



## Utilization of Wordwall Media in Arabic Vocabulary Learning Towards Eighth Graders

Ibnu Hajar<sup>1\*</sup>, Muassomah<sup>2</sup>, Wachida Muhlis<sup>3</sup>, Sa'id al-Zaiim Bani Sa'id<sup>4</sup>, Muhammad Naufal Fitra<sup>5</sup>

<sup>12345</sup> Arabic Language Education Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia

### Article Information:

Received : February 28, 2024

Revised : April 10, 2024

Accepted : May 11, 2024

### Keywords:

Educational Technology; Interactive

Learning Tools; Student

Engagement; Vocabulary Acquisition

**Abstract:** Wordwall is an interesting, interactive, and educational browser game application. This application can be an interesting learning resource, media, and assessment tool for students. This research aims to determine the application of Wordwall media and determine students' responses to learning Arabic vocabulary using Wordwall media in eighth grade at MTs Satu Atap Al-Hidayah Batu.

A quantitative approach and survey methods were used in this research. Data collection was carried out through observation, interviews, and questionnaires. The data collected was eventually analyzed by using descriptive statistics. Descriptive analysis was carried out with the SPSS 25 application. The research results showed that the ideal total score for all items is the number of questionnaires 9 X Maximum score 18 for each score = 162. The total score obtained from the research = 116. The students' responses about Wordwall media as a learning media for Arabic vocabulary are considered positive because the percentage value obtained is 71.60%. It was confirmed that the significance of Wordwall as an innovative learning tool and the positive response from students, providing a basis for increasing the use of technology in educational contexts.

### \*Correspondence Address:

220104210001@student.uin-malang.ac.id

### How to cite:

Ibnu Hajar, Muassomah, Wachida Muhlis, Sa'id al-Zaiim Bani Sa'id, and Muhammad Naufal Fitra. "Utilization of Wordwall Media in Arabic Vocabulary Learning Towards Eighth Graders." *Jurnal Al Bayan: Jurnal Jurusan Pendidikan Bahasa Arab* 16, no. 1 (2024): 55-68. <http://dx.doi.org/10.24042/albayan.v16i1.20451>.

## Introduction

Nowadays, education has experienced quite significant changes, especially along with technological advances that have penetrated the world of education.<sup>1</sup> This transformation includes the integration of technology into various aspects of learning, from teaching methods to learning aids. The application of technology in education, such as the use of digital devices and educational applications, has become a progressive step

<sup>1</sup> Netta Livari, Sumita Sharma, and Leena Venta-Olkkonen, "Digital transformation of Everyday Life—How Covid-19 Pandemic Transformed the Basic Education of the Young Generation and Why Information Management Research Should Care?," *International Journal of Information Management* 55 (2020): 102183.

to improve the quality of learning and prepare students to face challenges.<sup>2</sup> Ease of access to information, interactivity and learning flexibility are some of the positive impacts of this ongoing educational transformation, creating a learning environment that is more dynamic and suitable with current developments.

One implementation of technology in learning is the use of Wordwall media which is growing rapidly. Wordwall is an online learning tool that helps teachers to create interactive games in teaching concepts or words.<sup>3</sup> With visual displays and various activities such as quizzes and word games, Wordwall makes learning more interesting. Teachers can focus on certain concepts or words. This application helps the students to have fun learning and expand their understanding. Wordwall is suitable for any levels and subjects and it helps teachers to create fun and effective learning experiences as well.<sup>4</sup>

MTs Satu Atap Al-Hidayah Batu was chosen as the research place because it is an Islamic secondary school that provides Islamic education in a holistic and integrated manner. The implementation of the Wordwall in eighth grade is a major concern, considering the level of student development at this level which demands a more interactive and relevant learning approach. In the era where information and communication technology has become an integral part in daily life, the integration of Wordwall media is expected to create memorable, in-depth and relevant learning for eighth grade students at MTs Satu Atap Al-Hidayah Batu. This article discussed about the impact of Wordwall implementation on students' understanding of Arabic vocabulary and its implications for the learning process at the secondary education level.

