



## **Wordwall Educational Games-Based Digital Assessment Development: An Innovative Approach to Indonesian Language Learning in Junior High Schools**

**Puput Indriani\*, Azeta Fatha Zuhria, Gilang Farid Hidayat, Jaja, Maya Dewi Kurnia**

Indonesian Language and Literature Education, Faculty of Education and Science,  
Universitas Swadaya Gunung Jati, Indonesia.

\*Corresponding Author. Email: [puput1993indriani@gmail.com](mailto:puput1993indriani@gmail.com)

**Abstract:** This study aims to develop a digital assessment model based on educational games using the Wordwall platform during Indonesian language learning activities at the junior high school level. This study employed the research and development method using the ADDIE model, which includes five systematic stages: Analysis, Design, Development, Implementation, and Evaluation. The instruments used included expert validation questionnaires and tests. Data analysis in this study was conducted using qualitative descriptive analysis. The findings revealed that the Wordwall-based digital assessment developed is proven to be valid and effective for application in Indonesian language learning, especially in advertising text, slogan, and poster material. This is evidenced by the results of validation by two experts and teachers, which showed that this assessment meets the aspects of content feasibility, practicality, and attractiveness with the categories of valid and highly valid. The gradual implementation of the Wordwall educational game-based digital assessment also showed a positive impact on student learning achievement, as observed from the increase in each student's passing grade. Thus, the Wordwall educational game-based digital assessment can be an innovative learning tool that is fun, effective, and in line with 21st-century learning needs.

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## **Introduction**

Advances in digital technology have had a significant impact on various aspects of human life. One area where this impact is evident is in the field of education. Advances in education can be seen in various technological innovations that have begun to be applied in assessment (Ashari, Athoillah, & Faizin, 2023). Assessment is an important part of the learning process that aims to measure student competency, provide feedback, and help teachers determine more effective learning strategies (Hajar & Pratiwi, 2024). In line with the implementation of the Merdeka Curriculum, assessment in the world of education in Indonesia has undergone a shift in perception, from being a tool for measuring learning outcomes to a diagnostic tool that can help students develop optimally. Therefore, digital assessments based on educational *games* have become an attractive alternative because they can provide immediate feedback, encourage active student involvement, and provide a more engaging and interactive learning experience (Adolph, 2016).

Previous studies have shown that digital assessment is effective in increasing student engagement, providing faster and more comprehensive *feedback*, and facilitating more specific learning tailored to student needs. For example, research by Sari and Alfian (2023) shows that gamification and direct feedback from digital assessment *platforms* can increase students' desire to learn (Sari & Alfian, 2023). In addition, research conducted by Sumardi (2021) found that digital evaluation allows teachers to identify students' learning problems

more quickly and accurately, enabling earlier intervention (Suamrudi et al., 2023). However, all of these studies still discuss the use of digital assessment in general, and none have developed the use of *Wordwall*-based digital assessment in the Indonesian language learning process, especially in learning materials about advertising texts, slogans, and posters.

*Wordwall* is a digital *platform* that can be used as an educational *game-based* assessment. *Wordwall* helps teachers create and manage interactive quizzes (Purnamasari et al., 2020). *Wordwall* can also create an engaging and dynamic learning environment for students (Arimbawa, 2021). In addition, the use of *Wordwall* facilitates the learning and assessment process because it is equipped with various features. The use of *Wordwall* has advantages such as its ability to increase student participation. Students will experience an interactive and responsive learning method (Aeni et al., 2022). This is because *Wordwall* offers challenges and rewards that make students more enthusiastic about learning. Not only that, *Wordwall* also provides quick and accurate *feedback* (Mauliddiyah, 2021). This helps students understand their mistakes so they can be corrected immediately. In addition, quick feedback also allows teachers to immediately know the level of student understanding.

