Wordwall Application as a Media to Improve Arabic Vocabulary Mastery of Junior High School Students

Abdul Aziz Fakhruddin
Universitas Muhammadiyah Malang
azizfakhruddin01@gmail.com

Mochammad Firdaus
Universitas Muhammadiyah Malang
firdaus@umm.ac.id

Lailatul Mauludiyah
Universitas Muhammadiyah Malang
elimauludiyah@umm.ac.id

Abstract

This study used wordwall application as a learning medium based on educational games. This study aims to determine the effectiveness of the wordwall application in increasing the mastery of Arabic vocabulary. This research used a quantitative approach with the research subjects of class VIII. The type of research is quantitative associative which aims to determine the effect or relationship between two or more variables. The data collection methods were interviews, questionnaires, tests, and documentation. The data analysis used a comparative analysis by comparing the pretest and posttest values (related sample t-test). This study revealed the following: (1) Media creation was done by logging into wordwall.net in order to be able to choose the desired shape according to certain needs. (2) There was a significant difference in terms of the pretest score which is smaller than the posttest score (45.63 < 77.50), (3) there was a difference in the average pretest and posttest outcomes with sig value of 0.000 (<0.05). (4) The percentage of N-Gain was 56.6%, which was categorized as quite effective. Based on the data analysis, it was concluded that the wordwall application was quite effective in increasing the mastery of Arabic vocabulary (Students mastered 25 vocabularies for each theme and according to government standards). Furthermore, the wordwall application could increase the fun, interest, enthusiasm and motivation of students in learning Arabic vocabulary.

Keywords: Wordwall application; Arabic vocabulary; media
Abstrak

Media pembelajaran merupakan kebutuhan program belajar yang digunakan untuk mencapai tujuan pembelajaran. Penelitian ini memanfaatkan aplikasi wordwall sebagai media pembelajaran berbasis game edukasi. Penelitian ini bertujuan untuk mengetahui efektivitas aplikasi wordwall dalam meningkatkan penguasaan kosakata bahasa Arab. Penelitian ini menggunakan pendekatan kuantitatif dengan subyek penelitian siswa kelas VIII dengan jenis penelitian kuantitatif asosiatif yang bertujuan untuk mengetahui pengaruh ataupun hubungan antara dua variabel atau lebih. Metode pengumpulan data dilakukan melalui wawancara, angket, tes dan dokumentasi. Analisis data yang disajikan dalam penelitian ini menggunakan bentuk analisis komparatif dengan membandingkan nilai pretest dan posttest (Uji t sampel berhubungan). Hasil dari penelitian ini adalah (1) pembuatan media dengan masuk ke wordwall.net dan membuat bentuk yang diinginkan dan sesuai kebutuhan (2) terdapat perbedaan yang cukup signifikan dari nilai pretest yang lebih kecil dibandingkan nilai posttest 45,63 < 77,50, (2) terdapat perbedaan rata-rata hasil belajar pretest dan posttest dengan nilai sig sebesar 0,000 lebih kecil dari 0,05 (0,000 < 0,05), (3) Prosentase N-Gain menunjukkan angka 56,6% dengan kategori cukup efektif. Berdasarkan analisa data yang dilakukan, diperoleh kesimpulan bahwa aplikasi wordwall cukup efektif dalam meningkatkan penguasaan kosakata bahasa Arab (siswa mampu menguasai lebih dari 25 kosakata setiap tema sesuai dengan standar pemerintah). Selain itu, aplikasi wordwall dapat meningkatkan kesenangan, ketertarikan serta semangat dan motivasi siswa dalam pembelajaran kosakata bahasa Arab.

Kata Kunci : Aplikasi Wordwall; kosakata bahasa Arab; media

Introduction

A language is a communication tool used to meet one's needs. Wicaksono stated that language is the ability of humans to communicate with other humans. Someone who is learning a language will not be separated from a vocabulary that will fulfill the perfection of language. Vocabulary is of very importance when communicating. With the mastery of vocabulary, the learning objectives will be easily achieved.