The choice of Arabic vocabulary as the focus of learning is due to the importance of mastering basic vocabulary in understanding Arabic. It is hoped that Wordwall can be an effective tool for visualizing Arabic vocabulary, building relationships between words, and making it easier for students to learn Arabic.<sup>5</sup> Learning Arabic vocabulary is an important part of the educational curriculum at MTs Satu Atap Al-Hidayah Batu. One

---

<sup>2</sup> Nurul Hafizah, "Media Pembelajaran Digital Generasi Alpha Era Society 5.0 pada Kurikulum Merdeka," *Al-Madrasah: Jurnal Pendidikan Madrasah Ibtidaiyah* 7, no. 4 (2023): 1675-1688.

<sup>3</sup> Rela Imanulhaq and Andi Pratowo, "Edugame Wordwall : Inovasi Pembelajaran Matematika di Madrasah Ibtidaiyah," *Jurnal Pedagogos: Jurnal Pendidikan* 4, no. 1 (2022): 33-41.

<sup>4</sup> Claudia Rodriguez-Escobar, Juan Cuevas-Lepe, and Lorena Maluenda-Parraguez, "Assessing the Effectiveness of Wordwall. Net as a Vocabulary Learning Tool: Pre-Service EFL Teachers' Perspectives," (2023).

approach that has been used in learning Arabic vocabulary is Wordwall media. This media has attracted the attention of educational researchers and practitioners because of its potential to improve students' vocabulary mastery.

Several studies have highlighted the use of Wordwall media in learning. A previous research was conducted by evaluating the improvement in students' vocabulary mastery, especially related to pronouns (subjective, objective and possessive adjective) towards eighth graders through the use of Wordwall media.<sup>6</sup> Apart from that, the use of Wordwall media has also proven effective in increasing students' interest and motivation in learning Arabic.<sup>7</sup> Another research was carried out can investigate the impact of using *Wordwall.net* on English vocabulary.<sup>8</sup> Wordwall can also demonstrate its use and effectiveness in the learning outcomes of Islamic Elementary School Teacher Education Study Program (PGMI) students in Mathematics courses.<sup>9</sup> Furthermore, another previous research was carried out to develop Wordwall media to improve the vocabulary skills of early childhood.<sup>10</sup> It responds to the teachers' weakness in developing interesting learning media through the ADDIE development model.

In this context, this article focused to discuss about the application of Wordwall media to students in Arabic vocabulary learning and how do students respond to learning Arabic vocabulary using Wordwall media in eighth grade at MTs Satu Atap Al-Hidayah Batu. This research emerged from the need to explore how Wordwall media can improve students' understanding of Arabic vocabulary in Arabic. It provides a great potential of Wordwall media in the context of Arabic vocabulary learning. However, a comprehensive literature review is still needed to explore more in-depth information regarding the application of Wordwall media in the specific context of MTs Satu Atap Al-Hidayah Batu. Therefore, this article aimed to present a comprehensive picture of the

---

<sup>5</sup> Kenda Alterkawi, "Allughat Alearabiat Bayn Alhujat Altaelimiat Walmumarasat Aleamaliat fi Kuliyyat Aleulum Al'iislatmiat Lijamieat Bartin," *Bartın Üniversitesi İslami İlimler Fakültesi Dergisi* 19 (2023): 48-72.

<sup>6</sup> Dwi Hartatiningsih, "Meningkatkan Penguasaan Vocabulary Bahasa Inggris dengan Menggunakan Media Wordwall Siswa Kelas VII MTs Guppi Kresnomulyo." *Action: Jurnal Inovasi Penelitian Tindakan Kelas dan Sekolah* 2, no. 3 (2022): 303-312.

<sup>7</sup> Nur Aidah and Nurafni Nurafni, "Analisis Penggunaan Aplikasi Wordwall pada Pembelajaran IPA Kelas IV di SDN Ciracas 05 Pagi," *Pionir: Jurnal Pendidikan* 11, no. 2 (2022).

<sup>8</sup> Friza Shabrina and Wahyu Taufiq, "The Effect of Teaching English Vocabulary on Junior High School Students by Using Wordwall. net", *Borneo Educational Journal (Borju)* 5, no. 2 (2023):283-295.