*Wordwall* can be used for digital assessment in Indonesian language learning, such as advertising texts, slogans, and posters, which are texts taught in the independent curriculum (Naazil et al., 2024). Advertising texts, slogans, and posters are persuasive texts that aim to convey messages and attract attention (Nurhayatin, et al., 2021). These three types of texts are often encountered in daily activities, both in print and digital media. Advertising texts serve to offer services, products, or ideas with the aim of influencing the public to become interested (Pintoko, 2022). Meanwhile, slogans are short, concise, and memorable expressions that aim to build feelings or images (Suryantara, 2025). Posters are visual media that combine text and images to convey messages or information (Suryantara, 2025).

The use of digital assessments in Indonesian language learning on advertising text, slogans, and posters can be more effective and interesting. Digital *platforms* provide students with the experience of working on interactive questions and conducting self-evaluations (Putera, L. et al., 2024). In addition, digital assessments allow teachers to provide accurate feedback as quickly as possible, so that students can immediately understand their mistakes and correct them (Atikah & Amelia, 2024). With various features such as videos, simulations, and gamified quizzes, this enhances students' understanding of the structure and rules of advertising texts, slogans, and posters, but also encourages their involvement in learning (Fathoni, 2017).

The use of game-based digital assessments in Indonesian language learning is an innovation in increasing learning interactivity. However, the results of preliminary observations at SMP Negeri 1 Kedawung in West Java Province show that assessments in Indonesian language learning are still dominated by written (printed) assessments. In addition, the use of technology in assessments has not been implemented. This condition illustrates that there is a gap between the actual situation (*das Sein*), namely assessments that are less interactive and the minimal use of technology in Indonesian language learning, and the ideal situation (*das Sollen*), namely digital technology-based assessments that are interesting and interactive, such as *Wordwall*.

This study identifies a *gap* between the results of previous studies conducted by 1) Nabila (2024), 2) Adnan and Adi (2024), 3) Wahyuni et al. (2023). This research proves that the use of digital assessment has a gap in the real conditions at SMP Negeri 1 Kedawung, West Java Province, which has not integrated digital assessment. In addition, this research offers a new contribution (*state of the art*), namely the use of *the Wordwall platform* as a

digital medium in Indonesian language learning assessment, particularly advertising texts, slogans, and posters, which have rarely been developed in previous studies.

*The novelty* of this research lies in the development of *Wordwall* educational *game-based* digital assessment using the ADDIE model. This model is designed to be practically adaptable by teachers to assist in Indonesian language learning. The objectives to be achieved are 1) to describe the design of the development of a *Wordwall* educational *game-based* digital assessment that is suitable for implementation in the learning process of advertising texts, slogans, and posters, and 2) to describe the results of the implementation of the development of a valid *Wordwall* educational *game-based* digital assessment so that it can be used for learning activities involving advertising texts, slogans, and posters.

## Research Method

The method used in this study was research and development adopting the ADDIE model, which includes five systematically structured stages, namely Analysis, Design, Development, Implementation, and Evaluation. This model was chosen because it provides a systematic and structured framework for designing, developing, and evaluating technology-based learning products. In addition, this model is more comprehensive and logical than other models (Sari, Jaja, & Gloriani, 2023). Each stage in the ADDIE model is carried out sequentially and interrelated to produce a product that is valid, practical, and usable.

First, the analysis stage is carried out to identify the needs and conditions of learning (Syahid, Istiqomah, & Azwary, 2024). Second, the design stage aims to design products in an organized manner based on the previous analysis (Alfirahmi, Kania, & Yusup, 2023). Third, the development stage aims to create a design into a product and conduct limited testing (Islami, Ilmi, & Mz, 2024). Fourth, the implementation stage aims to apply the developed product in learning (Umami, Rusdi, & Kamid, 2021). Fifth, the evaluation stage aims to measure the value of a product after it has been implemented in the learning process (Asiyah, 2023).

The main focus of this study is on the process of developing and testing the feasibility of a *Wordwall-based* digital assessment model. This research is limited to the scope of digital assessment design used for teaching materials related to advertising texts, slogans, and posters in Indonesian language learning (Sidik & Salsabila, 2025). The research data consists of expert validation results used as the main data to measure the feasibility of the developed assessment product, while tests are used to measure the validity of the assessment.