The thing that needs to be considered to master language skills is vocabulary mastery. Vocabulary is the main element in language that must be mastered by students to gain proficiency when communicating with the language. Several factors affect vocabulary mastery such as objectives, materials,
evaluation tools, approaches, processing methods or techniques, and finding sources and learning media.

As time goes by, technology is currently developing more rapidly both in the field of education and in other fields. Technology becomes a facility in learning activities in the form of media as an important element in learning, especially in learning Arabic. Learning media is an unavoidable need to fulfill student learning programs so that the expected goals can be achieved. In learning Arabic today, many students think that Arabic is a language that is less popular and difficult to understand. Not a few students are lacking in mastering Arabic vocabulary, so educators must be more creative in developing learning to improve Arabic vocabulary mastery easily and in a fun way.

The results of interviews with the Arabic language teacher for class VIII MTs Muhammadiyah 2 Al-Munawwaro Malang, East Java, Indonesia, demonstrated that the weakness of Arabic learning was central to mastering Arabic vocabulary. One of the factors that cause the lack of Arabic vocabulary mastery is the absence of learning media that supports the learning process. The teaching and learning activities used have not been able to increase the enthusiasm and motivation of students in the learning process. Meanwhile, in learning Arabic, it is necessary to have interesting learning media so that it can increase the enthusiasm and motivation of students when learning Arabic.

This problem also occurs in several other schools, and the solutions that have been done are with flashcard media¹, media gambar diam², picture-word cards media³, interactive games⁴, singing methods⁵, vocabulary lists⁶, and snakes

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and ladders games. The seven studies have similarities in the results that the applied learning media can improve Arabic vocabulary mastery. However, the solution used is still using the classic model so that it has not utilized technology that is in line with the times. Hence, this research focuses on the use of IT-based learning media that utilizes the wordwall application. This application was once used by Putri in her research which was applied to mathematics subjects. Therefore, in this study, we tried to apply the wordwall application-based learning media in Arabic lessons. So there is no doubt that educational games can support the learning process.

The uniqueness of the wordwall can increase the creativity of teachers in making learning models and increase the fun in the teaching and learning process. The professionalism of a teacher can be seen from creativity when determining the learning media to be used. Based on the description above, this study offers a solution to overcome the problems faced by providing Arabic vocabulary learning using wordwall educational game media in the hope of increasing Arabic vocabulary mastery. The purpose of this study is to describe how to use the wordwall application and measure its effectiveness as a medium to improve the Arabic vocabulary mastery of Madrasah Tsanawitah (MTs) students.

This study used a quantitative research approach with the type of associative research. This study conducted interviews, tests, questionnaires, and documentation as the data collection methods. Interviews with the Arabic teacher of class VIII MTs Muhammadiyah 2 Al-Munawwarah, as an informant, were conducted to find out information needed. The test was conducted to determine students' mastery after using the wordwall application and to obtain data on the effectiveness of the wordwall application to increase mastery of Arabic vocabulary. The questionnaire in this study was to determine students' interest in the wordwall application, the implementation of learning using the wordwall application, the display quality of the wordwall application media, and the effect of the wordwall application on students. Meanwhile, documentation

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was used to complement and strengthen the data that had been collected. The data were analyzed by comparing the t-test and N-Gain effectiveness test.

Result and Discussion

The Wordwall application is an interesting, interactive, and educational game application for the browser\textsuperscript{11}. This application can be an exciting learning resource, a media and an assessment tool for students. Wordwall provides examples of the creativity of teachers to make it easier for new users to use and create the materials provided by the media. Wordwall can be interpreted as a web application that is used to create educational-based games wrapped in interesting quizzes. This web application is very suitable for designing a learning and assessment tool. Here's the look of the Wordwall Application with Arabic Vocabulary.