<sup>9</sup> Edy Susanto and Meilida Eka Sari, "Effectiveness of Using the Wordwall Application on Student Learning Outcomes," *At-Ta'lim: Media Informasi Pendidikan Islam* 22, no. 1 (2023): 127-133.

<sup>10</sup> Komang Sella Silvia and I Dewa Gede Firstia Wirabrata, "Meningkatkan Kosakata Anak Usia Dini Melalui Media Wordwall," *Jurnal Pendidikan Anak Usia Dini Undiksha* 9, no. 2 (2021): 261-269.

application of Wordwall media in Arabic vocabulary learning at MTs Satu Roof Al-Hidayah Batu, as well as exploring the results of related research that had been carried out.

## Methods

This research adopted a quantitative approach with a survey method. The survey method refers to a research approach that utilizes a series of structured or semi-structured questions to collect data from respondents. The survey process can be carried out in various ways, such as questionnaires, direct interviews, telephone contact, or online platforms.<sup>11</sup> This research aimed to obtain information about the views, attitudes, actions, or characteristics of the population that is the focus of the research. The questionnaire method allows respondents to provide responses in writing, face-to-face interview and telephone interviews allow direct interaction between researchers and respondents.<sup>12</sup> Additionally, surveys can be conducted online via online platforms, giving respondents the flexibility to submit their responses virtually. This method was used to explore and photograph social situations and conditions that would be researched thoroughly, broadly and in depth.

This article tried to explain the Wordwall as applied to Arabic vocabulary learning. The research objects used were 18 eighth graders at MTs Satu Atap Al-Hidayah. The selection of the research objects were based on the students' lack of understanding in listening to the Arabic texts because *Istima'* material studied was only in the form of vocabulary.

In this research, the data was obtained through observation, interviews and questionnaires. Observation is a data collection technique carried out through direct observation of research objects using the senses.<sup>13</sup> This observation was carried out on the process of learning Arabic vocabulary by implementing Wordwall. Observations were carried out on students during group formation, listening to the text, asking questions, the discussion process and presenting the results of the discussion. In this case,

---

<sup>11</sup> Muh Fitrah, *Metodologi Penelitian: Penelitian Kualitatif, Tindakan Kelas & Studi Kasus*. CV Jejak (Jejak Publisher, 2018).

<sup>12</sup> Fatma Sarie, I Nyoman Tri Sutaguna, I Putu Suraoka, Darwin Damanik, Gusnita Efrina, Rahmahidayati Sari, Ayu Rahma Nengsi, Fadli Agus Triansyah, and Talitha Wenifrida Massenga, *Metodologi Penelitian*, (Batam: Cendikia Mulia Mandiri, 2023).

<sup>13</sup> Sai Balakrishnan and Ann Forsyth, "Qualitative Methods," *The Routledge Handbook of International Planning Education*. Routledge (2019): 145-161.

the interviews were only additional data to strengthen the results of observations. Meanwhile, a questionnaire was a data collection technique that was carried out by asking participants a set of questions to answer.<sup>14</sup>

The data collected was analyzed by using descriptive statistics. Descriptive statistics were used to analyze data by describing or illustrating the data that had been collected without intending to make generally accepted conclusions or generalizations. Descriptive analysis was used with the assistance from the SPSS 25 application. Meanwhile, Guttman scale was manually used to measure student response analysis from the results of the questionnaire sheets distributed at the end of the learning activity. The questionnaire consisted of two close-ended questions which the answers are "yes" and "no". The answer "yes" indicates a positive response with 1 score. Meanwhile, the answer "no" indicates a negative response with 0 score. Analysis of student responses referred to the Guttman scale.<sup>15</sup> The completed questionnaires were calculated based on the criteria as in the following table:

**Table 1.** Criteria of Guttman Scale

Answer	Score
Yes	1
No	0

Students' responses to learning with Wordwall media was calculated using the formula:

$$\text{students' responses (\%)} = \frac{\text{obtained score}}{\text{maximum score}} \times 100\%$$

The categories of students' responses are presented in the following table.

