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Development Of Android-Based Application For English Learning System Using Drill and Practice Method

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ABSTRACT: English, being an international language, plays a significant part in daily life worldwide. Many nations utilize English as their primary language of communication. The lack of a novel approach to English learning—such as the use of contemporary technology—means that kindergarteners at Al-Barkah Kindergarten only learn the language through books. In light of these issues, Al-Barkah Kindergarten developed an Android-based application to teach English via the drill and practice method, hence creating a variance in teaching methods. Because this method applies a learning system in the form of visual, audio, and animation that can attract students' interest in learning language, the application design results show that the learning method is effective and that a solution, especially for Al-Barkah Kindergarten students, can easily understand the learning material. English.

Keywords: English, Android, Drill, &, Practice

INTRODUCTION

The Al-Barkah Islamic Kindergarten still employs traditional teaching methods, particularly in the English topic, which causes a number of issues with pupils' interest in the subject.

4-6 year olds are considered to be in the early childhood development stage and have an imaginative way of thinking. It is vital to plan and create an appropriate learning model prior to starting any learning activities. This model should take into account the physical and psychological traits of Taman Kanak-kanak (TK) students, the classroom setting, the surrounding area, and the accessibility of educational resources. The intended learning outcomes are impacted by the preparedness of teachers and instructional materials, while the efficiency of the learning process and amount of time spent on activities are impacted by the psychological preparedness of students.

One essential instrument for communication is language. Particularly from an early age, people have adopted English as a way of communication. Due to this demand, parents are now in competition with one another to have their kids enrolled in English-speaking schools. Lately, early childhood school levels in Indonesia have begun to provide English language instruction as a foreign language.

Instructors have a responsibility to inspire their pupils to comprehend English teachings more thoroughly—not just now, but also in the future when they will need to retain and use them in everyday conversation. As a result, a fun, relevant, efficient, effective, and meaningful learning strategy is required. The goal of technique and instructional media selection is to make it easier to carry out learning activities and meet learning objectives in an effective manner.

METHOD

Techniques used in the teaching and learning process are called teaching methods. The learning outcomes will be better if the right teaching strategy is applied. With the correct approach, students can focus and feel at ease during the teaching and learning process. But because every subject has a different teaching strategy, teachers are expected to communicate the strategy for that subject first in the teaching and learning process. Drawing from the description of teaching methods, it can be inferred that they involve guiding pupils through exercises designed to help them develop beyond what they have learned.

The drill method involves practicing a skill continuously and repeatedly to gain mastery of the knowledge that has been gained. Students are first prepared with theoretical knowledge in terms of application. Students are then instructed to practice it under the teacher's guidance until they are competent and skilled.

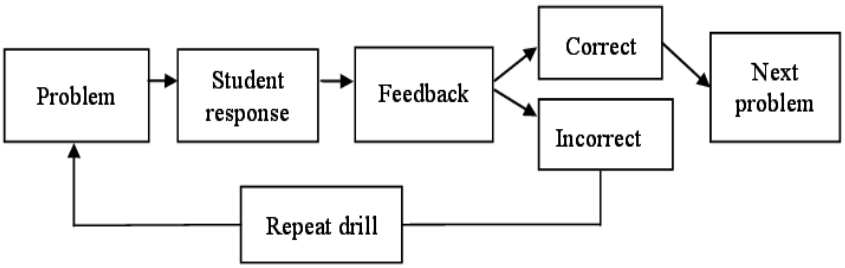

Figure 1. Method Characteristics of a drill and practice activity

Drill and practice have advantages and disadvantages, just like any other teaching strategy as there isn't a single, ideal way to educate. Adhitya (2013:19) asserts that "all instructional approaches complement one other." Depending on the features of the basic subjects that students are taught, their usage in the learning process can be cooperative.

The following are some benefits of the drill and practice learning method:

- Information is frequently delivered.
- Students can quickly repair their mistakes when they receive immediate correction from the teacher and are under supervision or guidance.
- The ability to apply knowledge and skills to everyday demands, whether for academic or real-world applications in society, is always available.

