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Android-Based Mobile Application for Vocabulary Learning

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Abstrak

Kemajuan teknologi telah membuatnya tak terelakkan untuk digunakan dalam belajar kosa kata. Tidak dapat disangkal bahwa gaya belajar mempengaruhi penggunaan aplikasi. Oleh karena itu, penelitian ini bertujuan untuk menganalisis kemanjuran aplikasi mobile berbasis android untuk pembelajaran kosakata pada pelajar kelas sepuluh. Pada titik ini, produk tersebut adalah aplikasi mobile untuk belajar kosa kata yang dilengkapi dengan buku guru dan siswa untuk panduan belajar. Peneliti menerapkan Research and Development dengan 20 siswa dan 5 guru sebagai partisipan penelitian secara acak dari dua SMA. Instrumen yang digunakan adalah tes, pedoman wawancara, pedoman observasi, dan angket. Proses pengumpulan data secara sistematis mencari dan menyusun transkrip wawancara, catatan lapangan, validasi ahli dan bahan-bahan lain yang dikumpulkan untuk mendukung data yang ditemukan. Kemudian peneliti menganalisis data menggunakan triangulasi data. Hasil dari langkah pertama membuktikan bahwa kemampuan pemecahan masalah diperoleh siswa memiliki banyak kesulitan mengingat kata-kata asing dan menguasai arti kata-kata asing. Hasil perancangan dan pengembangan menunjukkan bahwa Aplikasi Mobile sudah valid. Hasil uji coba produk membuktikan bahwa bentuk ini layak diterapkan pada siswa dalam peningkatan kosakata dan diklaim bersumber secara umum. Sedangkan hasil uji produk bahwa produk berpengaruh penting terhadap kosakata siswa. Media "Aplikasi Kosakata" meningkatkan kosakata siswa.

Kata Kunci: *Aplikasi Seluler, Belajar Kosakata, Vocabulary Application (VocApp)*

Abstract

The improvements in technology have made it inevitable to use in learning vocabulary. It is an undeniable fact that learning styles affect the use of applications. Accordingly, this study is aimed to analyze the efficacy of mobile applications based on Android for learning vocabulary to tenth-level learners. At this point, the product is a mobile application for learning vocabulary completed with teachers' and students' books for learning guides. The researchers apply Research and Development with 20 students and five teachers as research participants randomly from two Senior High Schools. The instruments used tests, guiding interviews, guiding Observations, and questionnaire. The process data is collected by systematically searching and arranging the interview transcript, field notes, validation expert, and other materials you accumulate to support the data found. Then the researchers analyze data using triangulation data. The results of the first step prove that problem-solving abilities are shown; students need help remembering unfamiliar and mastering the meaning of foreign words. The result of the design and Development indicates that the Mobile Application was valid. The results of the product experiment prove that this form is appropriate to be applied to students in vocabulary upgrading and is claimed to be sourced in general. At the same time, the product test result shows that the essential has an important effect on students' vocabulary. The "Vocabulary App" media improves students' vocabulary.

Keywords: Mobile Application; Learning Vocabulary; Vocabulary Application (VocApp)

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1. INTRODUCTION

Along with other components like structure, pronunciation, and tone, vocabulary is one of the most critical aspects of teaching English. If a student's vocabulary is limited, he will be unable to clearly explain their thoughts and ideas, both orally and in writing (Janebi Enayat & Derakhshan, 2021; Sun & Dang, 2020; Wang, 2017). Similarly, limited talents will limit listening and reading capabilities. If language is the body, the form is the bone that creates the framework, whereas vocabulary or speech is the flesh that creates the bodily form (Harmer, 2001; Somdee & Suppasetseree, 2013). If a person's code skill meets the requirements, he or she can able to communicate in the target language. From the above

description, the inability of the highest school students to communicate in English is one factor due to a lack of vocabulary mastery. Many students need to improve in vocabulary, including in high school.

