

Implementation of Android-Based English Application System as Learning Tool for 6-12 Years Old Due to Covid-19

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ABSTRACT

Background based on science development today requires the education world to increase qualities in all fields. With technology existence in modern times, it is expected to be able to increase quality of learning more effectively. The purposes of conducting this study are (1) bringing students into a new teaching and learning atmosphere so that they do not get bored easily in learning during the covid-19 pandemic, (2) teachers can monitor students' development who are less motivated by the learning provided by the teacher through assignments such as only through WhatsApp or Google Classroom, (3) developing learning application in schools. In the English learning application, there are 15 English vocabulary lessons about colors, numbers, fruits, letters, and others accompanied by exercises and evaluations to measure students' understanding and make them able to learn independently, also as an alternative learning media. This application is supported by images, sounds and animations to attract students' learning interest. Data collection methods were tests, observations and documentation. The subjects of this study were 50 students. Various instruments were used to collect data such as: (1) students' response questionnaires (2) interview to support the results of students' response questionnaires (3) learning evaluation questions through android application media.

KATA KUNCI

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ABSTRAK

Latar belakang penelitian ini berdasarkan perkembangan ilmu pengetahuan saat ini menuntut dunia pendidikan untuk meningkatkan mutu dalam segala bidang. Dengan adanya teknologi di zaman modern ini, diharapkan mampu meningkatkan kualitas pembelajaran secara lebih efektif. Tujuan dilakukannya penelitian ini adalah (1) membawa siswa ke dalam suasana belajar mengajar yang baru agar tidak mudah bosan dalam belajar di masa pandemi covid-19, (2) guru dapat memantau perkembangan siswa yang kurang termotivasi dengan pembelajaran yang diberikan guru melalui penugasan seperti hanya melalui WhatsApp atau Google Classroom, (3) mengembangkan aplikasi pembelajaran di sekolah. Dalam aplikasi pembelajaran bahasa Inggris ini terdapat 15 pelajaran kosa kata bahasa Inggris tentang warna, angka, buah, huruf, dan lain-lain disertai dengan latihan dan evaluasi untuk mengukur pemahaman siswa dan menjadikan mereka mampu belajar secara mandiri, juga sebagai media pembelajaran alternatif. Aplikasi ini didukung dengan gambar, suara dan animasi untuk menarik minat belajar siswa. Metode pengumpulan data adalah tes, observasi dan dokumentasi. Subyek penelitian ini adalah 50 siswa. Berbagai instrumen digunakan untuk mengumpulkan data seperti: (1) angket respon siswa (2) wawancara untuk mendukung hasil angket respon siswa (3) soal evaluasi pembelajaran melalui media aplikasi android.

1. Introduction

In order to increase process quality and learning outputs, a teacher needs to make creative and innovative efforts in carrying out his duties and obligations as an educator [1], [2]. One of technological development forms applied in the education world is Android [3]. Android is an innovation that has a major role in changing the learning process, where the process of learning activities does not only listen to lecture material in face to face [4], [5], [6] but also without face to face and in this case, the students have an active role in learning. The background of the research on Android application

currently is a long-distance online learning media [7] that is expected to be able to replace or complete the conventional (face-to-face) learning model which often has many shortcomings, such as being bored faster and passive in learning [8], [9], [10], [11].

The problems that will be researched are implementation, planning, process and evaluation [12], [13], [14] of Blended Learning using Android Application in learning. Specific objectives of this research use Android application media which is very easy to use in order to find out students' achievement or learning outcomes. In practice, the students can use Android application media that can be accessed by

them individually through the guidance of teachers or parents. This application includes an online learning evaluation application that is expected to make it easier for students to understand a learning material so that their learning motivation will be more increasing. While the outcomes of this study are expected to include learning evaluation process and form creative teachers in implementing and managing fun teaching and learning activities for students so that the potentials of each child can develop optimally [15], [16].

2. Research Method

English is one of the international languages used to communicate among humans which is almost all over the world. English is the most widely spoken language in the world. According to the Encyclopaedia Britannica, "The History of English as an International Language". Wall Street English, <https://www.wallstreenglish.co.id/>. Accessed on February 16, 2022, it is said that English originating from England is the dominant language in some countries in the world.

