Development of Interactive Multimedia for Arabic Vocabulary Learning through Android Applications

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Abstract: This study aims to develop Android-based interactive multimedia in learning Arabic vocabulary so that students can use it as an independent learning resource that can be accessed anytime and anywhere and can be used by teachers to deliver Arabic vocabulary material effectively and efficiently. This research uses research and development methods, with ADDIE development model. The result of this research is to produce Android-based Arabic vocabulary learning media products developed with construct 2 software containing Arabic language learning for classes V MIN 2 South Lampung and V MI Ma’arif Nu South Lampung. To test the feasibility of Android-based interactive multimedia by validating products made to a team of experts and obtained an average percentage score of 80.56% by media experts, 83.89% by material experts. Then the product attractiveness test was assessed by students and obtained an assessment of 90.72% with the criteria of "very feasible". So the update that researchers made with previous researchers is a product packaged in the form of an Android-based interactive multimedia application in learning Arabic vocabulary so that students can learn it anywhere and anytime, both independently and in class.

INTRODUCTION

Learning Arabic for students is one of the foreign languages that is difficult to learn.¹ The difficulty that hinders students in the learning process is the difference in phonology or sound, writing system, word form, and sentence

structure. With these obstacles, students assume that Arabic is a complicated subject to learn.

Each language has different characteristics and levels of difficulty and ease. Desires, talents, and motivations from within students include internal factors or factors from within students and external factors such as an educator, curriculum, syllabus, teaching materials, and learning models, namely strategies, media, and evaluation. Factors that affect the process and results of teaching and learning interactions are teacher factors as learning subjects and student factors as learning objects. Teacher and student factors with various cognitive, affective, and psychomotor potentials that are owned it is impossible for the teaching and learning interaction process in class or elsewhere to take place properly.

Therefore, to help students learn Arabic, a large vocabulary is needed because Arabic vocabulary is an important thing in communicating and is a requirement that must be mastered in learning Arabic; besides that, it can also help students in writing, speaking, and communication in Arabic. Arabic vocabulary is an element of the language that must be possessed by Arabic learners. Vocabulary is also one of the elements of language that must be mastered by foreign language learners to be able to acquire communication skills with the language.

So, as an educator, it would be nice to be able to take advantage of technological and scientific developments in making interesting and fun learning.
media to aim to help educators and students in the teaching and learning process.\textsuperscript{9} With the existence of interesting media for students, it is expected to be a motivation for students to learn Arabic, and the results will increase.\textsuperscript{10} The selection of media as teaching material, of course, greatly influences students in the process of learning Arabic. Choosing the right media will be very helpful in delivering material during the teaching and learning process.\textsuperscript{11}

Learning media are materials, tools, and methods/techniques used in teaching and learning activities.\textsuperscript{12} Rowntree suggests six benefits of media: generating learning motivation, repeating what has been learned, providing learning stimulus, activating student responses, providing immediate feedback, and promoting harmonious practice along with the development of information technology, Arabic language learning as national learning is required for continuous renewal both in methodology, the development of teaching materials, the improvement of facilities and infrastructure which includes the development of learning media and also the improvement of the quality of human resources as creative, innovative, and highly competitive (competitive) educators.\textsuperscript{13}

As stated in Government Regulation Number 19 of 2005, the principle of curriculum implementation is implemented using a multistrategy and multimedia approach, adequate learning resources and technology, and utilizing the surrounding environment as a learning resource.\textsuperscript{14} Language learning, which is the main goal, is the mastery of language skills. Language proficiency refers to