In the study of English, vocabulary is one part of the language that is very meaningful to be understood by students. Some experts put forward several vocabulary meanings (Aravind & Rajasekaran, 2018; Dhenabayu et al., 2018; Sari & Lestari, 2020). Additionally, vocabulary is a speech supply used by a person, category, or job (Dang, 2018; Ur, 1998). On the other hand, it was suggested that the meaning of an utterance could be recognized by the sign of the condition of using the utterance in the utterance (Sari et al., 2018; Utsumi, 2000). From the meaning above, it can be concluded that vocabulary is a file or speech record of a particular language, including single speech, multiple speeches, and idioms every language speaker can use. Vocabulary is the total number of words required to communicate concepts and the speaker's meaning. The meaning of the term "vocabulary recognition" is so explained (Boddaert et al., 2021; Goulden et al., 1990; McCarthy, 1984).

Many pupils, especially those in senior high school, need a more robust command of the terminology. This can be observed in the number of pupils who failed the English teacher's vocabulary test (Bancroft-Billings, 2020; Paul et al., 2018). This is attributable to a several causes. To begin with, the lecture material in English class is repetitive. Second, there need to be current media for learning vocabulary to help pupils improve their English skills. Finally, there is no use of digital media classroom activities. Students nowadays seek to learn how to use digital media by their generation (Ali & Anwar, 2021; Bromley, 2004; Sumardani et al., 2020). In light of this reality, it is critical and necessary to conduct a development study to create digital application based on Android that will assist students in improving their vocabulary mastery.

Only a few studies have provided compelling examples of mobile learning activities (Mardiana & Kuswanto, 2017; Sweeney & Moore, 2013). However, due to a potential information gap between app makers and language teachers, most of existing apps yet to prove particularly educationally beneficial. As a result, the student will find it challenging to maintain consecutive levels or grades. Not only that but students are discouraged from practicing English, leading them to believe it is a burden. Furthermore, the student may be dissatisfied with his or her academic performance. The teacher has to determine which group includes the words that the students need. This is a significant decision because it will influence the number of required training, and will influence the kind of training receptive or productive. Because vocabulary plays an incredible part in language learning, learners would confort language learning challenges if they have insufficient vocabulary knowledge (Banegas, 2012; Deris & Shukor, 2019).

Subsequently, utilizing apps in language learning aligns with the current educational drift. The researcher resumes that the teacher desires an answer to resolve the student issues by developing a mobile application supported for learning vocabulary (Suprianti & Jayanta, 2020; Wang, 2017). English learning based on Smartphone android application is visually curious learning can be visible, and learners can be associated with following all information within the application they select (Lutfiansyah, 2016; Sari & Lestari, 2020; Wijayanto & Hernawati, 2019). The name of the game is VocApp. VocApp could be an application for the whole category that supports students in analyzing their lexicon words. VocApp stands for Vocabulary Application. VocApp will give some benefits, such as helping the students analyze their lexicon throughout the class, enchanting the students' concern and complicity within the teaching and learning method, and learning the way to understand one another. Producing pleasing surroundings, facilitating students to correct and remember their lexicon, one thing that happened within the application, keeping in mind the language related to it. So the students can improve their vocabulary (Castillo-Cuesta, 2022; Sari et al., 2018).

Some previous study is the effects of wiki-based ICT-based learning on students' vocabulary mastery at the junior high school level were explored, and it was determined that using the media to teach junior high school students in Bandung might help them improve their vocabulary mastery (Agung Rinaldy Malik et al., 2020; Nugrahini, 2021). Studying vocabulary with Wiki is a great approach to give students an online option for vocabulary acquisition while creating engaging classroom activities. Previous research studied how bingo games influence student vocabulary mastery (Rahmasari, 2021). The Problem arose the students memorized the word through the dictionary and based on the worksheet book.