![Figure 1. The display before entering the game on the wordwall](image1)

![Figure 6. The view before the wordwall game starts](image2)

![Figure 7. The display of wordwall application match-up](image3)

![Figure 8. The display of wordwall application quiz](image4)

Figure 5 is the initial view before entering the wordwall game by writing the name. Figure 6 is a view before the game starts. Figure 7 is a match-up display with a game pattern of looking for or matching words according to a predetermined time. The player must match the Arabic vocabulary with its meaning. Figure 8 is a quiz display in the form of a quiz display consisting of questions and four answers. Players are asked to choose one of four answers.

that correspond to the meaning of the Arabic vocabulary displayed with time running out.

Figure 9 is a game show quiz display with a game in the form of a quiz that has four answers but has assistance features in the form of fifty-fifty, 2x score, and extra time. However, this game gets less time for each question. Figure 10 is a maze chase display with a game pattern where the player runs a robot that will look for the meaning of the displayed Arabic vocabulary. Players are required to avoid enemies scattered throughout the game. Figure 11 is a wordsearch display with a game pattern looking for Indonesian vocabulary from letters that have been scrambled. The letters will form the meaning of the Arabic vocabulary, and then if the player manages to find it, the player must choose the appropriate Arabic vocabulary. Figure 12 is an open box display with a box-shaped game which, if selected, will display Arabic vocabulary and a choice of answers that have been provided at a predetermined time. When they have answered, the player is asked to choose another box.
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Figure 13 is a display of fliptiles in the form of a game that requires teacher assistance in playing. The teacher must ask the students about the meaning of the displayed vocabulary, so that after being answered, the new teacher checks by clicking on the selected vocabulary and it will turn upside down to show the answer to the vocabulary. Figure 14 is a random wheel display with a game pattern of turning the wheel and getting Arabic vocabulary. Guided by the teacher, students are asked to answer the selected Arabic vocabulary after turning the wheel. Figure 15 is a display of whack a mole with a game pattern where the player must hit an animal that has Arabic vocabulary written in accordance with the learning material. Players must choose various professions quickly and precisely, because this game really requires concentration and dexterity in choosing vocabulary within the allotted time. Figure 16 is a true or false display with a game pattern in the form of Arabic vocabulary that always runs quickly with a limited time. In the true or false game, players are asked to answer true or false from the running vocabulary by adjusting whether the vocabulary is a variety of professions according to the learning material or not. If it is missed, then it does not get any value.

The results of the questionnaire data processing are displayed in the form of a pie chart as follows:
Figure 27. The result of the Indicator questionnaire 1

Figure 17 shows the results of the indicator 1 questionnaire, which explains the students' interest in the wordwall application. Students look interested in the number of responses. They strongly agree with 65% and agree with 26%, while in doubt, 6% disagree with 3% and strongly disagree with 0%. From the explanation of the diagram of the results of the questionnaire on indicator 1, students are more inclined to be interested in using the wordwall application for learning Arabic vocabulary.

Figure 18. The result of the Indicator questionnaire 2

Figure 18 shows the results of the indicator 2 questionnaire which explains the implementation of learning using the wordwall application. Students look happy when using the wordwall application with the number of responses strongly agreeing to 70% and agreeing reaching 26%, while 3% doubtful, 1% disagree and 0% strongly disagree. From the explanation of the diagram of the results of the questionnaire on indicator 2, students feel happy
and have no difficulty when using the wordwall application in learning Arabic vocabulary.

**Wordwall application media display quality**

![Diagram showing the results of the Indicator questionnaire 3 for wordwall application media display quality.](image)

**Figure 19. The result of the Indicator questionnaire 3**

Figure 19 shows the results of the indicator 3 questionnaire which explains the quality of the wordwall application media display. Students seem to favor the look of the wordwall application, with the number of responses strongly agreeing of 71% and agreeing of 23%, while in doubt of 4%, disagreeing of 2%, and strongly disagreeing of 0%. From the explanation of the diagram of the questionnaire results on indicator 3, the students felt enthusiastic and did not get bored when they saw the display on the wordwall application for learning Arabic vocabulary.