- Gives pupils the chance to develop particular talents.
- Increases pupils' preparedness and their capacity for quick thinking.
- A variety of tactics can strengthen and advance skills.
- Excellent fit for pupils to guarantee productive learning experiences.
- Inspires pupils to come up with original solutions to issues and methods for communicating their thoughts.
- With an emphasis on learning by doing, students participate in a variety of activities that foster comprehension and skill development.

The following are the drill and practice learning method's shortcomings:

- It inhibits students' abilities and initiative since they are increasingly directed away from understanding and toward conformity.
- Produces a static environment adaption.
- Repetitive workouts can get tedious at times. Its automated nature can lead to the formation of rigid habits.
- May result in verbalism

RESULT AND DISCUSSION

Operationalization of Variables

To gather data for this study, the researcher used a questionnaire survey approach. Parents and teaching instructors of kids at TK Al-Barkah were among the responses to the online survey that was sent using Google Forms. The study was conducted for one month.

A questionnaire is a method of gathering data in which participants are given a series of written statements to complete. Respondents can select straight from the options on the closed-ended questionnaire, which offers choices of answers (strongly agree, agree, disagree, and strongly disagree in this example). Three independent variables are used in this study to examine how purchase decisions are influenced by product design (X1), product quality (X2), and brand image (X3) (Y). A Likert scale, which is a tool for gauging attitudes, views, and perceptions, will be used to measure the study instrument. The following table lists the weighted values for each item in the instrument.

Table 1. Likert Scale

No	Answer Options	Score/Value
1.	Strongly Agree	4
2.	Agree,	3
3.	Disagree	2
4.	Strongly Disagree	1

As indicated in the table below, the measured variables are broken down into a number of indicators and utilized as a basis for creating items in the form of questions for a research questionnaire:

Table 2. Variable Indicators

No	Indicators	Descriptions
1	a desire to learn	Learning progress with the application
2	difficulties with learning	Difficulties and other problems with use the application
3	Instructional strategies	The application's effectiveness in the learning process

The draught of the questionnaire that will be provided to parents, teachers, and responders of Al-Barkah Kindergarten pupils is as follows.

Table 3. The Questionnaire

No.	Question	Total	Presentage
1.	Do the pupils express interest in using the learning application to learn English?		
	a. Strongly Agree	10	59 %
	b. Agree,	7	41 %
	c. Disagree	0	0 %
	d. Strongly Disagree	0	0 %
2.	Do the kids have trouble utilizing the application for learning English?		
	a. Strongly Agree	0	0 %
	b. Agree,	0	0 %
	c. Disagree	4	24 %
	d. Strongly Disagree	13	76 %

3.	Is the English language learning application's menu display visually appealing?		
	a. Strongly Agree	4	24 %
	b. Agree,	12	71 %
	c. Disagree	1	5 %
	d. Strongly Disagree	0	0 %
4.	Are students able to easily navigate the menu on the English language learning application?		
	a. Strongly Agree	14	82 %
	b. Agree,	3	18 %
	c. Disagree	0	0 %
	d. Strongly Disagree	0	0 %
5.	Does the application's quiz menu help to enhance the process of learning English?		
	a. Strongly Agree	10	59 %
	b. Agree,	7	41 %
	c. Disagree	0	0 %
	d. Strongly Disagree	0	0 %
6.	Do the students' learning outcomes improve as a result of utilizing the application?		
	a. Strongly Agree	13	76 %
	b. Agree,	4	24 %
	c. Disagree	0	0 %
	d. Strongly Disagree	0	0 %
7.	Does the software help pupils grasp the process of learning English?		
	a. Strongly Agree		
	b. Agree,	12	71 %
	c. Disagree	5	29 %
	d. Strongly Disagree	0	0 %
		0	0 %
8.	Does this English language learning application still need to be used?		
	a. Strongly Agree	15	88 %
	b. Agree,	2	12 %
	c. Disagree	0	0 %
	d. Strongly Disagree	0	0 %
9.	Is it appropriate for the Android app to be available solely during school hours?		
	a. Strongly Agree	1	6 %
	b. Agree,	5	29 %
	c. Disagree	10	59 %
	d. Strongly Disagree	1	6 %
10.	Should I be able to use the Android application at home, at school, or somewhere else?		
	a. Strongly Agree	11	64 %
	b. Agree,	3	18 %
	c. Disagree	3	18 %
	d. Strongly Disagree	0	0 %

Positive outcomes follow students' use of this program, according to the questionnaire's results. The following are the findings of the survey that was distributed to all respondents:

a. Students become more motivated to learn

This can be an excellent way to increase students' personal potential and the learning process by making them more interested in what they are studying. It will also affect the training outcomes for pupils receiving the required marks.

b. Students find the application user-friendly.