The researcher's goal is to develop an Android-based mobile application to increase vocabulary mastery. VocApp has given this app its name. Students must be able to accept terms on the board utilizing instructor direction in order to use the VocApp program. Students promise to be active and innovative in their word-finding in this application. The vocabulary information in VocApp is organized into 15 chapters that follow the Core Curriculum and Basic Curriculum (KI and KD). There are tools and exercises in each chapter to assess the learning process. There will be a student score at the end of the exercise. The application allows students to acquire vocabulary. Students can work on the offered exercises after reviewing the topic. Therefore this research aims to establish how is a suitable Mobile Application to develop students' vocabulary for ten graders in SMA Negeri 1 Kademangan.

2. METHODS

The research used Research and Development design. Research and Development aim to design and product based on the need (Laws et al., 2013; Richey & Klein, 2014). The research aims to use new products to teach student speech and improve learning outcomes on essential ten-grade competencies. Researchers utilized simple random sampling to choose 20 students and five teachers from SMAN 1 Kademangan and SMAN 1 Blitar as a research subjects. This research's Implementation steps or research procedure used the Sugiono model (Sugiono, 2016). The data analysis process of systematically searching and arranging the interview transcript, field notes, validation expert, and other accumulated materials to support the data found. The instruments used tests, guiding interview, guiding Observations, and questionnaire. The researcher employed the following tools to support this research while it was being conducted: tests, a guiding interviews, a guiding observation, a questionnaire, and field notes. The research instrument is shown in Table 1.

Table 1. Research Instruments

Data	Instruments	Content	Subject
Data Collection	Observation	The condition of the school Process of learning and teaching English ten grade students in SMA N 1 Kademangan. Media for learning English of ten grade students in SMA N 1Kademangan	SMA N 1 Kademangan. English vocabulary media for ten grade students.
	Interview	Opinion toward the existence of a mobile game for teaching vocabulary.	English teacher and the ten students of SMA N 1 Kademangan.
	Questionnaire	Students' perceptions of their English-language education	The ten grade students of SMA N 1 Kademangan.

To create the product, the researchers performed seven processes based on Sugiyono's framework: Finding potential issues and solutions, data collection, design, and development,

validation and revision by experts, product trial (experiment), expert evaluation and revision, and final manufacturing are the steps in the process. The following study framework and techniques describe how Sugiyono's framework has been modified, as shown in Figure 1.

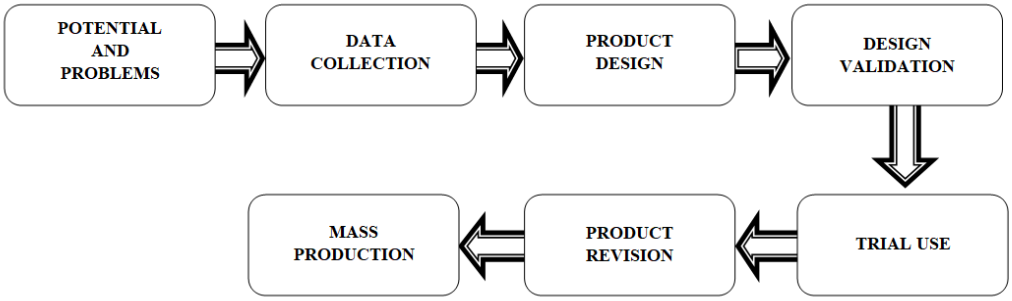

Figure 1. Research Framework

The researchers find the potential problems and solutions by doing observation. The Observation is done to get the learning problem that arises and the students' matter on English learning. After knowing the problem, the researcher was concerned about how to overcome the students' problem. Then the researchers analyze data using triangulation data. The researcher designed the product based on the data collected to suit to the learning needs. Before trying out the product, it should be validated by the validators. There were three media validators for the product. Then the researchers revise the product based on the validators' suggestions. Finally, the product is produced for limited use.

