

Effectiveness of Using Wordwall as a Gamification Media in Learning to Increase Student Learning Motivation

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Abstract

Lack of student motivation is a determining factor in the learning process, thus requiring engaging learning tools that are in line with technological developments favored by students. Wordwall is an educational game that can be utilized as an interactive learning medium. This learning medium boasts many prominent features that are engaging and capable of arousing student motivation and also enabling the creation of interactive activities. These features include crossword puzzles, quizzes, word games, and other games. The research method used was a literature review. The method for searching for article data sources was conducted through the Google Scholar database resources (2022-2024) by retrieving relevant articles published in Indonesian. Key terms and phrases related to wordwall applications, gamification media, and student learning motivation were used in the search for related subjects. The literature search strategy from journals and proceedings used the PICOS framework. The results of this study indicate that Wordwall is effectively used as a gamification medium in learning to increase student motivation, thereby developing students' thinking skills and competitiveness in understanding the material. Furthermore, using Wordwall is also more efficient because it has many game features for designing and reviewing learning assessments that can be played online using a laptop or smartphone anywhere and anytime.

Keywords: Gamification; Learning Motivation; Media; Wordwall.

Introduction

Education is an effort to enhance and develop human personality, both physically and spiritually. Education is crucial for improving a person's quality and integrity. It is also a consciously planned and implemented effort to achieve teaching and learning activities and a learning environment that enable students to actively develop their potential. This aims to ensure students possess spiritual and religious strength, intelligence, noble morals, personality, self-control, and the skills needed by themselves, their country, and their nation. Thus, every individual has the opportunity to acquire the knowledge and skills to improve their lives and make a positive contribution to overall development.

Education is crucial for shaping the nation's next generation. Achieving this goal requires a learning process, as this teaching and learning process is a stage of communication. This means the transmission of a message from the sender to the recipient through a specific medium or channel. The role of media is crucial in achieving goals and improving learning skills in all forms of learning communication. Therefore, one element of the learning stage that may attract student interest is learning media, especially if the media is game-based, as games are essentially entertaining and inspiring. According to several studies, students who

participate in game-based learning are more likely to want to continue learning than students who receive teacher-centered learning.

Currently, the development of science and technology is rapidly increasing. Technology is believed to be able to address human challenges, one of which is in the field of education. The use of technology has become a breakthrough in today's learning system. Digital technology in educational institutions can be used as a supporting tool in learning, both as a means of accessing information and learning resources, as well as as a tool to support learning activities and assignments. Educators must be able to adapt to technological developments, mastery, and knowledge, because the use of technology can support the learning process. For students, mastery of technology can support their thinking processes and mastery of science and technology.

With the advancement of technology, children aged 13-15 are already actively playing online games. This active participation in games has a negative impact on children's activities, one of which is learning. These games, in the form of applications, constantly challenge children to achieve their desired goals and want to play them continuously, resulting in laziness and loss of motivation to learn. Therefore, teachers, as facilitators and motivators, must provide various learning innovations to increase students' learning motivation. In this regard, teachers need creative learning media to increase students' enthusiasm for learning.

Using gamification in the learning process involves more than just creating a simple game. There are steps in developing a gamification learning model, as follows: (1) understanding the context and intended use of the game, (2) establishing learning objectives, (3) mapping the experiences gained by students, (4) analyzing existing resources, and (5) applying gamification elements. Furthermore, consideration is needed for the gamification design itself. Three basic components for producing a good gamification design are: (1) having special meaning for the user, (2) enabling users to master the topic being discussed, and (3) being able to stand alone, considering each user's individual preferences.

Students naturally need motivation to engage in learning activities. Based on this, educators have a responsibility to develop students' enthusiasm for learning. Both intrinsic and extrinsic motivation can influence the learning process. Learning motivation is crucial for students, ensuring they can effectively engage in learning and foster positive attitudes. This argument leads to the conclusion that student interest in using learning media is crucial, and if they do, their learning motivation will naturally increase. A person's learning outcomes are more influenced by how actively they engage in their education. Students with high motivation will naturally engage with learning with enthusiasm and energy, which positively impacts their academic performance, and vice versa.