This teaching approach, created with an Android-based application, is portable and can be utilized anytime, anyplace. Its appealing appearance makes it simple for young kids at Al-Barkah Kindergarten to navigate its menu.

Concept

The goal of the concept stage is to gather basic ideas and concepts for the interactive multimedia application Learn Al-Barkah. In order to make sure that the researcher's application is in line with the curriculum at the school, data connected to the development process of this multimedia application is being collected. After gathering all the data, an analysis is done to identify the application's goals and end users. Text, colors, music, and moving images are among the multimedia elements that are carefully selected. The application size, required navigation, and interface style with an appropriate theme are all included in the design strategy for this multimedia application.

Table 4. Description Concept

Title	**Design of a Drill and Practice-Based Android-Based English Language Learning System**
Objectives	By providing students with an application that they can use anywhere, at any time, to enhance their concentration on the depth of English language content in accordance with the TK AL-BARKAH curriculum
User	TK AL-Barkah students
Platform	Android
Type of Application	Interactive Multimedia based on Android
Image	In addition to animations, in the.png and.jpeg formats
Audio	Instruments and vocals in mp3 format

Animation	2D animation
Interactivity	The following buttons can be used to navigate between forms: back to bring up the main menu; menu selection buttons to access other interactive menus; next to move on to the next step; sound to play audio; and exit to end the application.

The Process Of Developing

The process of developing guidelines for the architecture, style, and look of a program is called design. Creating a storyboard that depicts the program's flow and developing the application interface are two of the phases needed.

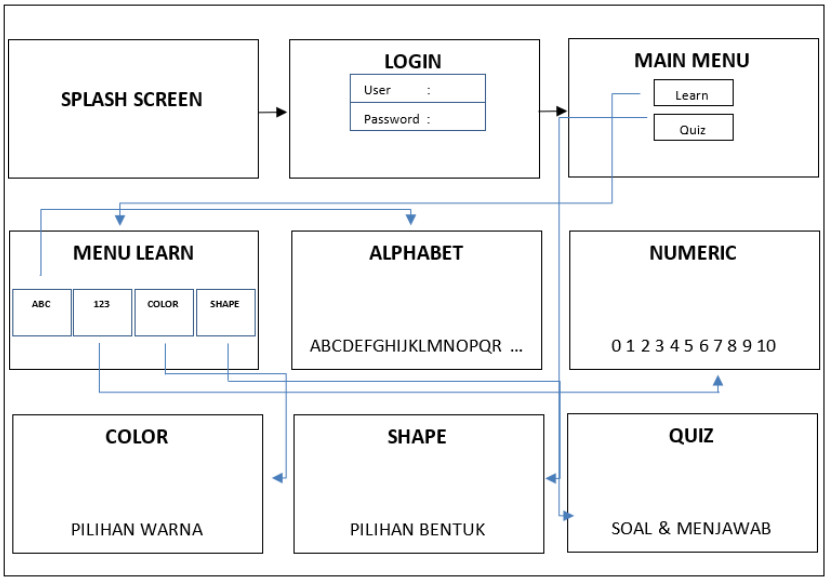

Figure 2 The Architecture Development Of Android-Based Application For English Learning System

A use case is an exchange of messages and actions carried out by the system during an interaction or dialogue with actors. Use Cases are a tool used to describe and represent functional components or services that users of the system are supplied. The author's design for the Use Case diagram for the application is shown below.

