

## **Development of a Wordwall-Based Educational Game Test Instrument for Learning Outcomes in Qur'an Hadith at Madrasah Tsanawiyah**

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ARTICLE INFO	ABSTRACT
<p><b>Article History:</b> Recieved: 07-12-2025 Revised: 01-02-2026 Accepted: 08-03-2026</p> <p><b>Keyword:</b> Test Instrument; Learning Outcomes Wordwall; Qur'an and Hadith.</p>	<p>This study aims to develop a test instrument based on the Wordwall educational game in order to make the learning process more engaging. The research was conducted using the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation), which consists of the following stages: 1) Analysis, 2) Design, 3) Development, 4) Implementation, and 5) Evaluation. The Wordwall-based educational game test instrument was validated by media and content experts, followed by a feasibility trial involving 37 eighth-grade students of MTs DDI Wanio. The findings indicate that the developed Wordwall-based test instrument is valid, effective, and practical. Validity was confirmed by media expert validation at 88.6% and material expert validation at 81%. Effectiveness was demonstrated by improved learning outcomes, with 81.5% of trial participants achieving the minimum mastery criteria (KKM). Teacher activity observations showed 93.75%, while student responses reached 93%. Practicality was supported by the implementation rate and user response at 86.62%. The developed product can be accessed via <a href="https://wordwall.net/resource/94502507">https://wordwall.net/resource/94502507</a></p>

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### **INTRODUCTION**

Etymologically, the term “education” is derived from the Latin word *ducare*, which means “to guide” and “to direct.” Education is a conscious and well-planned effort undertaken by educators to create a learning environment that enables learners to develop their potential. Thus, in essence, education does not merely encompass cognitive aspects, but also involves learners’ spiritual, moral, and social skills. Therefore, education does not only take place in schools, but also occurs within the family and the wider community.

The educational process is closely related to learning, which does not merely involve educators and learners. There are other supporting components, one of which is learning media. Learning media are defined as tools and materials used to support the learning

process. They can also be understood as intermediaries in learning, which generally function as channels for conveying information from educators to learners, thereby maximizing memory capacity and learning retention.

Currently, learning media are not only applied during instructional activities but are also utilized in the assessment process. The use of media in assessment has undergone a significant transformation, particularly due to technological advancements that have facilitated a shift from conventional assessment methods to technology-based assessments. This transformation makes the assessment process more interactive and engaging. As a result, educators are better able to select assessment media that are relevant to the instructional content being taught. One example of an application that can be used in learning assessment is the educational game-based learning media Wordwall, abbreviated as GAULL (Elviyani & Dahnil, 2024).

Wordwall is an application designed as a learning medium that provides various template features that educators can utilize, particularly for assessing learning outcomes. The application allows educators to independently design assessment models according to the available templates and align them with the instructional material being taught. The existence of the Wordwall educational game application enables educators to develop assessment models based on their creativity. The application of Wordwall as a learning medium in assessment, supported by its diverse template features and flexibility, makes it particularly suitable for the subject of Al-Qur'an Hadith, where assessment requires not only visual elements but also audio components. Therefore, Wordwall, which is equipped with both visual and audio features, is relevant for the development of learning outcome test instruments in Al-Qur'an Hadith.

Based on the results of the researcher's preliminary observations at MTs DDI Wanio, the assessment process is still conducted manually, primarily using paper-based instruments, especially in formative assessments. This condition affects the effectiveness and efficiency of implementing digital-based assessments. In addition, MTs DDI Wanio has a regulation that allows students to bring mobile phones to the madrasa, provided that the devices are collected before the learning process begins and may only be used during lessons with the permission of the subject teacher. However, some students do not comply with this regulation and use their mobile phones during the learning process without the permission or knowledge of the subject teacher. In response to these issues, the researcher initiated the use of mobile phones as a solution to address existing problems by integrating them into the assessment process. Consequently, the assessment process, which was previously conducted manually, is transformed into a technology-integrated system.