**Table.2** Responses category

Averages score %	Category
85-100	Very positive
70-84	Positive
55-69	Quite Positive
40-54	Less positive
25-39	No positive

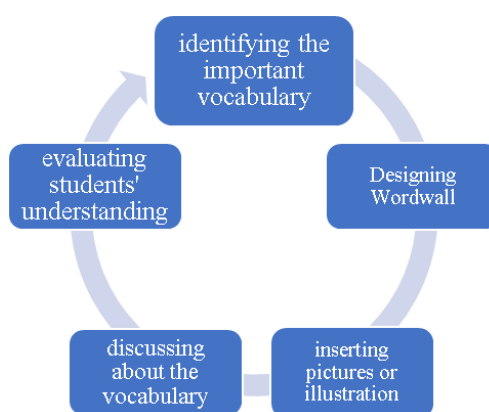
<sup>14</sup> M. Sahib Saleh and Sunandar Sakria Malinta, "Survei Minat Belajar Siswa dalam Mengikuti Pembelajaran Pendidikan Jasmani di SMPN 30 Makassar," *Kinestetik* 4, no. 1 (2020): 55–62.

<sup>15</sup> Abdulloh Muwaffaq and Lilik Mawartiningsih, "Pengembangan Media Pembelajaran Macromedia Flash 8 Berbasis Pendekatan Konsep," *Proceeding Biology Education Conference: Biology, Science, Enviromental, and Learning* 15, no. 1 (2017).

## Results and Discussion

Wordwall is an interesting, interactive and educational browser game application<sup>16</sup> This application can be an interesting learning resource, media and assessment tool for students.<sup>17</sup> Wordwall provides examples of teacher creativity to make it easier for new users to utilize and create 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.<sup>18</sup> This web application is an excellent choice for developing various learning and evaluation tools.<sup>19</sup> With the features provided, users can easily design learning materials and create various types of assessments to measure student understanding. In addition, Wordwall media can provide flexibility and ease in compiling learning content according to user needs, thereby significantly increasing the effectiveness of the teaching and learning process.<sup>20</sup>

There are several procedures for implementing Wordwall media for students in eighth grade at MTs Satu Atap Al-Hidayah Batu in Arabic vocabulary learning based on research results as follows:



**Figure 1.** Procedures of Wordwall Media Implementation

<sup>16</sup> I Wayan Mertha and Mahfud Mahfud, "History Learning Based on Wordwall Applications to Improve Student Learning Results Class X IPS in Ma As'adiyah Ketapang," *International Journal of Educational Review, Law And Social Sciences (Ijeras)* 2, no. 5 (2022): 507-612.

<sup>17</sup> Abdul Aziz Fakhruddin, Mochammad Firdaus, and Lailatul Mauludiyah, "Wordwall Application as a Media to Improve Arabic Vocabulary Mastery of Junior High School Students," *Arabiyatuna: Jurnal Bahasa Arab* 5, no. 2 (2021): 217.

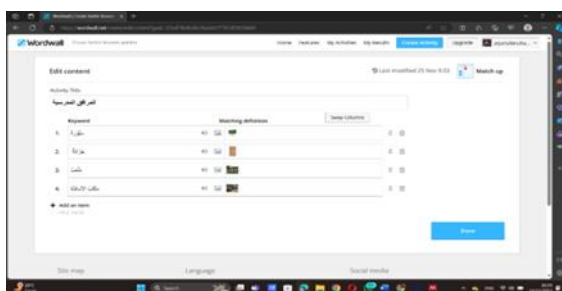
<sup>18</sup> Rizky Amalia Nasution, Amrin Fauzi, and Arlina Nurbaity Lubis, "The Effect of Customer Co-Creation and Customer Experience on Electronic Word of Mouth (EWoM) through Customer Satisfaction on Sharia Indonesian Bank in Medan city," *International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (Ijebas)* 3, no. 1 (2023): 296-309.

<sup>19</sup> Jessica Vamathevan et al., "Applications of Machine Learning in Drug Discovery and Development," *Nature reviews Drug discovery* 18, no. 6 (2019): 463-477.