The research data was obtained from validators who were experts in the material and media, as well as from 33 students in class VIII B at SMP Negeri 1 Kedawung, West Java, who were selected using *purposive sampling*. Class VIII B was chosen because the characteristics of the class were considered representative and conducive to being used as test subjects for the product, and they had previously received material on advertising texts, slogans, and posters, making them relevant to the research objectives.

The data collection tools in this study involved questionnaires and tests. In the initial stage, the questionnaire was validated by two experts who were asked for their opinions, namely subject matter and media experts, to assess the suitability of the content, practicality, and appeal of using the *Wordwall* educational *game-based* digital assessment. In addition, this instrument was also validated by Indonesian language teachers as direct users of the assessment product in learning. Second, the test technique was given to students to measure the validity of the assessment and as evidence that this development product was indeed feasible to be implemented in learning advertising texts, slogans, and posters (Mu'allimat et al., 2023). This study applies triangulation techniques by comparing data collected from

several sources and different methods (Nurfajriani, W. V., et al., 2024). The expert validation data will be compared with the student test results. In this way, the study can ensure that the findings obtained do not depend on only one type of data but are supported by various complementary sources (Ahmad & Muslimah, 2021).

The data analysis technique in this study uses a qualitative descriptive approach. The analysis process includes stages such as data reduction, data presentation, and conclusion drawing. In the data reduction stage, selection, focus, and simplification of raw data collected from the field are carried out (Billa, Faradita, & Naila, 2023). The data is presented in the form of a descriptive narrative that explains the main results of the study. Conclusions are drawn through a process of identifying patterns, themes, and connections between elements of the processed data (Fathoni, 2023).

The data from the validation by subject matter and media experts was analyzed using descriptive qualitative techniques by converting the questionnaire scores into percentages and qualitative categories. Meanwhile, the test data in the form of scores was analyzed using a descriptive qualitative approach to measure the validity of the assessment. The results of this analysis are presented narratively to provide a complete picture of the feasibility and practicality of *Wordwall-based* digital assessments in the context of learning advertising texts, slogans, and posters in junior high school.

## Results and Discussion

The development of a digital assessment based on *the educational game Wordwall* in teaching advertising texts, slogans, and posters is an innovative learning process that is enjoyable, effective, and tailored to learning needs. *Wordwall* was chosen because it is considered *an interactive platform* for presenting assessments in the form of educational games. Therefore, the development of this educational *game-based* digital assessment is highly relevant to current needs and in line with the principles of the Merdeka Curriculum, which emphasizes active learning through the use of technology.

### Design of Digital Assessment Development Based on *Wordwall* Educational Games

The design of this *Wordwall* educational game-based digital assessment has been validated by two experts, namely a subject matter expert and an Indonesian language learning media expert. This process was carried out by providing the *Wordwall* educational *game-based* digital assessment to validators for evaluation based on a pre-determined rubric. The content feasibility aspect in the *Wordwall* educational *game-based* digital assessment in learning advertising texts, slogans, and posters is seen based on the relevance of the material to the basic competencies and learning objectives (Khatimah, 2024). The practicality aspect is assessed based on the ease of use of the *Wordwall* educational *game-based* digital assessment in teaching advertising texts, slogans, and posters to students (Jamil & Khusna, 2021). The attractiveness aspect of the *Wordwall* educational *game-based* digital assessment in this learning is assessed based on the visual and interactive elements offered (Nasution & Yani, 2024). This assessment is conducted using validity scores. The validity scores provided by the validators will be used to evaluate how well the *Wordwall* educational *game-based* digital assessment can describe the targeted aspects. In this study, the validity scale of the instrument used is as follows.

**Table 1. Validity Score**

Percentage Range (%)	Category	Description
91% - 100	Highly Valid	The product is suitable for use without revision.
81% - 90	Valid	The product is suitable for use.
71% - 80	Sufficiently valid	Product is suitable for use with minor revisions.