Lack of student motivation is a determining factor in the learning process, so engaging learning tools are essential, aligned with technological developments that students enjoy. The use of technology in learning can increase student motivation, such as interactive learning with game-based media that can be accessed directly on the internet. This is considered effective because interactive game learning media aligns with the interests of both male and female students.

Learning processes that rely on worksheets, lecture methods, and simply question-and-answer sessions are considered ineffective and contribute to low student motivation. The use of interactive learning media, such as wordwalls, can be an effective solution to increase student motivation and engagement, and can help students better understand and master the subject matter. The use of interactive and engaging learning media

is necessary to ensure students are active and engaged in the learning process. Researchers hope that the use of interactive learning media based on wordwalls can increase student motivation.

Although many previous studies have discussed increasing learning motivation through the implementation of gamification-based applications, the reality in the field shows that many students still show low interest and enthusiasm in learning. This can be caused by several factors, such as a lack of teacher creativity in designing learning media and teaching methods that are too monotonous. In this case, the identified gap is the difference between the theory that shows there are many strategies that teachers can use to increase student learning motivation, such as the use of interactive learning media, a conducive learning environment, and a variety of learning methods, and the reality that low learning motivation remains a significant problem at many levels of educational units. Therefore, until now, many studies are still being conducted by researchers to increase student learning motivation through the application of varied learning methods and gamification-based learning media. This shows how important it is to increase learning motivation, which will ultimately have an impact on student learning outcomes.

Wordwall is an educational game that can be used as an interactive learning medium. This learning medium has many prominent features that are attractive and can stimulate student motivation and also allow for the creation of interactive activities. These features include crossword puzzles, quizzes, word games, and other games. One advantage of this wordwall is the wide variety of customizable templates. This makes it easier for educators to choose features and templates that best suit the needs and characteristics of their students. Given the importance of education, especially Informatics, the learning process must be engaging and enjoyable for students to prevent boredom during the lesson. Using creative and engaging learning media is an effective strategy for increasing student motivation.

Furthermore, the wordwall application is a game-based learning evaluation tool used to motivate students to engage with the material presented and to develop their thinking skills and competitiveness in understanding the material. The wordwall application was developed by Visual Education Ltd, a British company. This application is free for five template options. The most attractive aspect of this wordwall application is its numerous game features and the ability to play online using the provided printer. Utilizing this learning media can create new experiences, so classroom learning doesn't become boring or monotonous/static. The wordwall application is suitable for designing and reviewing learning assessments. There is interest from students in the learning media used, thus motivating students to read and listen more focused.

Previous research conducted by (Lubis & Nuriadin, 2022) entitled "The Effectiveness of the Wordwall Application to Improve Student Learning Outcomes in Elementary School Mathematics". The results showed that the use of the Wordwall application is effective in learning and can improve student learning outcomes in Mathematics, especially spatial geometry, during online learning during the current pandemic. The Wordwall application can help students remember the material taught and can increase their motivation and enthusiasm for learning.

Several researchers have conducted similar studies on text document classification, one of which, by (Ariyanto, Nurcahyandi, & Diva, 2023) conducted a study on the use of Wordwall gamification to improve students' Mathematics learning outcomes. The results of this study indicated that the use of Wordwall gamification in learning can have a positive impact because in addition to learning, students can also play games. This can stimulate their curiosity when they are unable to complete a game, and they tend to be interested in trying it again. This curiosity about new things will change their learning interests, thereby improving their learning outcomes.

The next study, conducted by (Wahyuni, Fitrianiingsih, & Fitriati, 2023) examined the development of interactive learning media using wordwalls in ICT subjects to improve student learning outcomes. This study, conducted in a small group trial involving five students, yielding an average score of 3.6, representing 90%, a very good percentage. A large group trial involving 22 of the 34 students in grade XI MIPA 1, yielded an average score of 3.6, representing 91%, a very good percentage. The pretest results showed a completion rate of 18%, representing incomplete criteria, while the posttest results showed a completion rate of 71%. The pretest and posttest results indicated an improvement in student learning outcomes in grade XI MIPA 1 using wordwalls.