The age of 6 to 12 years is a basic education period [17], according to Harvigust, the development of elementary school aged children includes [18], [19], [20]; a) Mastering physical skills used in games and physical activities, b) Building a healthy life, c) Learning to interact and work in groups, d)) Learning to carry out social roles according to gender, e) Learning to read, write, and count so that you can participate in society, f) Acquiring a number of concepts needed to think effectively, g) Developing conscience, morals and values, and h) Achieving personal independence.

Android is one of the operating systems or mobile-based operating systems that are very widely used today. It includes mainly on smartphones or tablets. Since it was launched in 2007, Android has several variants or versions. The latest is Android 10 OS version which was introduced on 3 September 2019. The name of this version is different from the previous ones, which were used to use the names of desserts, such as cupcake, nougat, donut, etc. In the future, this operating system will only launch version names based on a number sequence, namely android versions 10, 11, 12 and so on. Each version change also follows alphabetical order starting from A b c d e onwards, namely: Astro 1.0 (Alpha), Bender 1.1 (Beta), Cupcake 1.5, Donut 1.6, Eclair 2.0 – 2.1, Froyo 2.2, Gingerbread 2.3, Honeycomb 3.0/3.1, Ice Cream Sandwich 4.0,

Jelly Bean 4.1/4.2/4.3, KitKat 4.4, Lollipop 5.0, Marshmallow 6.0, Nougat 7.0, Oreo 8.0, Pie 9.0, Android 10. The android application that is used in this research is an android application with English language for children from sekarmedia.

Covid-19 is an infectious disease caused by a coronavirus. Coronavirus is a group of viruses that cause disease in animals or humans. In addition, coronaviruses cause respiratory tract infections in humans ranging from coughing to more serious ones such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). Corona virus infection or Covid-19 is caused by coronavirus, which is a group of viruses that attack or infect the respiratory system in humans and animals. Until now, there is no vaccine to prevent Covid-19 infection.

Thus, based on the experts' opinions above, it can be concluded that learning English using an Android-based application is a learning activity that can be carried out by teachers or parents with cellphones as learning media so that children aged 6-12 years are not bored and motivated in participating ongoing learning activities both in class with teachers or at home with parents during the Covid-19 pandemic.

3. Result and Discussion

System Requirements Analysis needed in the design of this application is as follows:

- This application can be used easily by parents or teachers to teach English anytime and anywhere.
- This application users can see shapes, or images, and letters
- This application users can listen to the sound of sentences in English speech.

The introduction of this interactive educational application is a fun learning application for children and designed according to the child's age development, this application teaches children to recognize and read the letters of the alphabet ABC (A-Z), numbers (1-10) and others in English accompanied by correct way of reading. The following is a menu display on the English Learning Application can see in Figure 1. Table 1 is the menu display on English Learning Application.

Table 1. Menu display on English Learning Application

Component	Description
Sound	a. Used as an interaction media that will guide each learning process. b. Used as a marker message when right and wrong in learning section. This application consists of several menus that have various functions, including: <ol style="list-style-type: none"> Learning : Alone, Automatic <ol style="list-style-type: none"> Letters (A-Z), such as displaying a letter 'A' in English 'A' and how to pronounce it in English. Numbers (1-10), such as displaying Number '1' in English 'One' and how to pronounce it in English. Names of the months from January to December, such as displaying weather in January, in English 'January' and how to pronounce it in English. Names of the days from Monday to Sunday, such as displaying Monday, in English 'Monday' and how to pronounce it in English. Food menus, such as displaying the picture 'fried rice' in English 'fried rice' and how to pronounce them in English. Colors such as displaying 'red' in English 'Red' and how to pronounce it in English. Fruits such as the picture Apple, in English 'Apple' and how to pronounce it in English. Animals such as displaying the picture 'cat' in English 'Cat' and how to pronounce it in English. Occupation such as the picture 'Police' in English 'police' and how to pronounce it in English. The five senses such as the picture an 'eye' in English 'eye' and how to pronounce in English. Musical instruments such as the picture 'guitar', in English 'guitar' and how to pronounce them in English. Body Parts such as the picture a 'hand', in English 'hand' and how to pronounce it in English. Dress such as the picture 'dress', in English 'dress' and how to pronounce it in English. Shapes such as the picture a 'triangle' in English 'triangle' and how to pronounce it in English. Sports such as the picture a person running, in English 'run' and how to pronounce it in English. Exercises: Colors, Letters, Numbers, Fruits, Animals, Occupations, Months Names, Day Names, Music Instruments, etc. Evaluation Menu or Exericse
Menu	
Score	Score system/assessment is only available in evaluation
Language	For Menu, the languages used in this application are Indonesian and English.
Game	Score system/assessment is only available in evaluation



Figure 1. Menu Structure

The application used is from Sekarmedia which is a fun Education Application for children from 6 to 12 years old designed in accordance with the children's brain development and the way how to write properly.