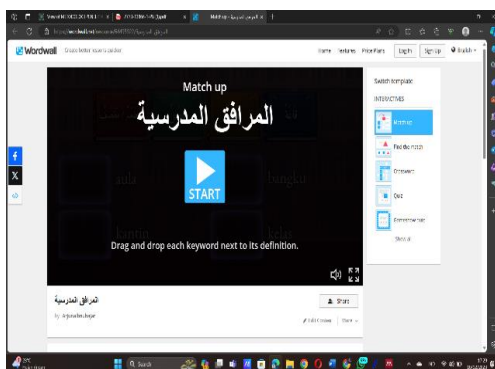
<sup>20</sup> Fajar Pradana et al., "Development of Gamification-Based E-Learning on Web Design Topic," *International Journal of Interactive Mobile Technologies* 17, no. 3 (2023): 21-38.

The explanations of the procedures for Wordwall media implementation in learning Arabic vocabulary are described as follows: a) Identifying Important Arabic Vocabulary. At this procedure, Arabic vocabulary taught was prepared systematically and structured. By identifying vocabulary first, the selection of vocabulary presented on the Wordwall would be in accordance with the students' level of difficulty and needs. In this process, the researcher observed the student study guide book.

The aim of this step is that the use of Wordwall media in learning Arabic vocabulary can be effective in improving students' mastery of Arabic vocabulary. In this way, students will more easily remember and understand Arabic vocabulary through Wordwall media, so that the objectives of learning Arabic vocabulary can be achieved better.



**Figure 2.** The display of inserting Arabic vocabulary



**Figure 3.** The display before inserting vocabulary



**Figure 4.** The display of a game

Figure 2 is a display for inserting identified vocabulary. Figure 3 shows the display before starting the game, as well as the various games provided by Wordwall. Meanwhile, figure 4 shows a game with a pattern of searching or matching words according to a predetermined time. Players must match the Arabic vocabulary with its meaning.



Figure 5. Illustration about Arabic vocabulary

To strengthen students' understanding, illustrations or figures were inserted related to Arabic vocabulary. This would help students to visualize the meaning of Arabic vocabulary.



Figure 6 Students participate in the discussion of vocabulary

During the lesson, researchers actively participate in discussing the words contained in the Wordwall application by implementing the Arabic vocabulary into the context of simple sentences or dialogue.



Figure 7. Ensure that students understand Arabic vocabulary



The evaluations were carried out to ensure that students understood the Arabic vocabulary words taught by using formative assessments or short quizzes to measure their understanding. Effective implementation of a Wordwall can help students build and enrich their vocabulary gradually. Additionally, ensuring active student involvement through engaging activities can increase the effectiveness of this learning strategy.

Student responses to Wordwall media referred to students' interest, motivation and interest in applying the use of this media in the learning process. Students who were interested tend to participate actively and get involved in learning and show high interest in ongoing learning activities. Student curiosity refers to their interest in the activity. The following are the results of the student response in questionnaires on Wordwall media in Arabic vocabulary learning for eighth grade students at MTs Satu Atap Al-Hidayah Batu:

**Table 3.** the Result of SPSS  
Descriptive Statistics

Item	N	Min	Max	Sum	Mean	Std. D
I can remember Arabic vocabulary learned using Wordwall well	18	0	1	18	1.00	.000
Wordwall makes learning Arabic vocabulary more interesting	18	0	1	13	.72	.461
Wordwall helps me to understand Arabic vocabulary better	18	0	1	12	.67	.485
Wordwall helps me to remember examples of how Arabic vocabulary is used	18	0	1	13	.72	.461
I feel more motivated to learn Arabic vocabulary using the Wordwall	18	0	1	14	.78	.428
I feel confident in using Arabic vocabulary after learning with Wordwall	18	0	1	11	.61	.502
Overall, I am satisfied with learning Arabic vocabulary using Wordwall	18	0	1	12	.67	.485
Wordwall is easy to use	18	0	1	17	.94	.236
Wordwall helps me to practice the use of Arabic vocabulary	18	0	1	6	.33	.485
Valid N (list wise)	18			116		

Table 3 above showing that the ideal score for all items is the number of questionnaires (9 items) multiplied by the maximum total score (18) is 162. Meanwhile, the obtained score from the research is 116. Based on this data, the student response to Wordwall in Arabic vocabulary learning is  $116/162 \times 100\% = 71.60$ . Based on table 1 (response categories), it can be understood that the level of student interest in Wordwall media in Arabic vocabulary is positive because the percentage value obtained is 71.60%.