\begin{itemize}
  \item \textsuperscript{9} Gufron Amirullah et al., “Pengembangan Mobile Learning Bagi Pembelajaran,” n.d., 97–102.
  \item \textsuperscript{10} Jurnal Kolaboratif Sains, “Meningkatkan Pembelajaran Bahasa Arab Siswa Melalui Media Audio Visual Dalam Manajemen Pendidikan Islam Tinjauan (Studi Di Madrasah Aliyah Negeri 2 Kota Palu)” 05 (2022): 466–80.
  \item \textsuperscript{12} Taruna Iswara dan Rosnelli, “Pengembangan Media Pembelajaran Berbasis Multimedia Pada Mata Pelajaran Instalasi Penerangan Listrik,” n.d.
  \item \textsuperscript{13} Muhandis Azzuhri, “Metode Dan Media Pembelajaran Bahasa Arab Berbasis Internet Di Era Teknologi Informasi” Vol. 14 No (2009).
  \item \textsuperscript{14} Farida Hasan Rahmaibu, “Pengembangan Media Pembelajaran Berbasis Multimedia Dengan Menggunakan Adobe Flash Untuk Meningkatkan Hasil Belajar PKn Studi Kasus SDI Al Madina Semarang,” 2016.
\end{itemize}
abilities related to the use of language in real communication.\textsuperscript{15} Related to this, Carpenter and Dale expressed how important learning media is in the learning process of students.\textsuperscript{16} Researchers believe that Android can be developed into a learning medium and can increase student motivation, considering the subject matter and Arabic language skills.

According to Heinich, learning media can be said to be effective and efficient if the media can become 1) a means for students to have the required skills, 2) a means that stimulates students to expand knowledge and also the abilities or skills learned; 3) tools that help students to remember the subject matter that has been given (retention); and 4) how students can apply abilities under appropriate conditions.\textsuperscript{17} So one of the innovations that educators can do is to use media that can improve students' mastery of Arabic vocabulary by using Android-based Arabic learning media for grade V MIN 2 South Lampung and V MI Ma'arif Nu South Lampung students because interactive multimedia based on Android Arabic language learning can be presented more interesting and thorough with material displayed in a combination of several media elements such as (audio, video, graphics, text, animation, etc.). Android is also an operating system for mobile phones based on Linux (a free operating system that can be used by anyone without having to buy).\textsuperscript{18}

According to Firdan, one of the considerations in developing mobile phones into interactive multimedia is operation-based use. The operating system adopted by mobile phones has the advantages of being based on Android.\textsuperscript{19} Android has several advantages such as 1) Completeness, Android provides many tools that can be used in building software, and the level of security has also been tested, 2) Open, as one of the platforms that provides open source licenses, this Android

\textsuperscript{16} Ina Mangdalena, Alif FatakhatuShodikoh, and Anis Rachma Pebrianti, “Pentingnya Media Pembelajaran Untuk Meningkatkan Minat Belajar Siswa Sdn Meruya Selatan 06 Pagi,”\textsuperscript{17} Andi Kristanto, “Media Pembelajaran,” Bintang Sutabaya, 2016, 1–129.
\textsuperscript{19} Firdan Ardiansyah, “Firdan Ardiansyah, Loc. Cit. h. 1.,” n.d.
OS can be developed and used by anyone, and 3) Free, the nature of Android OS allows users to develop systems that are made free or no royalties to be paid.20

Previous research Bintan Taskurina Hardiningtyas, with the title of interactive multimedia development "vocabulary" in Arabic language learning grade 3 SDI Miftahul Ulum Kediri.21 The learning media used is interactive multimedia that designs an interactive Arabic vocabulary learning media that helps students master Arabic vocabulary. Selvi Dwi Hartiyani and Anik Ghufron, with the title of development and feasibility of Android-based multimedia for Arabic language learning at Islamic Boarding School Bina Umat.22 Android-based application products are declared suitable for use based on the assessment of media experts and material experts with scores of 4.23 (very high) and 4.59 (very high), and material experts 4.44 (very high), so that the product can be declared feasible in Arabic language learning. Ramlah Basyir, Moch Kautsar Sophan, Rika Yunitarini, with the title of designing an Android application for learning Arabic vocabulary learning media using the ADDIE approach model.23 The approach model in the media creation process is ADDIE; the display of this vocabulary application can appear perfectly on Android devices with a resolution of 480 x 800 pixels.