61% - 70	Less valid	The product requires moderate revisions before use.
≤ 60	Not Valid	The product requires comprehensive revision.

This validation is to identify and improve the *Wordwall* education-based digital assessment. The process is carried out by analyzing each criterion to ensure that *the Wordwall-based* digital assessment product is declared suitable for use by teachers. The following table summarizes the results of the validation that has been carried out.

**Table 2. Validator I Results**

Aspect	Percentage Score	Category	Description
Content Suitability	75	Sufficiently Valid	The product is suitable for use with minor revisions.
Practicality	95.83	Highly Valid	The product is suitable for use without revision.
Attractiveness	87.5	Valid	The product is suitable for use.
<b>Average Score</b>	<b>86.11</b>	<b>Valid</b>	<b>Product is suitable for use.</b>

Based on the validation table from validator I above, it can be seen that the *Wordwall* educational *game-based* digital assessment in learning advertising texts, slogans, and posters received a content feasibility score of 75%. The validator assessed that the questions were written using communicative sentences that were easy for students to understand. In terms of practicality, it received a score of 95.83%, indicating that the digital assessment interface is easy to understand and has minimalist and functional visual elements. *Wordwall* has fast and practical navigation. Meanwhile, the attractiveness aspect received a score of 87.5%, indicating that the assessment is able to attract students' interest through its pleasant and interactive visual display. This high level of attractiveness is an added value that encourages student motivation to learn.

Next, a second validation was conducted to ensure the objectivity and consistency of the assessment of *the Wordwall* educational *game-based* digital assessment product. Validator II provided an assessment based on the same aspects, namely content suitability, practicality, and attractiveness. The following table shows the validation of the *Wordwall* educational *game-based* digital assessment product by validator II.

**Table 3. Validator II Results**

Aspect	Percentage Score	Category	Description
Content Suitability	91.6	Highly Valid	The product is suitable for use without revision.
Practicality	95.83	Very Valid	The product is suitable for use without revision.
Attractiveness	93.75	Very Valid	The product is suitable for use without revision.
<b>Average Score</b>	<b>93.75</b>	<b>Highly Valid</b>	<b>The product is suitable for use without revision.</b>

Referring to the validation results table by validator II above, it can be seen that the *Wordwall* educational *game-based* digital assessment in learning activities related to advertising texts, slogans, and posters received a content feasibility score of 91.6%, indicating that the digital assessment concept has been carefully designed in accordance with the learning outcomes and objectives set out in the Merdeka Curriculum. In terms of practicality, this assessment received a score of 95.83%, indicating that the assessment is very easy to use for both teachers and students. Teachers do not need to perform manual checks because the results are

displayed directly and are well organized. In terms of attractiveness, it received a score of 93.75%, indicating that the educational game model effectively creates an interactive and engaging learning environment, preventing boredom.

Based on the validation results from the two validators, the *Wordwall* educational *game-based* digital assessment in learning was declared suitable for use. In addition to being validated by experts, the *Wordwall* educational *game-based* digital assessment has also undergone validation by Indonesian language teachers as direct users of the assessment product in learning. This assessment is also important because teachers play a direct role in implementing assessments in the classroom. The validation results from teachers are presented in the following table.

**Table 4. Teacher Validation Results**

Aspect	Percentage Score	Category	Description
Content Suitability	87.5	Valid	The product is suitable for use.
Practicality	95.83	Highly Valid	The product is suitable for use without revision.
Attractiveness	90.62	Valid	The product is suitable for use.
<b>Average Score</b>	<b>91.31%</b>	<b>Highly Valid</b>	<b>Product is suitable for use without revision.</b>

Referring to Table 4 regarding teacher validation results, the content feasibility aspect received a score of 87.5%, indicating that the assessment content was in line with the learning outcomes and objectives designed in the Merdeka Curriculum. In terms of practicality, teachers gave a score of 95.83%, indicating that the assessment was very easy to use in learning. Teachers also assessed that the features available on *the Wordwall platform* are very accessible, supporting the smooth running of digital assessments in the classroom. The attractiveness aspect received a score of 90.62%, with teachers agreeing that this assessment provides an enjoyable learning experience with attractive visual displays, varied game designs, and a high level of interactivity. This assessment proves that the aesthetics and user experience in *Wordwall's* game-based digital assessments greatly support an innovative and positive learning atmosphere.

