives to be achieved, supporting learning materials, and appropriate teaching and learning strategies so that it will make it easier for students to learn (Athifah et al., 2022; Perayani & Rasna, 2022). Previous research findings also state that well-designed learning media can direct students' attention to concentrate on the lesson content (Siregar & Kurniati, 2022; Wasimin, 2022). Media as a learning resource has meaning. Namely, the media used by teachers can function as a place where learning materials are located. Android-based learning media has features that are easy for students to understand, making it easier for them to access and use the media. Well-designed media can motivate students to learn the material provided quickly and enable students to learn anytime

and anywhere, thereby increasing students' interest and motivation to learn (Lestari et al., 2022; Rofi'atul Adawiyah & Damayanti, 2022; Wijaya et al., 2022).

Third, Android-based learning media is suitable for use in learning because it increases student motivation. Media as a tool means that media has the function of helping teachers achieve learning goals (Athifah et al., 2022; Perayani & Rasna, 2022). With learning media, teachers can deliver more interesting material (Ghofur, 2022; Sudarmilah et al., 2022). With the help of learning media, students will more easily understand the material being studied. Learning media that is easy to use will make students use it smoothly. Interesting learning media can increase students' enthusiasm for learning (Indriyanti & Azmi, 2022; Maharani Zan & Mardian, 2022). Teko learning media was developed using the Kodular platform to increase student motivation to learn. Indonesian language material is prepared in one Android-based media, which is then implemented in Indonesian language learning.

Previous findings also reveal that Android-based learning media can improve student learning outcomes (Abdurrochim et al., 2022; Kuswanto & Radiansah, 2018). Other research also states that Android-based learning media can increase student motivation in learning (Andriani & Suratman, 2021; Lubis & Ikhsan, 2015). Based on the explanation outlined above, an increase in elementary school students' vocabulary understanding can occur if the learning media used is appropriate to the students' conditions. Android-based learning media (TEKO) improves students' understanding of Indonesian vocabulary by reading explanatory texts and reviewing technical words using an application called Teko. The word 'Teko' is an abbreviation of 'Text (Text) Vocabulary,' which means that in the application, there is a collection of texts equipped with the meaning of the words. The limitation of this research is that the Android-based learning media (Teko) only presents Indonesian language learning materials to improve the understanding of Indonesian vocabulary in elementary school students. This research implies that Android-based learning media can be used in learning. With Android-based learning media, students can increase their interest in learning in class so that their learning achievement increases.

4. CONCLUSION

The Teko application is a product that was successfully developed in this research. The results of data analysis show that Android-based learning media has received very good qualifications from experts and students, so it can be used in learning. The t-test results also show that the Teko application influences or improves student learning outcomes and is effective in learning. It was concluded that Android-based learning media can improve elementary school students' vocabulary understanding.

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