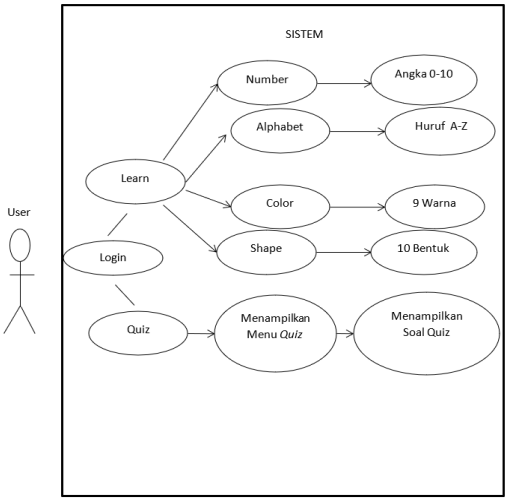

Figure 3. Use Case Diagram Development Of Android-Based Application For English Learning System

Android Application

When the Learn application is initially launched, the login menu appears as seen below. The picture below shows the login menu display.

Figure 4. The Login Menu Display

The application design plans are being implemented at this point. Java was the programming language utilized to create this system. The Flamingo edition of Android Studio was utilized for the editor and unit tests. The Xiaomi POCO F3 version 13 Android-based smartphone was utilized by the author throughout the debugging phase (Tiramisu). The first thing we see when we launch the Learn application is the splash screen.

Figure 4. main dish

This is how the Learn Menu looks like. The four button selections available on the Learn menu are Number, Alphabet, Color, and Shape. The picture below

Figure 5. The Learn menu

Students will see eleven buttons on the Number button page, each of which represents a different number. Clicking a button will cause the number to animate and produce a sound.

Figure 6. The Number Menu

Students will see 23 buttons on the Alphabet button page, each of which represents a letter. Clicking a button will cause it to make a sound and display an animated number.

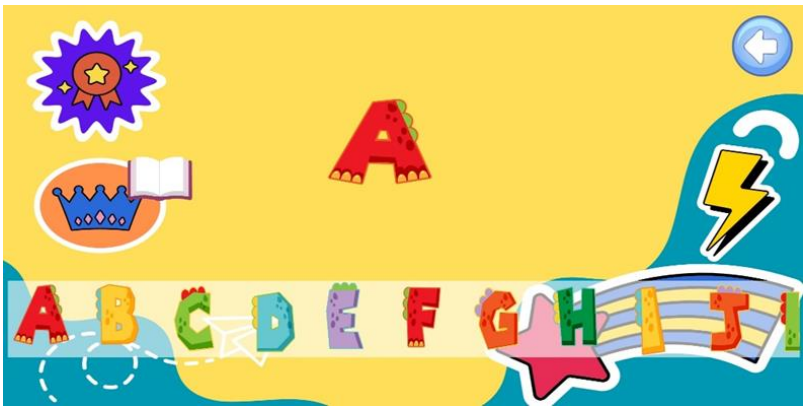

Figure 6. The Alphabet Menu

The Shape button page presents the user with 10 buttons, each of which represents a different object. Clicking on a button causes the shape to animate and produce a sound.

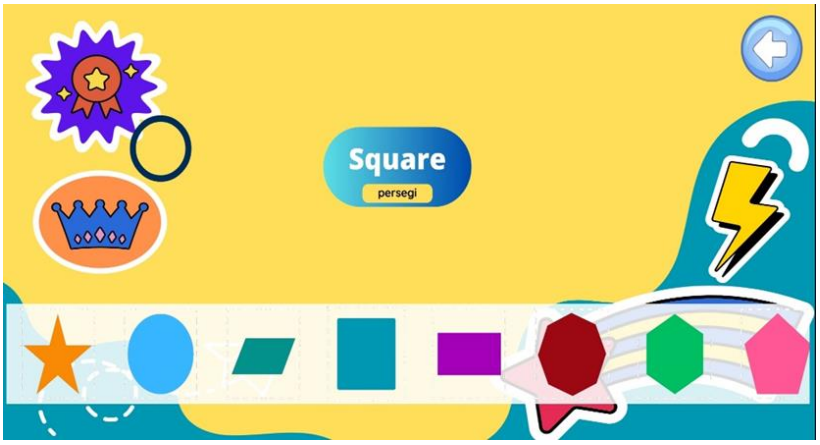

Figure 7. The Shape Menu

The user will see nine colors on the Color Button page. Clicking on any button will cause the selected color to animate and make a sound.