The objectives of this study are to describe the process of developing a learning achievement test instrument for *Al-Qur'an Hadith* based on the Wordwall educational game at MTs DDI Wanio, and to determine the levels of validity, practicality, and effectiveness of the developed Wordwall-based learning achievement test instrument for *Al-Qur'an Hadith* at MTs DDI Wanio. In addition, the urgency of this study lies in the fact that, as time progresses in this digital era, educators are required to continuously implement innovations, particularly in the learning assessment process. The implementation of Wordwall-based

assessment represents a concrete innovation in conducting assessments that are aligned with the demands of the current digital era. Digital-based assessment also serves as a solution in the assessment process, particularly in utilizing mobile phones, which are often perceived as having negative impacts; however, when used for digital assessments during the learning process, they can provide meaningful educational benefits. Furthermore, digital assessment enhances efficiency and effectiveness in the evaluation process, both in terms of its implementation and in the processing and analysis of assessment results.

## LITERATURE REVIEW

### Test Instrument Development

According to the *Kamus Besar Bahasa Indonesia* (KBBI), development refers to methods, processes, and actions aimed at improvement. Development implies growth, gradual change, and progressive advancement. Growth denotes continuous improvement, while change indicates a transformation from an initial condition into a better one (Gustita'iroh, 2022). Etymologically, the term development refers to the process, method, and act of developing. In this context, development is understood as the process of translating design specifications into a physical form.

In general, development is a gradual effort to strengthen the understanding of concepts, theories, and moral values through learning and training processes. Development is also defined as an effort to enhance technical, theoretical, conceptual, and moral competencies in accordance with needs through education and training. Furthermore, development is a systematic and logical process of designing learning activities to determine all aspects to be implemented in the learning process while considering learners' potential and competencies. Learning development is an effort to improve the quality of the learning process, both in terms of content, methods, and delivery (Simarmata et al., 2021). Fundamentally, development is a conscious, planned, directed, structured, and responsible effort carried out through both formal and non-formal education. Its purpose is to introduce, nurture, guide, and develop a balanced and integrated personality foundation, while providing knowledge and skills aligned with individuals' talents, interests, and abilities. In a broader sense, product development may involve improving existing products to make them more practical, effective, and efficient, or creating entirely new products that did not previously exist.

Thus, development can be concluded as a process of creating and refining products, either by improving existing ones or by generating new products that have not previously existed. Development also serves as a process used to design, develop, and validate products, processes, or designs. Test instrument development is defined as the process of creating and refining learning media used in evaluation or assessment within the learning process.

### Learning Outcomes

To achieve a particular goal, individuals must undergo a series of stages known as the learning process. Learning is a conscious effort undertaken by individuals with the aim

of producing changes in behavior. This process involves both mental and physical activities that occur through positive interaction with the environment, resulting in changes in knowledge, skills, and attitudes. Learning outcomes serve as one of the measures to determine the extent to which learners are able to master the instructional material delivered by educators. Learning outcomes also function as indicators of success in education. More specifically, learning outcomes include conceptual understanding, mastery of skills, and the ability to apply knowledge in practical contexts. From a broader perspective, learning outcomes also encompass the development of learners' attitudes, morals, and ethics. Generally, learning outcomes are expressed in the form of scores or grades, either as raw scores or cumulative results. However, it should be noted that learning outcomes may also be reflected in changes in learners' behavior (Kusiah, 2020). Learning outcomes represent one of the fundamental results achieved by students during the learning process, accompanied by behavioral changes that reflect three essential domains: cognitive, affective, and psychomotor (Krisnayanti & Wijaya, 2022). Therefore, learning outcomes should not be viewed solely in terms of numerical score changes, but also as behavioral and attitudinal changes as well as improvements in learners' abilities.

### **Wordwall Educational Game**

The term *Wordwall* originates from the English words *word*, meaning "kata," and *wall*, meaning "dinding," thus *Wordwall* can be interpreted as a "word wall." Wordwall is an application that can be used both as a learning medium and an assessment tool that attracts learners' interest in the learning process. The application is designed to support teaching and learning activities by integrating elements of entertainment and education, thereby enhancing learners' engagement and motivation in understanding instructional content. Wordwall is also defined as an innovative, technology-based interactive learning medium that provides various features accessible within the application (Utami et al., 2022). Consequently, it offers flexibility for educators to design instructional materials through the available features. In addition, Wordwall functions as a learning medium, a learning resource, and an evaluation tool that can be utilized by educators to support learners' learning activities (Tatsa Galuh Pradani, 2022).