This Android-based interactive multimedia has been developed by many previous researchers. However, so far there has been no Android-based interactive multimedia developed specifically for Arabic vocabulary. Then the author will create an interactive multimedia application that focuses on the Android base in learning Arabic vocabulary class V MI. To facilitate students so that their learning outcomes increase, researchers are interested in developing


Android-based Arabic language learning. Because of this learning media, students can learn independently, anytime and anywhere with more time, not necessarily in class, not boring in understanding, and learning it so that it makes it easier for students to learn. Media will be created using the ADDIE development model (analysis, design, development, implementation, evaluation), which is a model that represents stages systematically (orderly) and systemically in use aimed at achieving the desired results.\(^\text{24}\)

**METHOD**

The type of research used is the type of Research and Development (R&d) method. With the development model developed by ADDIE, which includes stages (analysis, design, development, implementation, and evaluation), the process stages in the ADDIE model are related to each other.\(^\text{25}\)

![ADDIE Model Stages](image)

**Picture 1. ADDIE Model Stages**

In phase 1, analysis. The purpose of the analysis stage is to find out the initial needs in developing this learning media. In developing this media, needs analysis is needed, namely: (1) User Needs Analysis, (2) Content or Content Analysis, and (3) Hardware and Software Needs Analysis. Phase 2, design. This stage is carried out to design the expected Arabic learning media and appropriate testing methods. At this stage, a suitable program is designed to be developed to create an Android-based Arabic learning media that will be developed according to the results of the analysis carried out in the previous stage. In phase 3, development


is the activity of making and testing products; at this stage, researchers continue to make media based on storyboards and designs that have been made. In Phase 4, implementation is a step of activities carried out with planning and refers to certain rules to achieve the objectives of a learning system activity. In phase 5, evaluation aims to determine the quality of the results of product trials. Both before and after implementation. Data regarding product quality is obtained from the results of analysis of assessment instruments filled in by validators. Data analysis of validation instruments to see the feasibility of learning media developed based on the Likert scale. The data analysis used in this study is a descriptive analysis with the following steps:

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>SB (Excellent)</td>
<td>5</td>
</tr>
<tr>
<td>B (Good)</td>
<td>4</td>
</tr>
<tr>
<td>C (Sufficient)</td>
<td>3</td>
</tr>
<tr>
<td>K (Less)</td>
<td>2</td>
</tr>
<tr>
<td>SK (Very Less)</td>
<td>1</td>
</tr>
</tbody>
</table>

Calculate the feasibility percentage of each aspect using the formula:

$$P = \frac{\sum x}{SMI} \times 100\%$$

Information:

P : Present

$\sum x$ : Number of Scores

SMI : Ideal Maximum Score.\(^{26}\)

Convert the average score obtained into a qualitative score that matches the assessment criteria.

\(^{26}\) Ketut Pudjawan, I Made Tegeh, I Nyoman Jampel, “Model Penelitian Pengembangan” (Graha Ilmu, 2014), h.82.
RESULTS AND DISCUSSION

Development of Android-based Arabic vocabulary learning media. This product is packaged in the form of an Android-based application, using several stages of ADDIE development. The stages of ADDIE development include five stages, namely analysis, design, development, implementation, and evaluation. The stage of this research is analysis. At this stage, there are two stages, namely, Needs Assessment and Front-end Analysis. a) Needs Assessment.

At this stage, researchers conduct a needs analysis to obtain information related to learning media in accordance with what students need. Based on interviews with Arabic teachers of class V MIN 2 South Lampung and V MI Ma’arif Nu South Lampung, information was obtained that Arabic subjects, especially Arabic vocabulary material, in the learning process, educators still use learning media that are fairly classic, namely using printed books, and blackboards. With these media, it is still seen that students are less enthusiastic or not active in learning Arabic vocabulary, thus the occurrence of students less interested in learning Arabic. Especially Arabic vocabulary material. With this, students need a novelty in learning Arabic so as not to be bored and interested in learning Arabic.

The results of the observation also show that the majority of students have Android, but it is not used as a learning media tool during the teaching and learning process; students only use package books and have not used Android as a learning media facility, even though modern technology such as Android can have a positive impact if used and utilized in good and positive ways, especially for education.