In general, the validation results by two experts and teachers indicate that digital assessment using *Wordwall* educational games for learning advertising texts, slogans, and posters has met the standard criteria for implementation as a learning evaluation instrument. These overall results provide evidence that the *Wordwall* educational *game-based* digital assessment is strong in terms of material substance, superior in practicality, and attractive. Therefore, this assessment can be used as an alternative to learning evaluations that are fun, effective, and relevant to the educational needs of the 21st century.

#### **Implementation of *Wordwall* Educational *Game-Based* Digital Assessment Development**

The implementation of the development of a game-based digital assessment *using Wordwall* in teaching advertising texts, slogans, and posters was carried out as part of the ADDIE model methodology and as evidence that this development product is indeed suitable for implementation in Indonesian language learning, particularly in teaching advertising texts, slogans, and posters. The implementation of this assessment consisted of several tests, namely exercise I, exercise II, exercise III, and a final test. Each test consists of ten multiple-choice questions that have been compiled based on the HOTS (*High Order Thinking Skills*) principle with cognitive levels C4-C6. There were 33 students in class VIII B who took the assessment, but one student did not participate from the beginning to the end of the

assessment due to illness, so the data obtained can represent the condition of the class. The following are the scores of 32 students on the digital assessment.

**Table 5. Test Results**

Test	Students Who Passed $\geq 60$	Students Not Proficient	Maximum Score	Minimum Score	Score Average	Cumulative Average	Percentage of Completion
Exercise I	19	13	100	20	62.18		59.37
Exercise II	31	1	100	30	84.68	78.33	96.87%
Exercise III	32	0	100	60	88.12		100
Final Test	32	0	100	70	89.06	83.69	100

Based on the table, it can be seen that the implementation of *Wordwall* educational *game-based* digital assessment in learning advertising texts, slogans, and posters has yielded positive results, demonstrating significant progress from the first exercise to the final test. In the first exercise, out of 32 test participants, 19 students successfully met the minimum passing grade, while the other 13 students did not meet the standard. The maximum score obtained by students was 100, while the minimum score was 20. Students obtained an average score of 62.18 with a mastery percentage of 59.37%. The test results show that many students already understand the material, but there are still a number of students who have not mastered the material well and are still adapting to the use of digital assessments. This is natural because the first exercise is the initial stage of introducing the use of digital assessments based on *Wordwall* educational *games*.

In the second exercise, the test results improved compared to the first exercise. The number of students who achieved the minimum passing grade increased to 31, while only one student did not meet the passing grade. The maximum score obtained by students remained at 100, while the minimum score was 30. Students obtained an average score of 84.68 with a passing rate of 96.87%. These results illustrate that students have become accustomed to using the *Wordwall* educational *game-based* digital assessment. In addition, students' critical thinking skills also improved in answering each question. This improvement is evidence that continuous practice and reinforcement of the material can help students gradually improve their understanding (Setioningsih & Budiarti, 2022).

In the third exercise, the students' test results showed further improvement. In this exercise, all students achieved the minimum passing grade. The maximum score obtained by students was 100, while the minimum score was 60. Students obtained an average score of 88.12 with a completion rate of 100%. These results show that students increasingly understand the concepts being studied. In addition, students are also able to apply their understanding in solving problems (Kirana, 2020). This improvement is due to the role of interactive, game-based digital assessment using *Wordwall*, which helps students think critically.