Fundamentally, Wordwall is a network-based application used in the learning process as an educational innovation aimed at facilitating the achievement of educational objectives. The use of Wordwall as a web-based learning platform enables educators and learners to create interactive learning interactions. Moreover, as a digital learning platform that combines educational and game-based elements, Wordwall fosters an enjoyable learning environment and encourages learners to think critically and participate actively in the learning process.

### **Al-Quran Hadith**

Etymologically, the term al-Qur'an is derived from the *mashdar* (verbal noun) of the verb *qara'a*, which means "to read," or *talā*, which also refers to the act of recitation. In

addition, the term carries another meaning derived from *jama`a*, which means “to gather” or “to collect.” Based on the first meaning, the Qur’an is understood as a *mashdar* that is equivalent to an *ism maf’ul*, namely *matlūw* (that which is recited). Based on the second meaning, the Qur’an is regarded as a *mashdar* related to an *ism fā’il*, meaning *jāmi’* (the gatherer), because the Qur’an contains a collection of narratives and legal rulings. Terminologically, the Qur’an is the word or revelation of Allah SWT, revealed to the Prophet Muhammad SAW through the intermediary of the Angel Jibril (Gabriel), and functions as guidance and direction for all humankind across all times, nations, and places.

Linguistically, the term hadith is derived from the word *jadīd*, which means “something new,” and may also refer to something recent or occurring within a short period of time. In addition, hadith also conveys the meaning of *khobar*, which refers to news or information that is conveyed, discussed, and transmitted from one individual to another. Furthermore, hadith may also be understood as *qarīb*, meaning “near” or something that is imminent. Over time, however, the meaning of hadith has expanded and become synonymous with *sunnah*. In this context, hadith encompasses all forms of the sayings, actions, approvals, and tacit consents of the Prophet Muhammad SAW, which serve as sources of guidance and legal foundations in Islamic teachings. As the second source of Islamic law after the Qur’an, hadith functions to explain and complement the general teachings contained in the Qur’an. As an academic discipline, al-Qur’an Hadith integrates two major fields of study—Qur’anic sciences (*‘ulūm al-Qur’an*) and Hadith sciences (*‘ulūm al-hadith*)—into a unified and comprehensive body of knowledge. Therefore, learning Al-Qur’an Hadith focuses on selected Qur’anic verses and hadiths that possess profound meanings, studied through processes of recitation, comprehension, and practice. These verses and hadiths are selected due to their high relevance to learners’ personal development and their role as guidance in shaping daily behavior in accordance with the teachings of the Qur’an and Hadith (Hanum, 2021).

## METHOD

The type of research employed in this study is Research and Development (R&D). Research and development is an approach designed to create new products, test the effectiveness of existing products, as well as develop and refine products that are being developed (Ruhansih, 2017). In this study, the development model used is the ADDIE model. This model consists of five interrelated stages: (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation.

The subjects of this study were eighth-grade students divided into Class VIII.A and Class VIII.B, with a total of 37 students at MTs DDI Wanio, located at Jalan Veteran No. 44, Wanio, Panca Lautang District, Sidenreng Rappang Regency. The sample was determined using a sampling technique by selecting eighth-grade classes as the trial sample in this development research. The data collected in this study consisted of both quantitative and qualitative data. Quantitative data were obtained from the results of evaluations conducted by media experts and subject-matter experts, as well as from student response

questionnaires. Meanwhile, qualitative data were derived from feedback, comments, criticisms, suggestions, and revisions provided by validators, educators, and students.

## RESULTS

### **The Process of Developing an Al-Qur'an Hadith Learning Outcomes Test Instrument Based on Wordwall Educational Games**

This study employed a development research model, also known as Research and Development (R&D), using the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. The following outlines the process of developing test instruments for Al-Qur'an Hadith learning outcomes using Wordwall-based educational games, referring to the ADDIE model:

#### 1. Analysis

The initial stage in the ADDIE development research model is the Analysis phase, during which the researcher conducts an analysis to determine the appropriate product to be developed. In this stage, the collection of information regarding learning needs, desired learning outcomes, and the characteristics of learners becomes the primary focus. The Analysis phase involves evaluating the requirements and feasibility of the development process. The purpose of this phase is to identify and assess learners' initial abilities in achieving learning outcomes in accordance with the KMA Merdeka Curriculum and the selected instructional material (Hidayat & Nizar, 2021).