**The effect of using the wordwall application**

![Diagram showing the results of the Indicator questionnaire 4 for the effect of using the wordwall application.](image)

**Figure 20. The result of the Indicator questionnaire 4**

Figure 4 shows the data from the indicator 4 questionnaire which explains the effect of using the wordwall application. Students feel motivated and more enthusiastic when using the wordwall application, with the number of responses strongly agreeing reaching 71% and agreeing reaching 22%, while in doubt of 3%, disagreeing of 4%, and strongly disagreeing of 0%. From the explanation of the questionnaire diagram on indicator 4, students find it easier
to understand and memorize the material when using the wordwall application for learning Arabic vocabulary.

From the results of the questionnaire as data analysis of class VIII MTs Muhammadiyah 2 Al-Munawwaroh Malang, it was found that students were more interested in learning Arabic vocabulary using wordwall application media. Then, students feel active and excited when using the wordwall application. In terms of quality, the wordwall application is quite good when used as a learning medium.

In addition, the wordwall application is influential on students' understanding of Arabic vocabulary. Students feel happy when using the wordwall application, making it easier for students to understand the material and master Arabic vocabulary.

To obtain data on the results of the learning evaluation, this study used multiple choice and essay test questions in which the test consisted of vocabulary related to professional material (al-mihnatu). The following is the data analysis of the pre-test and post-test scores:

<table>
<thead>
<tr>
<th>Tests</th>
<th>N</th>
<th>Average</th>
<th>Median</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>16</td>
<td>45.63</td>
<td>42.50</td>
<td>10</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>Post-test</td>
<td>16</td>
<td>77.50</td>
<td>82.50</td>
<td>30</td>
<td>100</td>
<td>70</td>
</tr>
</tbody>
</table>

Table 1 shows the data analysis of the pre-test and post-test scores with the average student learning outcomes after using the wordwall application media (post-test) in the Arabic language learning process, which is 77.50, an increase of 31.87 from the pre-test score of 45.63, so that it can be concluded that student learning outcomes in learning Arabic vocabulary can be categorized as very good.

<table>
<thead>
<tr>
<th>Class</th>
<th>Range</th>
<th>Frequency (f_i)</th>
<th>Relative Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6 – 24</td>
<td>5</td>
<td>31.25 %</td>
</tr>
<tr>
<td>2</td>
<td>25 – 43</td>
<td>3</td>
<td>18.75 %</td>
</tr>
<tr>
<td>3</td>
<td>44 – 62</td>
<td>4</td>
<td>25 %</td>
</tr>
<tr>
<td>4</td>
<td>63 – 81</td>
<td>3</td>
<td>18.75 %</td>
</tr>
<tr>
<td>5</td>
<td>82 – 100</td>
<td>1</td>
<td>6.25 %</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>16</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Table 2 shows the calculation of the relative frequency of pre-test scores with the lowest score being the first interval class (6-24) of 31.25% with
respondent 5, while the highest score for the fifth interval class (82-100) was 6.25% with respondent 1.

Table 3. Post-test score relative frequency calculation data

<table>
<thead>
<tr>
<th>Class</th>
<th>Range</th>
<th>Frequency (f)</th>
<th>Relative Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26 – 40</td>
<td>1</td>
<td>6.25 %</td>
</tr>
<tr>
<td>2</td>
<td>41 – 55</td>
<td>3</td>
<td>18.75 %</td>
</tr>
<tr>
<td>3</td>
<td>56 – 70</td>
<td>1</td>
<td>6.25 %</td>
</tr>
<tr>
<td>4</td>
<td>71 – 85</td>
<td>4</td>
<td>25 %</td>
</tr>
<tr>
<td>5</td>
<td>86 – 100</td>
<td>7</td>
<td>43.75 %</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>16</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Table 3 shows the calculation of the relative frequency of post-test scores with the lowest score being the first interval class (26-40) of 6.25% with respondent 1, while the highest score for the fifth interval class (86-100) was 43.75% with respondent 7. Hypothesis testing was carried out to find out whether there is a difference between the results of the pre-test and post-test after using the wordwall application media.