(Tanthowi et al., 2023) also conducted a study on the effectiveness of using wordwalls, entitled "The Effectiveness of Using Wordwall Media to Improve Student Learning Outcomes." The results of the study showed that learning outcomes improved with the use of Wordwall media. This was evidenced by the posttest results, with 83% of students completing the lesson and 17% failing.

Further research by (Aprilia, Tryanasari and Kartikasari, 2024) examined the effectiveness of using a wordwall educational game on science learning outcomes at SDN Karangtengah 4 Ngawi. In this study, Wordwall was used as a game-based medium for teachers to present science material. Learning delivered through games fosters learning motivation, which then impacts student learning outcomes.

(Supana & Setiawan, 2024) conducted a study on the application of a website-based Wordwall application to improve student learning outcomes in ICT at SMP Negeri 2 Japara. The results showed a significant increase in learning scores in the experimental class compared to the control class. The Wordwall application can foster student interest in learning, aiming to further develop student learning outcomes.

Further research was conducted by (D. Simamora, C. Tampubolon, & E. Simanungkalit, 2024) examining the effect of interactive learning media based on the educational game Wordwall on the negotiation text writing skills of 10th-grade students at SMA Negeri 2 Dolok Sanggul. The study found that the educational game Wordwall can significantly improve student motivation, engagement, and learning outcomes, warranting further exploration and implementation in education.

The purpose of this study was to analyze the effectiveness of using Wordwall as a gamification medium in learning to increase student motivation. One potential solution is for Wordwall to assist teachers in increasing student motivation in Informatics lessons. This method was chosen because students need learning media that can guide and assist them in problem-solving and actively utilize the increasingly developing technology, thus improving learning outcomes. This of course must begin with efforts to increase student motivation, one way of doing this is by using gamification media like Wordwalls. The more enthusiastic and motivated students are in learning, the easier it will be to understand the material, resulting in better learning outcomes. Based on the above description, the researchers are interested in choosing the research title "The Effectiveness of Using Wordwall as a Gamification Medium in Learning to Increase Student Motivation."

Literature Study

Wordwall is a website that provides various educational games intended to serve as a fun assessment tool and evaluation tool for students. It is also easy for students to use, and can be accessed via their respective gadgets and laptops. Wordwall-based educational games are digital game-based learning applications that feature various quiz features, combining color, moving images, and sound, in the form of games that educators can utilize in their lessons. Wordwall games facilitate educators' creativity in evaluating material for students (Nisa & Susanto, 2022).

Wordwall can be used by teachers as a student evaluation tool. A distinctive feature of this application is its enjoyment for students due to its wide variety of game options, such as quizzes, word matching, word searches, word scrambles, and so on. This application is very easy to access and use by both teachers and students because it can be accessed through a browser. The wordwall application makes it easy for new users because it provides a wide variety of examples (Asti, 2023).

The advantages of wordwall games include their diverse features and flexibility, their ability to engage students due to their playful nature, their versatility in all subjects, their ability to foster creativity, their ability to build character through collaboration with peers, and their simplicity. However, the disadvantages of wordwall games include their time-consuming creation, the students' enthusiasm can make it difficult for teachers to manage their students, and the use of wordwall applications can be difficult to carry around (Nisa & Susanto, 2022).

Learning media are visual aids that can assist educators in conveying teaching materials, enhancing student creativity, and increasing student attention during the learning process. Media can increase learning motivation by encouraging students to write, speak, and receive more stimulation. As we know, many students experience problems. One such problem is low student interest and motivation, which can impact learning achievement. Therefore, teachers need to innovate in creating learning media so that current problems and difficulties can be addressed promptly (Tanthowi et al., 2023).