Student responses are prominent in learning, because they can provide information about effectiveness and help teachers evaluate learning process.<sup>21</sup> In addition, student responses also become a valuable source of information for teaching adjustments. With the positive response of the students, teachers can optimize learning designs to suit students' learning styles.<sup>22</sup> This not only increases participation, but also makes learning more relevant and meaningful for students.<sup>23</sup> Based on this description, by obtaining student responses, teachers can proactively improve the quality of learning.

Several studies show that the use of Wordwall in Arabic vocabulary learning can improve student learning outcomes and support the development of their skills in writing and reading texts.<sup>24</sup> The research results show that the use of Wordwall media in learning Arabic vocabulary can improve students' vocabulary mastery, both in spoken and written form. Apart from that, the use of Wordwall is proven effective in increasing students' interest and motivation in Arabic learning. Therefore, Wordwall can be used as an alternative learning media in improving student learning outcomes especially in Arabic vocabulary learning.

The application of Wordwall Media in learning Arabic vocabulary for eighth grade students at MTs Satu Atap Al-Hidayah Batu showed positive results. This media has proven effective in increasing students' interest and understanding of Arabic vocabulary. The procedures implemented, such as identification of important vocabulary, attractive Wordwall design, and use of illustrations, help to increase the learning effectiveness. These findings are in accordance with previous research that revealed similar benefits<sup>25</sup>. For example, a previous research showed that the use of Wordwall Media can significantly increase students' vocabulary acquisition.<sup>26</sup> Likewise, studies conducted by confirm that Wordwall is effective as an attractive and impactful learning tool.

---

<sup>21</sup> Afifatu Rohmawati, "Efektivitas Pembelajaran," *Jurnal Pendidikan Usia Dini* 9, no. 1 (2015): 15-32.

<sup>22</sup> Doli Lyanda, RM Nasrul Halim, and Firamom Syakti, "Media Pembelajaran Animasi 3D Sistem Tata Surya Menggunakan Metode Addie," *Jurnal Teknologi dan Sistem Informasi Bisnis* 5, no. 4 (2023): 528-533.

<sup>23</sup> Jumanta Hamdayama, *Metodologi Pengajaran*, (Jakarta: PT Bumi Aksara, 2022).

<sup>24</sup> Pari Purnaningsih, "Strategi Pemanfaatan Media Audio Visual untuk Peningkatan Hasil Belajar Bahasa Inggris," *Jurnal Informatika Universitas Pamulang* 2, no. 1, (2017): 34-41.

<sup>25</sup> Abdul Aziz Fakhruddin, Mochammad Firdaus, and Lailatul Mauludiyah, "Wordwall Application as a Media to Improve Arabic Vocabulary Mastery of Junior High School Students", *Arabiyatuna: Jurnal Bahasa Arab* 5, no. 2 (2021): 217.

<sup>26</sup> Pari Purnaningsih, "Strategi Pemanfaatan Media Audio Visual untuk Peningkatan Hasil Belajar Bahasa Inggris," *Jurnal Informatika Universitas Pamulang* 2, no. 1 (2017): 34-41.

Thus, the positive responses of students in this research can be strengthened by previous findings that support the effectiveness of Wordwall Media in learning Arabic vocabulary. Through the integration of Wordwall Media, teachers can create an interesting learning environment and enrich students' learning experiences in understanding Arabic.

The findings of this research provide significant implications in the context of developing methods for teaching Arabic vocabulary at the secondary school level. The results of the study confirmed that the effective use of Wordwall Media can increase students' interest, understanding and mastery of vocabulary. Practically, the implication of these findings is that educators can utilize Wordwall Media as an interesting and efficient instrument in teaching Arabic vocabulary. In addition, this article provided a strong foundation for further investigation in exploring the potential of Wordwall Media in various learning contexts, not only limited to Arabic but also other subjects.

In this research, there are several limitations that require the consideration for further research. First, the survey method used may not have captured the depth of the complexity of students' experiences using the Wordwall. Therefore, future research is recommended to consider using more diverse data collection methods, such as classroom observations and in-depth interviews. Second, this research was limited to one class in eighth grade at MTs Satu Atap Al-Hidayah Batu and the generalization of the findings was limited. Suggestions for further research are to expand the sample scope to get more representative results.