Table 4. Paired samples test

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 1 Pre Test – Post Test</td>
<td>-31.875</td>
<td>20.726</td>
<td>5.182</td>
<td>42.919</td>
<td>-20.831</td>
<td>-6.152</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 4 shows the output value of sig (2-tailed) of 0.000, which is smaller than 0.05 (0.000 0.05), which means that H_a is accepted and H_0 is rejected. Therefore, it can be concluded that there is a difference in the average pre-test and post-test learning outcomes after being given treatment using a wordwall application, so that it can be proven that the use of a wordwall application can improve Arabic vocabulary mastery for students at MTs Muhammadiyah 2 Al-Munawwaro Malang.

The effectiveness test is used to determine the level of effectiveness of the media used in the research process. To determine the effectiveness of the
wordwall application in increasing mastery of Arabic vocabulary, it can be calculated using the N-Gain formula as follows:

\[ N - Gain = \frac{\text{posttest score} - \text{pretest score}}{\text{maximum score} - \text{pretest score}} \]

The results of the N-Gain effectiveness test show an average value of 0.56, which places the gain index criteria at a score of 0.30 (g) 0.70 in the medium category. While, the average value of the N-Gain percentage shows that 56.6% is at a score of (g) 56-75%, it can be concluded that the use of wordwall applications in improving Arabic vocabulary mastery in terms of effectiveness testing is quite effective.

The form of implementation of this research is done face-to-face using wordwall application media in the form of educational games that display Arabic vocabulary. This study uses LCD as a tool to support the process of learning Arabic vocabulary so that students can focus and pay close attention when games or games on the wordwall application are played.

In the learning process, one of the game features on the Wordwall application is displayed in the form of a quiz with a game pattern, namely choosing one answer from the four answers provided. Giving examples in this game gets students' interest in the learning process. After giving examples of games on the wordwall application, students were given the opportunity to try playing with different game features. Students, such as in maze chase, are looking for the right answer by avoiding opponents, a game show quiz in the form of a vocabulary series that provides four answers with a set time, and whack a mole, where students are required to hit animals that carry professional vocabulary (al-mihnatu) with a limited time, as well as other game features.

Oktiani said that creativity in learning will increase students' enthusiasm for learning\(^{12}\). In this study, it was found that the VIII grade students of MTs Muhammadiyah 2 Al-Munawwaro Malang were enthusiastic and enthusiastic when participating in the learning process where the wordwall application was one of the creative learning models. Students compete with each other to try to play educational games in the wordwall application. Learning feels very fast because the learning process is very interesting and not boring. Arfida and Harahap stated that multimedia applications are able to attract someone's attention quickly\(^{13}\). The various features available make students more curious and want to try the games provided on the wordwall application.


To get the results obtained by students in learning Arabic vocabulary through the wordwall application, an evaluation is given in the form of questions or tests presented in the form of essays and multiple choice. This evaluation uses essay and multiple-choice questions containing professional vocabulary (al-mihnatu) in line with the material provided in the use of the wordwall application. After the implementation of this wordwall application, a questionnaire was distributed which was distributed on March 9, 2021 to find out student responses to the use of the wordwall application.

The standard questions and questionnaires distributed have passed the validity and reliability tests with valid and reliable assumptions so that they can be used as measuring tools in a study. In the normality test, the test questions in this study can be stated to be normally distributed so that they can be used for the related sample t test, in line with Chandra, who states that the related sample t test can be carried out if the data used meets the normality standard\textsuperscript{14}.