According to (D. Simamora et al., 2024), the integration of technology-based interactive learning media into writing lessons has emerged as a promising solution for improving students' writing skills. Along with the development of information and communication technology, various innovative learning tools have been developed and have had a significant impact on education. One example is the use of educational games, which are not only entertaining but also serve as effective tools for improving students' understanding and skills.

The use of learning media can support the continuity of learning by handling and conveying messages and content. Media is one method for further developing educational experiences. Because there are various types of media, selecting the right one is crucial for effective use (Supana & Setiawan, 2024). Evaluation of the stages or processes of visual and audio communication in educational activities is known as learning media. Therefore, evaluation of learning media is one method for increasing student motivation and learning effectiveness.

Educational games are games that influence the learning process and are useful for assessing students' skills and abilities in completing the game. Educational games can be technology-based digital games that can be used to support learning, thereby increasing understanding and training learning skills and motivation. Educational games can be used as tools or media in the learning process, useful for supporting the learning process (Aprilia, Tryanasari and Kartikasari, 2024). The use of games in educational settings can increase students' readiness to engage with content, as they learn to navigate the steps necessary to answer questions in a game environment. Experiential learning theory also supports this, showing that active engagement in tasks will result in better retention and understanding of the material (D. Simamora et al., 2024).

According to (Ariyanto et al., 2023), the use of gamification in the learning process is not simply about creating ordinary games. The steps in developing a gamification learning model are as follows :

- 1) Understand the context and intended use of the game.
- 2) Establish learning objectives.

3) Create a map of student experiences.

4) Analyze existing resources.

5) Apply gamification elements.

Furthermore, consideration is needed for the gamification design itself. There are several basic components to producing a good gamification design, including (Ariyanto et al., 2023) :

a) Has special meaning for its users.

b) Can enable users to master the topic being discussed.

c) Can stand alone, taking into account the preferences of each user.

Motivation is a change in energy within a person, characterized by drives and reactions to achieve goals and fulfill their needs (T. Putri, Ramadhani, Vk, Dinova, & Desi, 2025). Motivation is the desire or passion to do something. Without motivation, there would be no activity, as without motivation, people would become passive. Motivation is a change in energy within a person, characterized by the emergence of a "feeling" and preceded by a response to the presence of a goal. There are three important elements of motivation: 1) Motivation initiates energy changes within each individual. Although motivation arises from within, its manifestation involves physical activity; 2) Motivation is characterized by the emergence of feelings and affection. In this case, motivation is relevant to psychological issues, affection, and emotions that can determine human behavior; and 3) Motivation is stimulated by the presence of a goal (Oktiani, 2017).

Student learning motivation is a crucial aspect in achieving learning success. Many students experience low learning motivation simply because they feel bored with the lessons their teachers deliver. One way to increase student interest and motivation in learning is through the use of appropriate learning media, as well as through exploration and curiosity. The use of learning media in learning can create a point of interaction and address current needs, create motivation and strengthen successful learning, and of course, have a positive impact on learning (Husna & Supriyadi, 2023).

Cultivating learning motivation within an individual is not easy, because in addition to external factors, internal factors also significantly influence students' desire to learn (Febrianti, 2019). For example, if a student's health is poor, it will certainly decrease their motivation to learn. However, if the student is in good health, their motivation to learn will increase. The use of appropriate learning media can facilitate the delivery of material and will make students enjoy the learning process more.

According to (Nisa & Susanto, 2022), the function of learning motivation is closely related to learning achievement, starting from the desire to move to the achievement of a goal. Therefore, learning motivation is crucial, as learning will also improve. Learning motivation can be defined as a driving force for activities, both consciously and unconsciously, that fosters a passion for learning. Motivation embodies the desire to be active and move, both in one's attitudes and behaviors. Therefore, learning motivation can be said to be a powerful driving force that emerges consciously and unconsciously, leading to active learning.