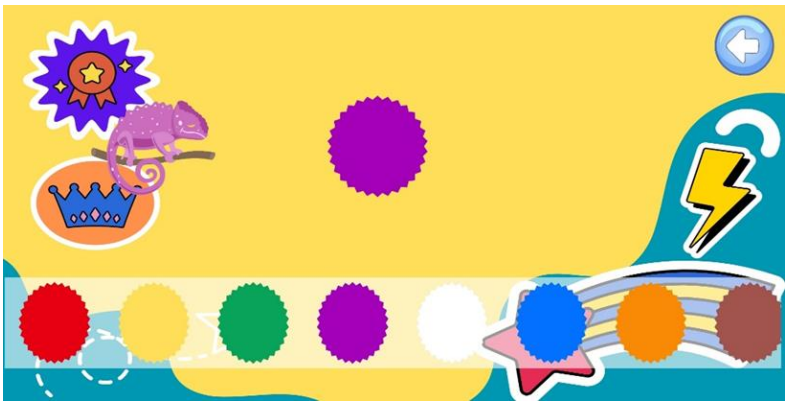

Figure 8. The Color Menu

The quiz categories, which are Number, Alphabet, Color, and Shape, are shown on the Quiz Menu. There are one to five questions in each quiz category; the right answer is worth one, and the wrong answer is worth zero.The quiz categories, which are Number, Alphabet, Color, and Shape, are

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Figure 9. The Quiz Menu

Web Menu Admin Dashboard: The image below shows the Web Menu Admin Dashboard display.

Figure 10. Dashboard Admin Web Menu

Dashboard Menu Score Quiz: This image shows the Dashboard Menu Score Quiz display.

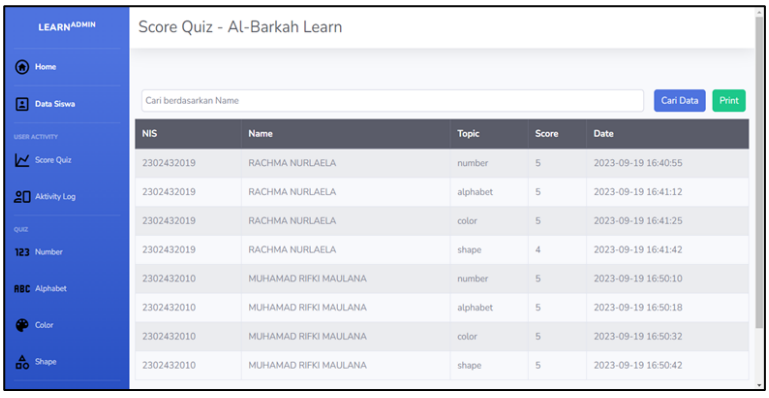

Figura 11. Dashboard Score Quiz

Firebase Realtime Database

The quiz questions, answers, activity logs, quiz scores, and student login information are all kept in the Firebase Realtime Database. If a user creates a new order activity or registration, the real-time database will be refreshed. This is what you see when you create a new project in Firebase and enter:

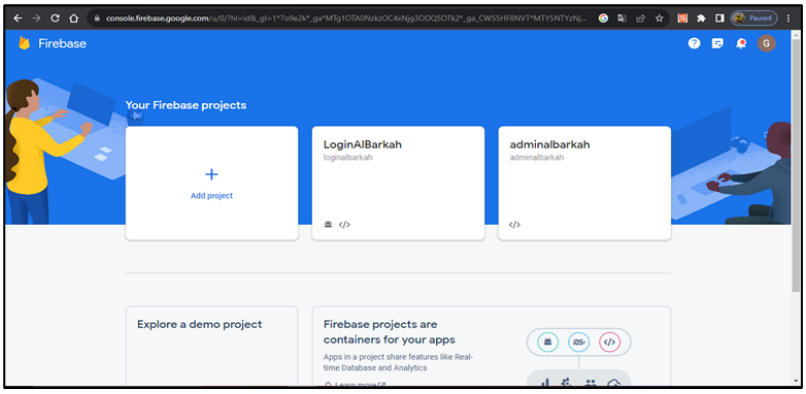

Figure . Firebase Realtime Database

User Interface and Basic System Function Testing Form

The purpose of testing the user interface is to determine the functionality of the interface elements in each form, ensuring they work properly. The basic system function testing aims to identify the fundamental functions within the application. The test case plan for this interface testing includes