3. RESULTS AND DISCUSSION

Result

Product Design and Development

The model product and design were created based on a theory of vocabulary, theory of teaching vocabulary, theory of instructional design, theory of media, and theory of application. Upon the design, the researcher produced the validated hypothetical model first. It experienced improvement based on expert validation, as shown in Figure 2.

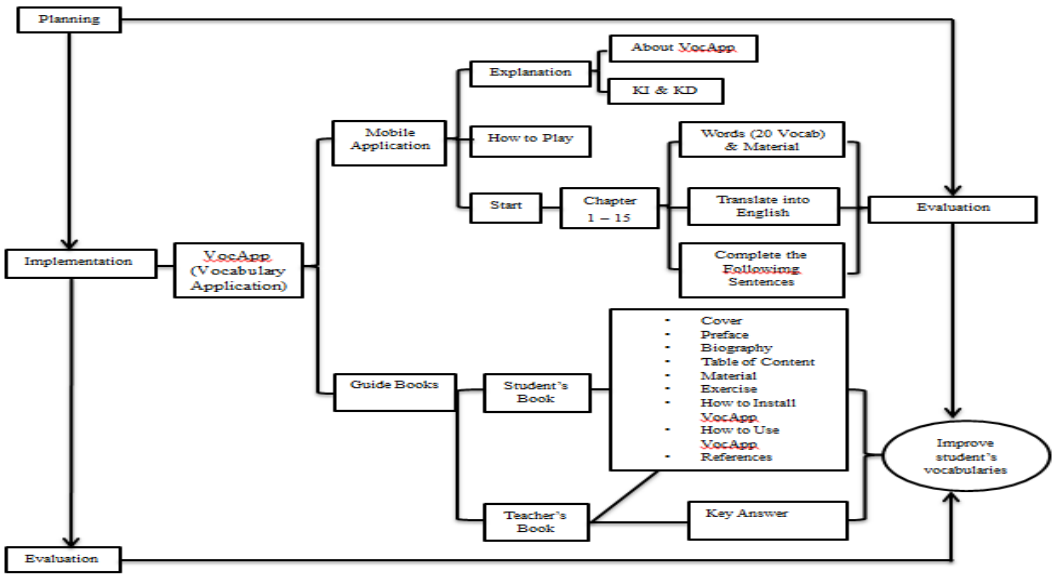

Figure 2. Product Design and Development

Product Development Result

Experts validate the product development results to decide the chance of the product before being used for product testing. This was declared valid by material experts (vocabulary) and media experts. The products developed are 1) VocApp. VocApp application that needs students' ability to receive the word on the board by using the teacher's guidance. In this application, the students are encouraged to be actively and creatively find words. Vocabulary lists are divided into small daily lessons every day to help students easily remember; 2) Material. The material contained in the guidebook is the definition of "Vocabulary" application, learning objectives, specification of a product, prototype product, how to access and use vocab, app teacher, materials of vocabulary, questions, key answers, and references; 3) Guide Book, this manual is designed to provide material and information on how to use vocabulary application media. Researchers designed three guidebooks, a student's guidebook, a teacher's guidebook, and a public guidebook. The font used is Times New Roman 12 pt. The validation results indicate that the product must revise suggestions and criticisms from the validator.

Experts in legalized material established the outcome to test the quality of value, coverage correctness, and language in learning media. The researcher asked for an evaluation of three specialists from the material experts. According to the evaluation, the module validator has a total score of 189, with an 84 percent success rate. With the evaluation criteria given in the extremely appropriate category, this figure is determined from of 80 percent to 100 percent. As a result, the form field's Vocabulary Application and the presentation section are deemed suitable. The module validator also provides input and ideas to correct the created media. The results in critical and suggestion by an expert of English material is shown in Table 2.