#### 2. Design

The Design phase is the stage in which the researcher creates the product design, developing a blueprint of the product to be used in the learning process. In this phase, flowcharts and storyboards are also created to visually represent the product, serving as the workflow or operational system of the Wordwall-based educational game test instruments that will be developed.

#### 3. Development

After the design phase, the next step undertaken by the researcher is the Development phase. This stage involves the creation of assessments using the Wordwall application, validation by experts, and subsequent product revision. The Development phase represents the realization of the design into a functional product. In developing the Wordwall-based educational game test instruments for Al-Qur'an Hadith learning outcomes, the researcher referred to the flowcharts and storyboards prepared during the Design phase. Implementation is then carried out in the evaluation process using the test instruments that were developed during the Development phase.

#### 4. Implementation

The next stage is the implementation of the developed Wordwall-based educational game learning product. The implementation of this research was conducted at MTs DDI Wanio, specifically in the eighth-grade classes. The implementation process is divided into three activities: initial activities, core activities, and closing activities.

- a. Initial Activities. In the initial activities of the implementation phase, a pretest was conducted to determine the students' initial abilities before administering the Wordwall-based educational game test. During this phase, the researcher also observed whether the students, as users, completed the pretest seriously and attentively.
- b. Core Activities. During the core activities, the researcher distributed the Wordwall-based test links to the students during the learning process. The researcher then observed whether the students carried out the test seriously and focused on the tasks.
- c. Closing Activities  
In the closing activities, the researcher directed the students to complete the posttest. The posttest was conducted to measure the extent of the students' abilities after using the developed Wordwall-based educational game product, which was applied in the assessment process during classroom learning.

## 5. Evaluation

The Evaluation phase is the final stage in this research, which is used to determine the extent to which the Wordwall-based educational game test has achieved its objectives. This phase also includes expert revisions, which are conducted to ensure that the development process fully meets the intended needs and requirements.

### Feasibility of the Al-Qur'an Hadith Learning Outcomes Test Instrument Based on Wordwall Educational Games

#### 1. Validity of the Al-Qur'an Hadith Learning Outcomes Test Instrument Based on the Wordwall Educational Game

##### a. Media Experts Validation

The media expert validation of the Wordwall-based educational game test instruments for Al-Qur'an Hadith learning outcomes was conducted from July 7, 2025, to June 22, 2025, involving lecturers with expertise in learning media. The researcher distributed a link or Wordwall barcode containing the test instruments to ensure that the developed product was valid, feasible, and effective for achieving the learning objectives. In addition, a validation questionnaire was provided, covering content display, usability, and utility aspects, to serve as a reference for evaluating the media. The results of the media expert validation are presented in:

Table 1. Media Expert Validation Analysis Results

	<b>Variabel</b>	<b>No</b>	<b>Indicator</b>	<b>L</b>	<b>N</b>	<b>P (%)</b>
1	Display and Content	1	Selection of font size and type	3	4	75%
		2	Font color selection	4	4	100%
		3	Text readability	3	4	75%

		4	Image quality in questions	3	4	75%
		5	Supporting audio quality in questions	3	4	75%
		6	Appropriateness of images to the material	4	4	100%
2	Usability Aspect	7	Wordwall educational game assessment can be conducted anywhere	4	4	100%
		8	Ease of using the Wordwall educational game application for assessments	4	4	100%
		9	Ease of accessing the Wordwall educational game	4	4	100%
3	Utility Aspect	10	Engaging learning assessment process	3	4	75%
		11	Facilitates educators in conducting learning assessments	4	4	100%
<b>Total</b>				<b>39</b>	<b>44</b>	<b>88.6%</b>

Based on the validation questionnaire analysis, the media expert validation score was 88.6%, indicating that the media aspect of the Wordwall-based educational game test instruments for al-Qur'an hadith learning outcomes is valid and feasible, and thus suitable to proceed to the trial stage.

b. Content Experts Validation

The content validation of the Wordwall-based educational game test instruments for Al-Qur'an Hadith learning outcomes was conducted by involving lecturers with expertise in Al-Qur'an and Hadith studies. In this stage, the researcher distributed the Wordwall-based assessment containing the test instruments. Additionally, a validation questionnaire was provided, covering content validity, presentation feasibility, and practicability, to serve as a reference for evaluating the content.