## **Conclusion**

The application of Wordwall as an interesting and interactive game application via a browser in this research proved its ability as an interesting learning resource and effective assessment tool for students, as well as providing creative inspiration for teachers in preparing learning materials. The findings of this research confirmed that the implementation of Wordwall media in learning Arabic vocabulary gained a positive response from students, as reflected in the percentage of student responses of 71.60%. This indicated a good level of engagement and interest in the use of technology in language learning contexts. In this context, the total score obtained from research (116) which is different from the ideal total score (162) provides a concrete picture of students' acceptance of this media. The most significant implication of these findings is the

validity of the Wordwall as a learning tool that is effective and responsive to student needs in the context of Arabic language learning. These results provide a strong basis for increasing the integration of technology in education, especially in language learning. However, it is important to note that this study has methodological limitations. Therefore, it was recommended that further research would adopt this research topic. This research suggested considering more diverse data collection methods and expanding the sample to overcome the limitations of a single survey, and expanding the understanding of Wordwall implementation in Arabic language learning.

### **Acknowledgment**

We would like to express our deepest gratitude to the principal and teachers at the MTS Satu Atap Al-Hidayah Batu. The financial support and data provision provided us to carry out this research well and produce significant results. This opportunity also made a significant contribution to the understanding and development of science in the educational context of this school.

### **Author Contributions Statement**

The authors were (IH, MM WM, SZ and MN). The author (IH, MM and WM) was responsible for the design and implementation of the research, data analysis, and preparation of the article. Meanwhile, the author (SZ, and MN) provided guidance as a supervisor, provided critical input, and contributed important ideas to this research. Both authors contributed collaboratively in reviewing and drafting the manuscript, ensuring the overall study reached the expected quality standards.

### **References**

- Aidah, Nur, and Nurafni Nurafni. "Analisis Penggunaan Aplikasi Wordwall pada Pembelajaran IPA Kelas IV di SDN Ciracas 05 Pagi." *Pionir: Jurnal Pendidikan* 11, no. 2 (2022).
- Alterkawi, Kenda. "Allughat Alearabiat Bayn Alhujat Altaelimiati Walmumarasat Aleamaliati fi Kuliyyat Aleulum Al'iislahiyyat Lijamieat Bartin." *Bartın Üniversitesi İslami İlimler Fakültesi Dergisi* 19 (2023): 48-72.
- Balakrishnan, Sai, and Ann Forsyth. "Qualitative Methods." *The Routledge Handbook of International Planning Education*. Routledge (2019): 145-161.

- Fakhrudin, Abdul Aziz, Mochammad Firdaus, and Lailatul Mauludiyah. "Wordwall Application as a Media to Improve Arabic Vocabulary Mastery of Junior High School Students." *Arabiyatuna: Jurnal Bahasa Arab* 5, no. 2 (2021): 217.
- Fitrah, Muh. *Metodologi Penelitian: Penelitian Kualitatif, Tindakan Kelas & Studi Kasus*. CV Jejak (Jejak Publisher). 2018.
- Hafizah, Nurul. "Media Pembelajaran Digital Generasi Alpha Era Society 5.0 pada Kurikulum Merdeka." *Al-Madrasah: Jurnal Pendidikan Madrasah Ibtidaiyah* 7, no. 4 (2023): 1675-1688.
- Hamdayama, Jumanta. *Metodologi Pengajaran*. Jakarta: PT Bumi Aksara. 2022.
- Hartatiningsih, Dwi. "Meningkatkan Penguasaan Vocabulary Bahasa Inggris Dengan Menggunakan Media Wordwall Siswa Kelas VII MTs. Guppi Kresnomulyo." *Action: Jurnal Inovasi Penelitian Tindakan Kelas dan Sekolah* 2, no. 3 (2022): 303-312.
- Iivari, Netta, Sumita Sharma, and Leena Venta-Olkkonen. "Digital Transformation of Everyday Life-How COVID-19 Pandemic Transformed the Basic Education of the Young Generation and Why Information Management Research Should Care?" *International Journal of Information Management* 55 (2020): 102183.
- Imanulhaq, Rela, and Andi Pratowo. "Edugame Wordwall: Inovasi Pembelajaran Matematika di Madrasah Ibtidaiyah." *Jurnal Pedagogos: Jurnal Pendidikan* 4, no. 1 (2022): 33-41.
- Lyanda, Doli, RM Nasrul Halim, and Firamom Syakti. "Media Pembelajaran Animasi 3D Sistem Tata Surya Menggunakan Metode Addie." *Jurnal Teknologi dan Sistem Informasi Bisnis* 5, no. 4 (2023): 528-533.
- Mertha, I Wayan, and M Mahfud. "History Learning Based on Wordwall Applications to Improve Student Learning Results Class X IPS in Ma As'adiyah Ketapang." *International Journal of Educational Review, Law and Social Sciences (IJERLAS)* 2, no. 5 (2022): 507-612.
- Muwaffaq, Abdulloh, and Lilik Mawartiningih. "Pengembangan Media Pembelajaran Macromedia Flash 8 Berbasis Pendekatan Konsep." *Proceeding Biology Education Conference: Biology, Science, Enviromental, and Learning* 15, no. 1 (2017).
- Nasution, Rizky Amalia, Amrin Fauzi, and Arlina Nurbaity Lubis. "The Effect of Customer Co-Creation and Customer Experience on Electronic Word of Mouth (EWoM) through Customer Satisfaction on Sharia Indonesian Bank in Medan