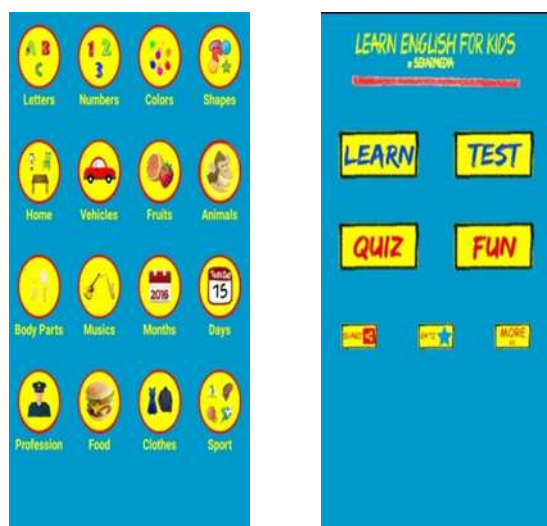


Figure 2. Picture display on English Learning Application

The following is the description of trial recapitulation results of a product 'Android-Based English

Application System' as a Learning Tool for 6-12 years old students due to the Covid-19 Pandemic which was assessed by media experts in Table 2.

Table 2. Media Experts Recapitulation

Components	Assessment average
Access	90
Display/Interface	90
Learning Component	95
The accuracy and suitability of learning components choice for an Android-Based English Application System as learning tool for 6-12 years old children due to the Covid-19 Pandemic.	95
Average	92.5 (very good)

Based on the trial results conducted on media experts, an average score was 92.5. These results state that the learning product about Android-Based English Application System as a learning tool for 6-12 years old students due to the Covid-19 Pandemic in terms of media which includes access, display/interface, learning components and the accuracy/suitability of learning components choice is very good that can see in Table 3.

Table 3. Material Experts Recapitulation

Components	Assessment Average
Material Quality	90
The accuracy and suitability of learning components choice for <i>Blended Learning</i> learning model with <i>Google Classroom</i>	95
Average	92,5 (very good)

Based on the second stage trial results conducted on the material experts, an average score was 92.5. These results state that Android-Based English Application System as a learning tool for 6-12 years old students due to the covid-19 pandemic in terms of material which includes the material quality and the accuracy/suitability of components choice in Table 4.

Table 4. Learning Design Expert Recapitulation

Components	Assessment Average
Learning Component	95
Learning objective	90
Learning material	90
Learning strategy	95
Learning evaluation	90
Learning average	92 (very good)

Based on the third phase trial results conducted on learning design experts, an average score was 92. Learning outcome is one of the indicators for testing the Android-Based English Application System as a learning tool for 6-12 years students due to the covid-19 pandemic. The test in this study was seen from the post-test conducted on 50 students in 6-12 years old compared to the pre-test which was conducted earlier. Values comparison between pre test and post test obtained the following comparison chart in Table 5.

Table 5. Result of student's knowledge score

Type Class	Class Learning	Score
Experiment	Before Learning	98
Experiment	After Learning	70
Control	Before Learning	97
Control	After Learning	78

Whereas for a more detailed and more varied explanation, you can use a graph like an image in Figure 2.

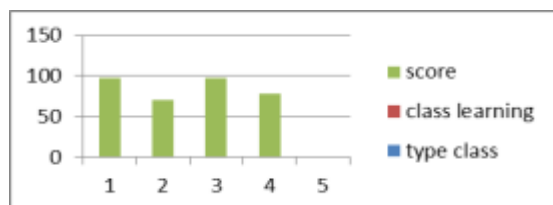


Figure 2. Average Score of student's knowledge

From the calculation above, the post-test average score of English material is higher than the pre-test score before students are introduced to Android-based learning. Thus, the Android-based learning model in English subjects can effectively improve students' learning outcomes based on the learning indicators that

have been determined. From the research process that has been carried out, it has produced what is called an Android-based learning model which is applied to English subjects.

4. Conclusion

This application can improve students' understanding about Basic English material by implementing fun interactive learning so that students are able to understand English lessons properly and correctly. This application can help students in learning process as well as an alternative learning media other than books.

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