The final test in the study is a form of formative assessment that presents effective results in demonstrating the overall success of the learning process. The final test describes the increasingly optimal test results from all stages of assessment carried out. In this final test, all students successfully achieved the minimum passing grade with a maximum score of 100, while the minimum score was 70. Students obtained an average score of 89.06 with a completion rate of 100%. The mastery of all students is a strong indicator that the *Wordwall*



education-based digital assessment has significantly improved students' abilities (Husnidar & Hayati, 2021). This can be used as evidence that innovative and effective approaches can improve learning outcomes in Indonesian language learning, especially in the material on advertising texts, slogans, and posters.

Analysis of the test results from all implementations showed a significant improvement, indicating the effectiveness of *Wordwall's* educational *game-based* digital assessment in teaching advertising texts, slogans, and posters. In the first exercise, the average score was only 62.18 with a minimum score of 20, and a completion rate of 59.37%, indicating that at the beginning of the test, many students were still unable to understand the material well. The results of the second exercise showed a high increase, as seen from the average score of 84.68 with the minimum score increasing to 30 and a completion rate of 96.87%, which illustrates that students adapted to the fun and more interactive assessment format. This improvement continued in the third exercise, which obtained an average score of 88.12 with the minimum score rising to 60 and a mastery rate of 100%, indicating that students' understanding of the material had improved evenly. When averaged from the results of the first to the third exercises, the cumulative average of 78.33 indicates a gradual improvement in learning outcomes. Furthermore, when the cumulative scores from the three exercises are compared with the final test, which had an average score of 89.06 with a minimum score of 70 and a completion rate of 100%, there was an increase of 10.73 from the average final test score. These overall results are empirical evidence of the success of the *Wordwall* education-based digital assessment in improving academic achievement evenly and optimally.

Based on the overall analysis of the tests in the implementation of the *Wordwall* educational *game-based* digital assessment, it can be concluded that the assessment development design has been designed in stages through exercises developed using the ADDIE model so that it is structured systematically, adaptively, and enjoyably. This design utilizes a technological approach that can attract students' attention and create active engagement in learning. In addition, the implementation of this assessment has been proven to have a very positive effect on student learning achievement, as seen from the increase in average scores and perfect completion scores on the final test. Therefore, *the Wordwall* educational *game-based* digital assessment can be declared suitable for implementation in Indonesian language learning as an innovation to improve the quality of learning in schools.

Therefore, the research questions have been answered based on data analysis. First, the design of the *Wordwall* educational *game-based* digital assessment has been developed using the ADDIE model through a step-by-step strategy that is tailored to students' needs and is engaging. Second, the results of the implementation of the *Wordwall* educational *game-based* digital assessment can increase student active participation, improve understanding evenly, and significantly improve learning outcomes for advertising text, slogans, and posters. This success shows that *the Wordwall* educational *game-based* digital assessment is a viable alternative for learning evaluation in line with technological developments and 21st-century educational demands.

## Conclusion

According to the results of the study, it can be concluded that the *Wordwall* educational *game-based* digital assessment developed has proven to be feasible and effective for implementation in Indonesian language learning in the material of advertising texts, slogans, and posters. This is evidenced by the results of validation by two experts and teachers that this assessment meets the aspects of content feasibility, practicality, and





attractiveness with valid and highly valid categories so that it can be implemented in the classroom. The gradual implementation of the *Wordwall* educational *game-based* digital assessment also showed a positive impact on student learning outcomes, as seen from the increase in the passing scores of each student. Thus, the *Wordwall* educational *game-based* digital assessment can be an innovative learning tool that is fun, effective, and in line with the learning needs of the 21st century.

### Recommendation

This study has successfully developed and implemented a digital assessment based on *the* educational *game Wordwall* in Indonesian language learning for advertising text, slogans, and posters. As a follow-up, teachers are advised to utilize digital assessments based on educational games on an ongoing basis, not only for advertising text, slogans, and posters, but also for other relevant materials. This can enrich the variety of learning, create a more interactive learning atmosphere, and help teachers evaluate learning outcomes more effectively. For further research, it is recommended to expand the development of educational *game-based* digital assessments by involving more material in Indonesian language subjects. Therefore, innovations in technology-based learning can continue to be developed and make a significant contribution to improving the quality of education in Indonesia.

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