Table 2. Results of Critical and Suggestions by an Expert of English Material

Respondent		Suggestion
The Expert of Content English Material	First expert	Improvements in the selection of answers for each question add a distractor.
	Second expert	Complete the instructions, and increase the difficulty of the questions.
	Third expert	Additional types of questions are required so as not to be monotonous.

The results of the validation of the media expert to the upgrading media expert were tried to test the quality of the content, the positioning rules of the media shape, creativity, and presentation of the application of the learning upgrading media. The media expert researcher asked for evaluations from 3 experts. According to the study, the media validator has a total score of 326 and an accuracy rate of 86,9%. The grading criteria stated in the highly appropriate category place this number in the 80 to 100% range. Consequently, it is claimed that the Vocabulary Application media from the field of form and presentation is particularly suitable. Input and comments from the media validator are also provided, and these serve as the foundation for editing the created material. The addition of time at each level has been done, and the cover justification that previously did not explain the contents of the application has also been fixed. The results of critical and suggestion by an expert in English media is shown in Table 3.

Table 3. Results of Critical and Suggestions by an Expert in English Media

Respondent		Suggestion
The Expert of Content English Material	First expert	Add time to answer questions at each exercise.
	Second expert	Make the cover shows the contents of the book.
	Third expert	Add time to answer questions and the audio.

Implementation

Create a cover for VocApp and the initial layout. After it was revised, this is the main menu. The how-to-play button has been added to this layout to make it easier for users to utilize the VocApp software. The main menu before revision and after revision is shown in Figure 3.

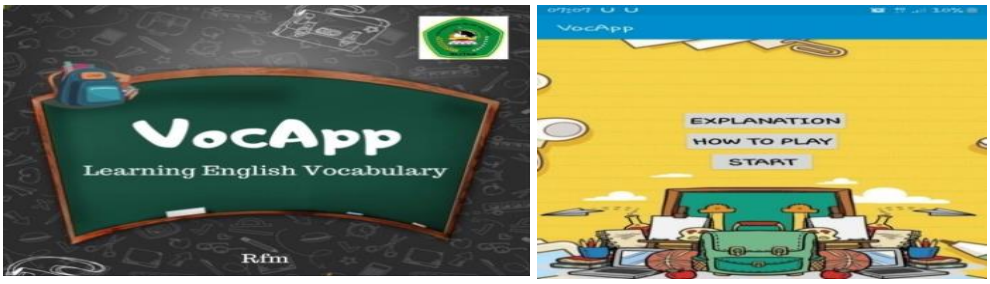

Figure 3. Main Menu

This is the main menu before revision. The clarity of the instruction is still need to be improved. In this layout, the instructions are still need to be clarified, so there needs to be an improvement. This is the main menu after it was revised. This layout has added how a play button to make it easier for users to run the VocApp application. Layout explanation and how to play The Explanation page explains the VocApp application and its purpose, while the How to Play page explains how to utilize VocApp. In this application, the students are encouraged to actively and creatively find words. Vocabulary lists are divided into small daily lessons to help students easily remember. After each lesson, there will be a practice that defines the vocabulary and helps students to remember new words longer. This manual is designed to provide material and information on how to use Vocabulary Application Media. Researchers designed three guidebooks, a student's guidebook,a teacher's guidebook, and a general guidebook. The font used is Times New Roman 12 pt. The appearance of the layout explanation is shown in Figure 4. The Chapter page lists around 15 chapters, themes, and content for each chapter. The Chapter page lists are shown in Figure 5.