<table>
<thead>
<tr>
<th>Average</th>
<th>Validation Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%–20%</td>
<td>Very Less Feasible</td>
</tr>
<tr>
<td>21%–40%</td>
<td>Less Decent</td>
</tr>
<tr>
<td>41%–60%</td>
<td>Pretty Decent</td>
</tr>
<tr>
<td>61%–80%</td>
<td>Proper</td>
</tr>
<tr>
<td>81%–100%</td>
<td>Very Worth It</td>
</tr>
</tbody>
</table>

27 Robert Maribe Branch, “Instructional Design the ADDIE Approach.”
At the design stage, it is necessary to develop teaching media for Arabic vocabulary subjects on an Android basis whose source material comes from printed books and Arabic dictionaries about Arabic vocabulary material learning for grade V MIN 2 South Lampung and V MI Ma'arif NU South Lampung students, and packaged more attractively and equipped with pictures, audio, text, animation, and evaluation as a means of supporting learning. This learning media contains Arabic vocabulary material composed of 3 chapters, namely: 1) limb vocabulary, 2) profession vocabulary, and 3) zoo vocabulary.

Picture 2. Chapter view and material display

The display of material on this learning media is equipped with attractive images, voice text, and colors so that students are expected to make it easier for students to memorize and master Arabic vocabulary, and there are evaluation questions provided, such as the image media below.

Picture 3. Evaluation display on learning media
To see the feasibility of learning Arabic vocabulary media through this Android application, researchers involved material validators and media validators. Material expert validation in this research was carried out by 2 validators, namely lecturers of the Faculty of Tarbiyah and teacher training UIN Raden Intan Lampung. The following is a table of individual test evaluations by learning material experts.

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>The Number of Each Aspect</th>
<th>Max Score</th>
<th>%</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Clarity of learning objectives</td>
<td>16</td>
<td>20</td>
<td>80</td>
<td>Proper</td>
</tr>
<tr>
<td>2.</td>
<td>Relevance of the material</td>
<td>87</td>
<td>100</td>
<td>87</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>3.</td>
<td>Evaluation/practice questions</td>
<td>48</td>
<td>60</td>
<td>80</td>
<td>Proper</td>
</tr>
<tr>
<td>Sum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score</td>
<td>151</td>
<td>180</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum Present</td>
<td></td>
<td>83,89</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Criterion</td>
<td></td>
<td>Very Worth It</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to material experts, Android-based multimedia products in Arabic vocabulary learning developed after improvement are good/feasible to be applied or used in learning. a) The material made has been systematically in accordance with core competencies, basic competencies, and indicators of competency achievement, which previously there were several revisions. b) Some of the images used to clarify the material have been improved to be clearer and more precise. c) Some vocabulary was replaced well, clearly, and precisely; in essence, writing and font used traditional Arabic, which previously used Time New Roman.

Furthermore, validation by media experts in this study was carried out by two validators, namely Ahmad Nur Mizan, S. Hum., M. A. and Dr. H. Agus Jatmiko, M. Pd, a lecturer at the Faculty of Tarbiyah and Teacher Training UIN Raden Intan Lampung. Evaluation of individual tests by media experts along with a table of individual test evaluation results by media experts.
According to media experts, multimedia developed after improvement is good/feasible to be applied in learning. a) The initial multimedia display has been improved according to the advice of media experts by improving the color of the initial display cover that is more attractive and clearly visible. b) The font color for the material was changed to black which was previously blue. c) The font was changed to traditional Arabic, which was previously Times New Roman.

Then, the students' response to Android-based Arabic vocabulary learning media. The first step in taking data from this student questionnaire began with a small-scale test and continued with a large-scale test to further explore the results of product attractiveness and feasibility.