Table 3. Content Expert Validation Analysis Results

Aspect	No	Criteria	L	N	P (%)
Content Validity	1	Suitability of evaluation questions with Competency and Learning Objectives	3	4	75%

	2	Questions do not cause multiple interpretations	4	4	100%
	3	Appropriateness of images and question items	3	4	75%
	4	Validity of question items	3	4	75%
	5	Validity of answer keys	3	4	75%
	6	Use of clear and understandable language	4	4	100%
Presentation Feasibility	7	Test instruments are presented in a coherent order	3	4	75%
	8	Instrumen tes yang disajikan sistematis.	3	4	75%
	9	Presentation of evaluation material attracts students' attention	4	4	100%
Practicability	10	Wordwall educational game motivates students in learning Al-Qur'an Hadith	3	4	75%
	11	Test implementation covers all learning materials	3	4	75%
	12	Test instruments explicitly and specifically include Islamic learning objectives	3	4	75%
Total			39	48	81%

Based on the analysis, the content expert validation score was 81%, indicating that in terms of content, the Wordwall-based educational game test instruments for Al-Qur'an Hadith learning outcomes are valid and feasible, and therefore suitable to proceed to the trial stage.

c. Limited Scale Trial

The limited scale trial, or small-scale trial, is an initial test conducted by the researcher involving 6 students as a sample representing the population of grade VIII.

Table 5. Limited Scale Trial Results

No.	Name	Ideal Score	Respondent Score
1	Aqila Ramadahni	25	23
2	Farras Abdullah	25	19
3	Muh. Hasraf	25	21
4	Nadia Fani Zahra	25	24

5	Nilam Sari	25	22
6	Rizal	25	20
Total		150	129
Percentage			86%

Based on the limited scale trial, the resulting score was **86%**. The percentage level can be interpreted according to Tables 6 below:

Table 6. Limited Scale Trials Percentage Categories

Percentage	Category
$x > 80\%$	Very Good
$61\% < x \leq 80\%$	Good
$41\% < x \leq 60\%$	Fair
$21\% < x \leq 40\%$	Poor
$x \leq 20\%$	Very Poor

During the limited scale trial, several comments were collected from the participants as follows:

- 1) The use of the Wordwall-based assessment makes the assessment more engaging, as the application resembles a game.
  - 2) It is hoped that the Wordwall application can also be used for learning assessments in other subjects.
- d. Large Scale Trials

The large-scale trial, or field trial, is a follow-up test conducted after the limited scale trial. The target of this large-scale trial was 37 students in grade VIII, consisting of 17 students from class VIII.A and 20 students from class VIII.B. The trial was conducted on Saturday, August 30, 2025 with the results presented as follows:

Table 7. Large Scale Trial Results

No.	Description	Ideal Score	Actual Score
1	Responses of Grade VIII.A Students	425	362
2	Responses of Grade VIII.B Students	500	422
Total		925	784
Percentage			84,7%

Based on the large-scale trial results, the total percentage achieved was 84.7%. The percentage criteria for interpretation are as follows:

Tables 8. Large Scale Trial Percentage Categories

Percentage	Category
$x > 80\%$	Very Good
$61\% < x \leq 80\%$	Good

$41% < x \leq 60%$	Fair
$21% < x \leq 40%$	Poor
$x \leq 20%$	Very Poor

It can be concluded that the developed product achieved a percentage of 84.7%, which falls into the “Very Good” category.

2. The Effectiveness of a Wordwall-Based Educational Game as a Learning Outcome Test Instrument for Al-Qur’an and Hadith

a. Learning Outcome Test

Learning outcome tests refer to trials that include pretest and posttest.