Based on the average and related sample t-test, student learning outcomes after using the wordwall application are better than student learning outcomes before using the wordwall application. Therefore, it can be concluded that the effective wordwall application affects student learning outcomes, as Fakhrurrazi said, effective is a change that has an effect on something\textsuperscript{15}.

Concerning the results of distributing questionnaires to class VIII students of MTs Muhamamdiyah 2 Al-Munawwaroh Malang, it was found that students were very happy when using the wordwall application. This can be seen in the practice of using the wordwall application in the field. The emotional expression of students' motivation and willingness to learn looks high, in accordance with Kurniawan, et al, which states that pleasure in learning is an emotional expression of students related to motivation and willingness to learn\textsuperscript{16}. Learning by using games on cellphones also pumps students' enthusiasm and improves their learning achievement. Games help students remember the vocabulary they have learned\textsuperscript{17}.


\textsuperscript{17} Eleni Korosidou and Tharrenos Bratitsis, ‘Gamifying Early Foreign Language Learning BT - Internet of Things, Infrastructures and Mobile Applications’, ed. by Michael E Auer and
Pertinent to the results of distributing questionnaires to class VIII students of MTs Muhammadiyah 2 Al-Munawwaroh Malang, it was found that students were very happy when using the wordwall application. This can be seen in the practice of using the wordwall application in the field. The emotional expression of students' motivation and willingness to learn looks very high, in accordance with Kurniawan, et al, which states that pleasure in learning is an emotional expression of students related to motivation and willingness to learn\(^\text{18}\). This effectiveness calculation was carried out after knowing the difference between before and after the implementation of the wordwall application in learning Arabic vocabulary.

The standard vocabulary (mufrodat) for madrasah tsanawiyah (Islamic junior high school) is 20-25 words\(^\text{19}\). Based on this statement, in this study it was found that the eighth grade students of MTs Muhammadiyah 2 Al-Munawwaroh Malang had reached the standard of vocabulary mastery (mufrodat) for the madrasah tsanawiyah level with mastery of Arabic vocabulary about professions (al-mihnatu) of 25 words.

Educational games can attract students' interest in learning materials while playing, so with pleasure, it is hoped that students will more easily understand the subject matter presented\(^\text{20}\). In accordance with this statement, this study uses interactive educational games because games have a very large appeal to students. The wordwall application has features that are very sufficient for the needs of students in the learning process with fun and not boring atmosphere. Tirtamayasandi stated that educational games are digital games that can be applied to support the teaching and learning process\(^\text{21}\).

Interactive games or wordwall applications educational games that are used as learning media are proven to increase the effectiveness of students' learning in mastering Arabic vocabulary. Therefore, it can be concluded that the use of the wordwall application can improve the mastery of Arabic vocabulary for students of MTs Muhammadiyah 2 Al-Munawwaro Malang. This was found from student learning outcomes after the application of the game on the wordwall application with Arabic vocabulary material. Besides being able to


improve the mastery of Arabic vocabulary, the wordwall application can also increase the fun, interest, and enthusiasm and motivation of students in learning Arabic. This is known from the enthusiasm of students during practice in the field and the results of the questionnaires that have been distributed after the application of the wordwall application in the learning process. Mobile game allows learners to play and learn anywhere and anytime, and it can serve as a stepping stone for more involved collaborative learning activities. Vocabulary game significantly improved the low-achieving students’ motivation and performance in vocabulary learning.

Conclusion

Based on the results of research conducted that the effectiveness of wordwall applications in improving Arabic vocabulary mastery, it can be concluded that the learning is quite effective in the medium category with a percentage of 56.6%. This can be seen from the results of the N-Gain formula which shows an increase in the process of learning Arabic vocabulary using the wordwall application. In addition, in this study it was found that grade VIII students had achieved the standard of vocabulary mastery (mufradat) for the madrasah tsanawiyah level with mastery of Arabic vocabulary about professions (al-mibnatan) of 25 words.

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