There are two types of learning motivation: intrinsic (internal) motivation and extrinsic (external) motivation. Intrinsic motivation occurs naturally and does not require stimulation because it is already driven by oneself. Intrinsic motivation arises from an individual's inner desire to succeed and the desire to learn to achieve goals. For example, a child may study based on their own desire because they realize they

must study to get good grades. Extrinsic motivation, on the other hand, arises from external encouragement. Examples of extrinsic motivation include rewards, a supportive environment, and engaging learning methods. For example, a child who studies because his parents encourage him to study, such as giving him a reward if he gets a good test score (Nisa & Susanto, 2022).

Research Method

The PICOS framework was used in a literature search strategy from journals and proceedings on the use of word walls as a gamification medium in learning.

- a) Population/problem, namely the population for which the problem will be analyzed.
- b) Intervention, namely the intervention or management action in the case and its explanation.
- c) Comparison, namely a comparison with other management.
- d) Outcome, namely the results of the research.
- e) Study Design, namely the research model used for the review.

(Syahputra, Rosyidah, & Baderi, 2020)

In searching for journals, keywords (AND, OR NOT or AND NOT) are used for more detail in searching for journals and can facilitate the search for the desired journal. The keywords used are "Using Wordwall as a Gamification Media to Increase Student Learning Motivation". The data used in this study is secondary data, where the data is not obtained directly in the field, but taken from data from studies that have been carried out previously. The data source used is a database in Google Scholar in the form of journal articles and proceedings.

Table 1. Inclusion and Exclusion Criteria with PICOS Format

No.	Criteria	Inclusion	Exclusion
1.	Problem	National and international journals from different databases related to the research variable, namely wordwalls.	National and international journals from different databases unrelated to the research variables.
2.	Intervention	Use of platforms or applications to create gamification media in learning.	No intervention.
3.	Comparison	No comparison factors.	No comparison factors.
4.	Outcome	Wordwalls are effectively used as gamification media in learning.	Wordwalls are not effective as a gamification medium in learning.
5.	Study Design	Literature Review.	Except Literature Review.
6.	Publication Year	Journals published in 2022-2024.	Journals published before 2022.

7. Language	Indonesian and English.	Indonesian and language other than English.
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From the results of a literature review search through the existing database in Google Scholar using the keyword "Using Wordwall as a Gamification Media to Increase Student Learning Motivation", in the search the researcher found 800 articles which were then selected and obtained 660 articles that fit the variables in this study. The feasibility assessment of the 660 articles found that there was no eligibility for inclusion, so that exclusion was carried out and the remaining 21 articles would be reviewed consisting of 20 journal articles and 1 proceeding. The literature review used was grouped according to similar data according to the results assessed to answer the objectives using a narrative method. Journals that were in accordance with the inclusion were collected into one and summarized which included the name of the researcher (author), year of publication, journal name (volume and number), title, research methods and results and database.

Results

This section contains literature whose authenticity can be verified in accordance with the research objectives. The literature results presented in this study contain a summary and main points of each selected article in table form, followed by a paragraph explanation of the table's contents.

Table 2. General Characteristics in Completing Literature Studies

No.	Category	<i>f</i>	%
A.	Publication Year		
1.	2022	1	4.76
2.	2023	2	9.53
3.	2024	18	85.71
	Amount	21	100
B.	Research Design		
1.	<i>Literature Review</i>	2	9.53
2.	<i>Research & Development (R&D)</i>	1	4.76
3.	Experiment	2	9.53
4.	Case study	1	4.76
5.	Classroom Action Research (CAR)	5	23.80
6.	Qualitative Descriptive	9	42.86
7.	Descriptive Quantitative	1	4.76
	Amount	21	100
C.	Research Sampling		
1.	<i>Total Sampling</i>	7	33.33
2.	<i>Purposive Sampling</i>	8	38.09
3.	<i>Convenience Sampling</i>	2	9.53
4.	<i>Simple Random Sampling</i>	4	19.05
	Amount	21	100
D.	Research Instruments		
1.	Questionnaire	1	4.76
2.	Documentation Study	2	9.53
3.	Observation and Questionnaire	4	19.05