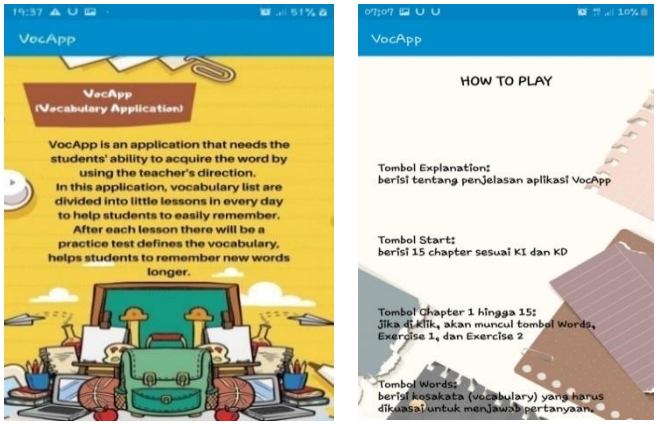

Figure 4. Layout Explanation

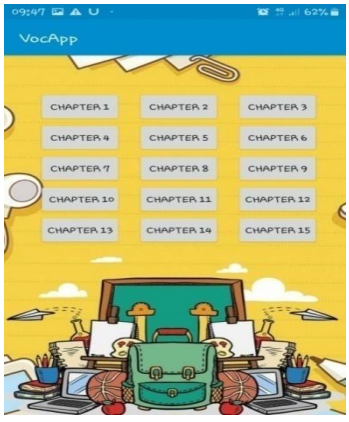

Figure 5. Chapter Page List

Base on Figure 5, the manual is designed to provide material and information on how to use Vocabulary Application Media. Researchers designed three guidebooks, a student's guidebook, a teacher's guidebook, and a general guidebook. The font used is Times New Roman 12 pt. Each chapter has Words and Exercise buttons with 20 vocabulary words and questions, as shown in Figure 6.

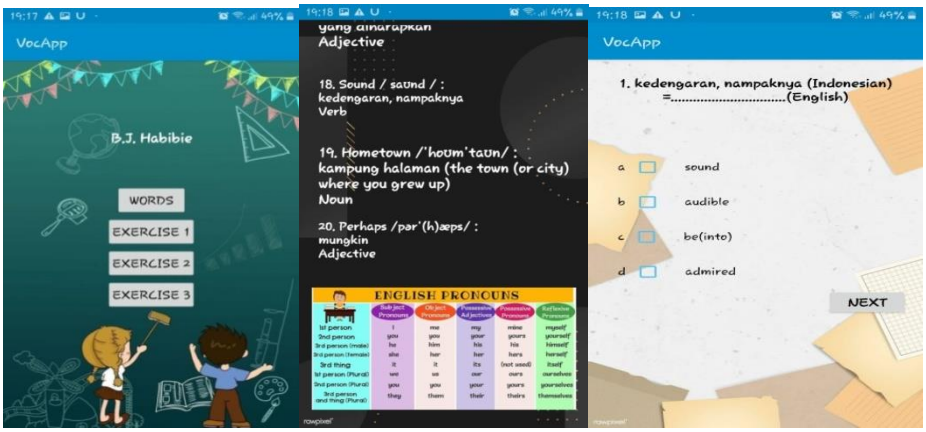

Figure 6. Words and Exercise Buttons

Based on Figure 6, the material in the guidebook is the definition of "Vocabulary" application, learning objectives, product specification, prototype product, how to access and use vocab, app teacher, vocabulary materials, questions, key answers, and references. Based on the research finding clarified by the study above and the research problems, there could be shown as follows. The development process of VocApp as a learning media through several stages, as follows: (1) Analyzing potential and Problem, (2) Data Collection, (3) Product Design, (4) Students and Teacher Response, (5) Product Revision, (6) Product Validation, (7) Product Revision, (8) Final Product. The development of the VocApp was used to teach tenth-grade vocabulary. The manufacturing process was carried out in stages and to produce learning media that was suitable for use in vocabulary learning, a series of validation processes were carried out with media experts, material experts, and teachers' and students' responses.