Table 9. Classification of Learning Outcomes

No.	Score Classification	Pretest		Protest	
1	Score > 75	8	30%	22	81.5%
2	Score < 75	19	70%	5	18.5%
	Total	27	100%	27	100%

Based on the table above, the researcher used a score of 75 as the Minimum Competency (KKM) in conducting the pretest and posttest. The number of students who participated in the pretest was 27, with a total of 8 students passing and 19 students failing. After the development of this test instrument was introduced and used as a treatment, the posttest results were obtained with a total of 27 students participating in the posttest, with a breakdown of 22 students passing and 7 students failing.

b. Observation of the Researcher’s Activities

Observation is a data collection method conducted by directly observing the object or subject under study. Overall, the observation of the teacher’s activities is presented in the following table.

Table 10. Results of the Observations of Teacher Activities

No.	Observed Aspects	Ideal Score	Obtained Score
Initial Activity			
1	The teacher opens the session by greeting, leading a prayer, and checking students’ attendance.	4	4
2	The teacher confirms students’ readiness to participate in the learning assessment.	4	4
3	The teacher distributes the Wordwall-based assessment link.	4	4
Core Activity			
4	The teacher explains how to complete the Wordwall-based assessment.	4	4

5	The teacher ensures that all students have answered the assessment questions via Wordwall.	4	4
Closing Activity			
6	The teacher displays a recap of students' scores.	4	4
7	The teacher gives appreciation to students who complete the quiz correctly.	3	4
8	The teacher provides motivation to students who obtain scores below the Minimum Mastery Criterion (KKM).	3	4
Total		30	32

Based on the results of the observation of the teacher's activities, each stage of the learning process (opening, core, and closing activities) achieved a percentage score of 93.75%, which is categorized as effective. The effectiveness was measured in general terms, as the score exceeded the 75% threshold used as a benchmark for determining the effectiveness of the development of the Wordwall-based educational game learning outcome test instrument for Al-Qur'an and Hadith.

c. Students Response Questionnaire

The final instrument used by the researcher to measure the effectiveness of the development of the Wordwall-based educational game learning outcome test instrument for Al-Qur'an and Hadith was a user response questionnaire, namely students' responses. The questionnaire consisted of 11 items presented on a 4-point scale. The following are the results of the questionnaire administered to the trial subjects.

Table 11. Effectiveness of Students Response

No.	Description	Ideal Score	Obtained Score
1	Class VIII A	702	748
2	Class VIII B	817	880
Total		1519	1628
Percentage		93%	

Based on the results obtained, the effectiveness of the student response questionnaire showed a percentage of 93%.

Table 12. Percentage Criteria of Effectiveness

Score Range	Criteria
1–24	Ineffective
25–49	Less Effective
50–74	Moderately Effective

Based on the effectiveness testing conducted by the researcher, it can be concluded that all evaluation instruments, including learning outcomes tests, observation of teacher activities, and user (student) responses, indicate that the development of the Wordwall-based educational game learning outcome test instrument for Al-Qur'an and Hadith at MTs DDI Wanio is effective for use.

### 3. Practicality of the Al-Qur'an Hadith Learning Outcomes Test Instrument Based on the Wordwall Educational Game

The practicality of developing the Wordwall-based educational game test instrument was measured using the results of the analysis of implementation observations and students' responses. The practicality aspect was assessed based on the instruments that had been developed. The practicality evaluation involved all users, namely the entire population of Grade VIII students, totaling 37 students.

Table 13. Practicality Level Data of the Test Instrument Development

No.	Description	Ideal Score	Obtained Score
1	Class VIII A	297	340
2	Class VIII B	344	400
Total		641	740
Percentage			86.62%

Table 14. Practicality Percentage Criteria

Score Range	Criteria
0%–19%	Very Impractical
21%–40%	Less Practical
41%–60%	Moderately Practical
61%–80%	Practical
81%–100%	Very Practical

## DISCUSSION

### The Development Process of a Wordwall-Based Educational Game Learning Outcome Test Instrument for Al-Qur'an and Hadith

#### 1. Analysis

The analysis stage is the initial phase of the ADDIE research model, which begins with an analysis of students' needs at MTs DDI Wanio during the learning process. Current technological developments provide opportunities for students to explore various resources through their mobile phones. Therefore, students' strong tendency to use mobile devices necessitates the integration of digital technology into learning, particularly in the learning assessment process. Considering this phenomenon, it is evident that there is an urgent need for learning media in the assessment process that aligns with technological advancements, can be applied to students, and is capable of enhancing their learning abilities.