The Black-Box Method will be used to test the program. Black-Box testing is used to confirm that the produced system complies with the requirements listed in the system's functional specifications. The smartphones that were evaluated are listed below, along with the outcomes of the application testing conducted on a variety of cellphones.

Table 4. Testing Results on Smartphones

No	Brand	Type	Operating System	Screen Width	RAM
1	Oppo	A57	Android 6.0 (Marshmallow)	5.0 inches, 720 x1280	3 GB
2	Samsung	J5 Pro	Android 7.1 (Nougat)	5.2 Inches, 720 x 1280 pixels	3 GB
3	Vivo	V9	Android 8.1 (Oreo)	6.3 inches, 1080 x 2280	4 GB
4	Xiaomi	Poco F3	Android 13 (Tiramisu)	6.7 inches, 2400 x 1080 FHD+	8 GB
5	Xiaomi	Redmi Note 12	Android 13 (Tiramisu)	6.7 inches, 2400 x 1080 FHD+	8 GB

Table 5. Application Testing Results with BlackBox

No	Module	Module Function	Expectation	Testing Process	Testing Result	Remarks
1	Button Login	Regarding the procedure for changing layouts to display the Main Menu	The form can distinguish between correct and incorrect password and user input. Knobs are functional Knobs are functional	Testing is done by entering user and pass details and then selecting Login.	According to user input, the system successfully establishes a connection with the database to log in.	Succeed
2	Button Learn	Regarding the procedure for changing layouts to the View menu	The form can determine whether a response is valid or incorrect.	Clicking the Learn button initiates the testing process.	In response to human commands, the system calls	Succeed
3	Button Quiz	Regarding how to navigate to the Quiz menu and change views	Every letter button can play music and show animation.	You take the test by clicking the Quiz button.	The questions are successfully shown by the system based on the user's selected category.	Succeed
4	Button Chek	To determine whether the user's response is accurate	Every number button has the ability to play music and display animation.	To administer the test, complete the answers and press the Check button.	The system complies with user commands by successfully producing sounds and animations.	Succeed
5	Button A-Z	To play music and display animation for a subset of the letters A–Z	Every letter button has the ability to play music and show animation.	To test, click each letter several times.	The system complies with user commands by successfully producing sounds and animations.	Succeed
6	Button 0-10	To play music and display animation for certain	Every letter button has the ability to play music	To test, click each number several times.	The system complies with user commands by successfully	Succeed

		numbers 0-10	and show animation.		producing sounds and animations.	
7	Button Shape	To play music and show animation for specific forms	Every Shape button has the ability to play music and show animation.	To test, click each shape several times.	The system complies with user commands by successfully producing sounds and animations.	Berhasil
8	Button Color	To play music and show animation for certain colors	Every Color button has the ability to play music and display animation.	You test by repeatedly clicking on each color.	The system complies with user commands by successfully producing sounds and animations.	Succeed
9	Button Logout	Should I close the application or not?	The message on the form to exit or remain in the application is successfully issued."	To do testing, click the Exit Button to cause an exit notification to display.	Whether the application's departure notification was successfully sent by the system	Succeed

CONCLUSION

Following several analysis procedures, system design, and experimentation in the development of this Learn application, several conclusions are drawn, such as:

1. Al-Barkah Kindergarten kids' potential can be stimulated with an engaging and diversified Android-based English learning application that can be used anytime, anywhere.

2. This Android-designed tool introduces a fresh pedagogical approach to Al-Barkah Kindergarten. This program helps students learn English by offering a variety of features like an eye-catching presentation with extra movement and sound.

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