Small-Scale Product Trials

The following are the results of small-scale product trials obtained based on the results of student response sheets totaling 20 students, taken from 10 students of grade V MIN 2 South Lampung and ten students of grade V MI Ma'arif NU South Lampung, giving responses that Android-based interactive multimedia is very interesting and suitable for use in the learning process, with revisions, to add pictures in clarifying the content of the material. The results of the student assessment can be seen in the following table:

<table>
<thead>
<tr>
<th>No</th>
<th>Student Code</th>
<th>Number of Aspect Assessments</th>
<th>Present</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R1</td>
<td>51</td>
<td>72,9</td>
<td>Proper</td>
</tr>
<tr>
<td>2</td>
<td>R2</td>
<td>62</td>
<td>88,6</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>3</td>
<td>R3</td>
<td>58</td>
<td>82,9</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>4</td>
<td>R4</td>
<td>66</td>
<td>94,3</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>5</td>
<td>R5</td>
<td>59</td>
<td>84,3</td>
<td>Very Worth It</td>
</tr>
</tbody>
</table>
Based on the recapitulation results of the student response questionnaire results in the table above, it can be concluded that the overall results of small-scale trials taken by ten respondents from class V MIN 2 South Lampung and ten respondents from class V MI Ma'arif NU South Lampung for product trials, obtained a percentage result of 85.78% with the criteria of "very feasible". That way, the products developed by researchers are able or feasible to be used as a support for the learning process in learning Arabic vocabulary in class V MIN 2 South Lampung and class V MI Ma'arif NU South Lampung.

### Large-Scale Product Trials

Based on the results of student response sheets totaling 44 students, 23 students from class V MIN 2 South Lampung and 21 students from class V MI Ma'arif NU South Lampung, gave responses that Android-based interactive multimedia is very interesting and suitable for use in the learning process, with revisions, to add pictures in clarifying the content of the material. The results of the student assessment can be seen in the following table:

<table>
<thead>
<tr>
<th>No</th>
<th>Student Code</th>
<th>Number of Aspect Assessments</th>
<th>Present</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>R1</td>
<td>66</td>
<td>94,29</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>2.</td>
<td>R2</td>
<td>66</td>
<td>94,29</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>3.</td>
<td>R3</td>
<td>62</td>
<td>88,57</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>4.</td>
<td>R4</td>
<td>70</td>
<td>100</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>5.</td>
<td>R5</td>
<td>62</td>
<td>88,57</td>
<td>Very Worth It</td>
</tr>
<tr>
<td>6.</td>
<td>R6</td>
<td>65</td>
<td>92,86</td>
<td>Very Worth It</td>
</tr>
</tbody>
</table>
Based on the recapitulation results of the student response questionnaire results in the table above, it can be concluded that the overall results of large-scale trials taken by 23 respondents from class V MIN 2 South Lampung and 21 respondents from class V MI Ma’arif NU South Lampung for product trials, obtained a percentage result of 90.72% with the criteria of "very feasible". That way, the products developed by researchers are able or feasible to be used as a
support for the learning process in learning Arabic vocabulary in class V MIN 2 South Lampung and class V MI Ma'arif NU South Lampung.

So, the update that the researchers did with previous researchers is a product that is packaged in the form of an Android-based interactive multimedia application in learning Arabic vocabulary so that students can learn it anywhere and anytime, both independently and in the classroom. Next explain vocabulary material that is poorly understood by students. As for if students want to repeat learning at home or anywhere, students can see Arabic vocabulary explanation material in each Android and learn to solve vocabulary matching questions with appropriate images and multiple choice that have been presented in the Android-based interactive multimedia.

CONCLUSION

Based on the results of research on the development of Android-based interactive multimedia in learning Arabic vocabulary carried out, it can be concluded that for the feasibility of Android-based interactive multimedia. Based on the assessment by the expert team, obtained a percentage score of 80.56% by media experts, 83.89% by material experts. Android-based interactive multimedia in learning Arabic vocabulary is suitable for use as a learning medium. With a recapitulation of student response questionnaires on a small scale, a percentage result of 85.78% was obtained with the criteria of "very feasible", on a large scale a percentage result of 90.72% was obtained with the criteria of "very feasible". The researcher suggested to the next researcher that Android-based interactive multimedia in learning Arabic vocabulary can be used by students as an independent learning resource that can be accessed anytime and anywhere and can be used by teachers to deliver Arabic vocabulary material effectively and efficiently.
REFERENCE


Firdan Ardiansyah. “Firdan Ardiansyah, Loc. Cit. h. 1.,” n.d.


Nafi’ah, Khotimatun, and Abdul Latif. “Methods Innovation, Media and