## 2. Design

In the design stage, Wordwall was selected as the media for developing the learning outcome test instrument for Al-Qur'an and Hadith because it is capable of creating engaging assessment models using the various templates available. In this study, flowcharts and storyboards were used to provide a clear illustration of the workflow and the main components involved in the development of this assessment media.

## 3. Development

The development process of this learning outcome test instrument was based on the Wordwall application. The development process demonstrated that the use of Wordwall in learning assessments was well-received by students due to its ease of access, engaging interface, and usefulness as an assessment tool for both teachers and students. As a result, it produced assessments that were valid, effective, and practical.

## 4. Implementation

The implementation process of the learning outcome test instrument development was conducted in Grade VIII at MTs DDI Wanio. The implementation consisted of three main activities: the opening activity (pretest and distribution of the Wordwall application link to students), the core activity (answering the questions developed through the Wordwall application), and the closing activity (posttest and reflection). From these three main activities, the implementation results indicated that the Wordwall application could enhance students' responses, with a percentage of 93% during the learning assessment conducted using this application.

## 5. Evaluation

The evaluation of the development of the Wordwall-based learning outcome test instrument indicated that the Wordwall application met the criteria for validity, effectiveness, and practicality, making it suitable for general use by educators in conducting learning assessments in madrasahs or schools. Despite the validity, effectiveness, and practicality of this media, some challenges were encountered in the field. These included network issues, such as slow Wi-Fi or mobile internet caused by excessive users exceeding network capacity, and classroom noise during the assessment process, which could disrupt the learning environment if not properly managed. However, based on this evaluation, it can be concluded that the development of this assessment media has achieved its primary objective, which is to enhance students' learning outcomes, while still leaving room for further development in the future.

### **Feasibility of the Wordwall-Based Educational Game Learning Outcome Test Instrument for Al-Qur'an and Hadith**

The development of the Wordwall-based educational game learning outcome test instrument for Al-Qur'an and Hadith was evaluated based on three main aspects: validity, effectiveness, and practicality. The following provides a comprehensive overview of the quality and potential of the Wordwall-based learning outcome test instrument for use in the learning assessment process.

## 1. Validity

Validity is an essential component in assessing the feasibility of a test instrument in the learning assessment process. This aspect includes validation by media experts and material experts. Based on the study results, media expert validation showed a score of 88.6%, categorized as Valid/Feasible/No Revision Needed, while material expert validation showed a score of 81%, also categorized as Valid/Feasible/No Revision Needed. The validation results from both experts emphasize that the development of the Wordwall-based learning outcome test instrument for Al-Qur'an and Hadith meets the standards for use in digital learning assessments.

## 2. Effectiveness

- a. Learning outcome test. The learning outcome test indicated that after using the Wordwall-based educational game test, the posttest results reached 81.5%, with 22 students achieving scores above the Minimum Mastery Criterion (KKM) of 75. In contrast, the pretest results showed only 30%, with 8 students reaching the KKM. This demonstrates a significant improvement in students' understanding of the material and their ability to answer questions on the Wordwall-based learning outcome test covering the topic "*Understanding the Rules of Mad Silah, Mad Badal, and Mad Farqi in the Qur'an and Hadith narrated by Abu Hurairah and Mustaurid*".
- b. Observation of user activity. The observation of user activities during the development of the Wordwall-based learning outcome test instrument showed a score of 93.75%. This indicates that users were able to implement the test instrument very effectively, suggesting that it can be applied successfully by other educators.
- c. User response questionnaire. The user response from the development of the Wordwall-based learning outcome test instrument showed a score of 93%, categorized as effective. This indicates that the instrument successfully met the needs of its users.
- d. Practicality  
The practicality of this learning assessment was measured through implementation observation and user responses in Grade VIII at MTs DDI Wanio, Sidenreng Rappang Regency. The practicality test of the Wordwall-based learning outcome test instrument showed a score of 86.62%, categorized as very practical for use.

In the implementation of education, it is inevitably related to learning evaluation. The implementation of evaluation in the learning process is one of the important aspects in conducting effective teaching and learning activities (Magdalena et al., 2020). Learning evaluation is also closely related to instructional media, as learning media support the implementation of the evaluation process. The development of instructional media must also refer to several criteria to produce high-quality learning media, including: (1) alignment of teaching materials with learning objectives, (2) usefulness and suitability to students' needs,

(3) ease of understanding in terms of both content and language used, and (4) relevance and systematic organization.