- City.” *International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (Ijebas)* 3, no. 1 (2023): 296-309.
- Pradana, Fajar, Punaji Setyosari, Saida Ulfa, and Tsukasa Hirashima. “Development of Gamification-Based E-Learning on Web Design Topic.” *International Journal of Interactive Mobile Technologies* 17, no. 3 (2023): 21–38.
- Purnaningsih, Pari. “Strategi Pemanfaatan Media Audio Visual untuk Peningkatan Hasil Belajar Bahasa Inggris.” *Jurnal Informatika Universitas Pamulang* 2, no. 1 (2017): 34-41.
- Rodriguez-Escobar, Claudia, Juan Cuevas-Lepe, and Lorena Maluenda-Parraguez. "Assessing the Effectiveness of Wordwall. Net as a Vocabulary Learning Tool: Pre-Service EFL Teachers' Perspectives." (2023).
- Rohmawati, Afifat. “Efektivitas Pembelajaran.” *Jurnal Pendidikan Usia Dini* 9, no. 1 (2015): 15-32.
- Saleh, M. Sahib, and Sunandar Sakria Malinta. “Survei Minat Belajar Siswa dalam Mengikuti Pembelajaran Pendidikan Jasmani di SMPN 30 Makassar.” *Kinestetik* 4, no. 1 (2020): 55–62.
- Sarie, Fatma, I Nyoman Tri Sutaguna, I Putu Suiraoaka, Darwin Damanik, Gusnita Efrina, Rahmahidayati Sari, Ayu Rahma Nengsi, Fadli Agus Triansyah, and Talitha Wenifrida Massenga. *Metodelogi Penelitian*. Batam: Cendikia Mulia Mandiri. 2023.
- Shabrina, Friza, and Wahyu Taufiq. “The Effect of Teaching English Vocabulary on Junior High School Students by Using Wordwall. net,” *Borneo Educational Journal (Borju)* 5, no.2 (2023): 283-295.
- Silvia, Komang Sella, and I Dewa Gede Firstia Wirabrata. “Meningkatkan Kosakata Anak Usia Dini Melalui Media Wordwall.” *Jurnal Pendidikan Anak Usia Dini Undiksha* 9, no. 2 (2021): 261-269.
- Susanto, Edy, and Meilida Eka Sari. “Effectiveness of Using the Wordwall Application on Student Learning Outcomes.” *At-Ta'lim: Media Informasi Pendidikan Islam* 22, no. 1 (2023): 127-133.
- Vamathevan, Jessica, Dominic Clark, Paul Czodrowski, Ian Dunham, Edgardo Ferran, George Lee, Bin Li, Anant Madabhushi, Parantu Shah, Michaela Spitzer, and Shanrong Zhao. “Applications of Machine Learning in Drug Discovery and Development.” *Nature reviews Drug discovery* 18, no. 6 (2019): 463-477.