The results of the validation of material experts showed that VocApp to improve the tenth-grade students' vocabularies was very good to use. With a percentage 84 and the value included 80%-100%, the category score is "Very Good" this material is suitable for use. The result of the validation of media experts showed that VocApp was quite effective in improving the vocabularies of tenth-grade students. With an overall score of 86.9%, a value range of 80 percent to 100 percent, and "Very Good" category grade, this material is appropriate for vocabulary study. Aside from the fact that the product is built on Android, which most students are familiar with, it also includes a various of features to ensure that students are energized while learning vocabulary.

Discussions

The development process of VocApp as a learning media through several stages, as follows: (1) Analyzing potential and Problem, (2) Data Collection, (3) Product Design, (4) Students and Teacher Response, (5) Product Revision, (6) Product Validation, (7) Product Revision, (8) Final Product. The Development of the VocApp was used to teach tenth-grade vocabulary. The manufacturing process was carried out in stages. To produce learning media suitable for vocabulary learning, a series of validation processes were carried out with media experts, material experts, and teachers' and students' responses. All series are intended to

obtain data that is carried out revisions or improvements to achieve proper and valid learning media for the user.

The results of material experts' validation demonstrated that VocApp was quite effective in improving the vocabularies of tenth-grade students. The content has been tailored to the needs of tenth-grade pupils and is based on curriculum competency. It was in line with previous studies research that VocApp was recommended to help English learn vocabulary (Silva, 2020). The result of the validation of media experts showed that VocApp, to improve the tenth-grade students' vocabularies, was woodcarver to use. With a percentage of 86,9%, the category score is "Very Good" this medium is suitable to be used as a media for learning vocabulary. Besides, the product itself is based on Android, which the students are very familiar with; this product also contains various features for students not be bored learning vocabulary.

The researcher concluded that the research novelty advantages of VocApp as a learning media might improve tenth-grade students based on the findings of the assessment of material experts, media, and students: 1) Learning media makes it simple for students to acquire vocabulary; 2) Learning media can help students enhance their vocabulary knowledge; and 3) Learning media combined with an application engages students in the learning process and eliminates monotony. The development of VocApp is not entirely capable of running effectively due to various constraints. The limitations in the study of the production of instructional media include that the learning media generated by the researcher is still straightforward and requires additional review to cover tenth-grade information (W. Setyawan et al., 2018; W. H. Setyawan et al., 2019).

The study's results discuss the theme of using VocApp, which is framed in teaching and learning (Rodrigues, 2020). The presents a series of lessons learned during the internship, problems, and solutions. This finding was in line with the findings of a research novelty that recommends the VocApp application as a medium to enrich students' vocabulary. The VocApp is appropriate android-based media for students to learn and improve their vocabulary. Even though the Bingo game can help students learn vocabulary, VocApp is more attractive to be practiced for students learning vocabulary. The application has several features, so students will be energized learning it. Future research suggested applying the VocApp android-based game in the teaching and learning process to know the students' perception of using the VocApp in vocabulary class.

The product has a considerable impact on the student's vocabulary progress. The outcome of this study is likely beneficial to pupils in terms of vocabulary learning. They not only improve their vocabulary, but also their learning environment because the learning process is technologically advanced. There are several limitations this study. One of them is in the scope of research. In this case, the research subject could be more extensive. This study only involved students in two schools, SMAN 1 Kademangan and SMAN 1 Blitar. It is hoped that future research will deepen the scope of research related to the use of android-based mobile applications for learning English skills.

4. CONCLUSION

This finding corresponded to the novelty findings suggesting that VocApp software is a way to improve pupils' vocabulary. Having more vocabularies lead the students easy to speak and write. The researchers presented a mobile application, namely VocApp. VocApp will help students analyze their lexicon, enchant the students' concerns, update the teaching and learning method, produce pleasing surroundings, facilitate students to correct and remember their lexicon and keep in mind the language related with it. The researcher determined that the "Mobile Application VocApp based on Android for Learning Vocabulary

for Grade Ten" was a potential model and suited for learning vocabulary based on the the investigation findings. The model implementation processes were broken down into six steps.

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