This study reinforces findings that the use of Wordwall media in the evaluation process can improve students' learning outcomes at the Madrasah Tsanawiyah (Islamic junior high school) level. These results are consistent with the findings of Zhenith Surya Pamungkas (2021), which showed that interactive Wordwall learning media increased students' learning motivation at the junior high school level. In addition, Yosep Setiawan and Dedi Andrianto (2024) explained that the use of Wordwall-based learning media significantly increased students' interest in learning Islamic Religious Education compared to previously used conventional methods. Anisah Fitri et al. (2024) also confirmed that the use of Wordwall-based learning media in elementary schools was able to increase students' learning interest, with research results covering four indicators: feelings of enjoyment increased from 4.35% to 73.91%; interest from 9% to 73.91%; attention from 13% to 78.26%; and engagement from 13% to 73.91%.

From the perspective of the ADDIE model theory, which is applied from needs analysis to evaluation, it is recognized as an effective framework for developing digital instructional media (Maribe & Yuliantri, 2024). The combination of this strategy with Wordwall media supports the theory that visual and interactive-based teaching materials facilitate students' understanding, as explained in learning media theory (Mawardi & Sumantri, 2021). Furthermore, research in the context of Islamic education indicates that the use of Wordwall not only enhances students' cognitive aspects but also promotes critical thinking skills in line with indicators of analysis, evaluation, and creativity in higher-order learning. Thus, the findings of this study not only empirically demonstrate the effectiveness of Wordwall but are also closely related to the theoretical foundations of Al-Qur'an and Hadith studies, interactive digital media theory (Wordwall), the ADDIE model, and learning outcomes theory. This confirms that the development of game-based learning outcome test instruments using Wordwall is not only technically innovative but also has a strong theoretical foundation and is relevant in improving students' learning outcomes.

Overall, the Wordwall-based educational game is categorized as highly feasible based on validation from the three expert fields. The development of Wordwall-based learning outcome test instruments has fulfilled various important components in the learning process. This validation test not only ensures the quality of the content and presentation but also provides opportunities for continuous improvement based on expert suggestions. The results of this validation are important to ensure that the developed learning resources are truly beneficial and effective for students. It is expected that this instructional media will increasingly meet students' needs and become an optimal learning tool by considering the input provided by experts.

## CONCLUSION

During the development process of the Wordwall-based educational game learning outcome test instrument for Al-Qur'an and Hadith, several key findings emerged that provide valuable insights. First, the Wordwall application offers various template features

that can be utilized in the learning assessment process. In addition, Wordwall is equipped with a leaderboard feature that provides information on students' assessment answers. Second, validators suggested adding more items related to Hadith to balance the proportion of questions on the Qur'an and Hadith within the test instrument. Third, overall, in terms of validity, effectiveness, and practicality, the Wordwall-based learning outcome test instrument was deemed globally feasible for use in learning assessments, particularly for Al-Qur'an and Hadith subjects. Fourth, this learning media can be used for both assignments and formative or summative assessment questions simply by accessing the provided link, offering flexibility in its implementation.

The development process of the Wordwall-based learning outcome test instrument followed the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). The analysis stage included a needs assessment to understand users' requirements, identify the test blueprint, and determine learning objectives. The design stage involved creating a blueprint for developing the test instrument to be used in formative assessments. The development stage referred to the actual creation of the test instrument in the form of a game. The implementation stage involved a trial with Grade VIII students at MTs DDI Wanio, Sidenreng Rappang Regency. Finally, the evaluation stage included expert validation by media and material specialists, as well as analyses of effectiveness and practicality.

The results indicate that the Wordwall-based educational game learning outcome test instrument is valid, effective, and practical. Validity was confirmed through media expert validation (88.6%) and material expert validation (81%). Effectiveness was demonstrated by an increase in student learning outcomes, with 81.5% of the trial subjects achieving the Minimum Mastery Criterion (KKM). Observations of teacher activities showed a percentage of 93.75%, and student responses reached 93%. Practicality was indicated by the implementation and user response percentage, which reached 86.62%.

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