4.	Observation, Interviews, and Questionnaires	3	14.28
5.	Observation, Test, and Questionnaire	1	4.76
6.	Observation, Interviews, and Documentation	1	4.76
7.	Observation, Test, Interview, and Assessment Sheet	1	4.76
8.	Observation, Questionnaire, and Literature Study	1	4.76
9.	Observation, Questionnaire, and Documentation	3	14.28
10.	Observation and Interview	2	9.53
11.	Observation, Tests, Questionnaires, and Documentation	1	4.76
12.	Observation, Validation Sheet, Questionnaire, and Documentation	1	4.76
	Amount	21	100
E.	Research Data Analysis		
1.	Quantitative	2	9.53
2.	Descriptive Quantitative	4	19.05
3.	Qualitative Descriptive	15	71.42
	Amount	21	100

85.71% of the literature reviewed research was published in 2024, 9.53% in 2023, and the remaining 4.76% in 2022, with almost half using descriptive qualitative research designs, amounting to 42.86%. This literature review research, namely 38.09% used purposive sampling techniques, total sampling techniques at 33.33% and Convenience Sampling and Simple Random Sampling at 9.53% and 19.05%, respectively. The research instruments widely used were observation and questionnaires at 19.05%, observation, interviews, and questionnaires at 14.285% and documentation studies at 9.53%. While observations, tests, interviews, and assessment sheets only around 4.76%. The data analysis used most was descriptive qualitative reaching 71.42%. Quantitative descriptive analysis was also quite widely used at 19.05% and 9.53% using quantitative data analysis.

Table 3. Characteristics of Wordwall as a Media Gamification of Learning

No.	Category	<i>f</i>	%
A.	Elementary School Level		
1.	<i>Wordwall</i> Media to Increase Learning Motivation.	3	14.28
2.	<i>Game</i> Media Based on <i>Wordwall</i> Technology on Learning Motivation.	1	4.76
3.	<i>Wordwall Game</i> Applications in Increasing Learning Motivation.	2	9.53
4.	<i>Wordwall Game</i> -Based Learning Media to Increase Learning Motivation.	1	4.76
5.	<i>Wordwall</i> Media on Learning Motivation.	2	9.53
B.	Junior High School Level		
6.	<i>Wordwall</i> Learning Media to Increase Learning Motivation.	1	4.76
7.	<i>Wordwall</i> as a Means to Motivate Students.	1	4.76
C.	High School/Vocational High School Level		
8.	The Influence of <i>Wordwall</i> -Based Educational <i>Games</i> on Learning Motivation.	1	4.76
9.	Implementation of Gamification Using <i>the Wordwall Application</i> to Increase Learning Motivation.	2	9.53
10.	<i>Wordwall Web</i> Media to Improve Motivation and Learning Outcomes.	1	4.76
11.	Increasing Group Learning Motivation with <i>Wordwall Media</i> .	1	4.76
12.	Efforts to Increase Learning Motivation by Using <i>Wordwall Game</i> Media.	2	9.53
13.	<i>Wordwall</i> Media in Increasing Learning Motivation.	1	4.76

14. <i>Wordwall</i> -Based Interactive Learning Media to Increase Learning Motivation.	1	4.76
15. Educational <i>Game</i> Learning Media Assisted by <i>Wordwall</i> to Increase Learning Motivation.	1	4.76
Amount	21	100

Based on a literature review of 21 journal articles and proceedings, nine articles covered the use of Wordwall as a learning gamification medium at the elementary school level, two articles covered the use of Wordwall as a learning gamification medium at the junior high school level, and 10 articles covered the use of Wordwall as a learning gamification medium at the senior high school level. The largest number of articles concerned the analysis of the use of Wordwall to increase learning motivation (14.28%).

The literature review analysis revealed that 21 articles stated that Wordwall is highly effective and suitable for use as a gamification medium to increase student learning motivation and facilitate both teachers and students in carrying out learning activities. Wordwall game-based learning media can foster student motivation in the classroom, making students more enthusiastic about learning, making learning activities more enjoyable, and thus supporting student success in the learning process. Furthermore, Wordwall is considered relevant as a learning medium because it is equipped with diverse and easy-to-use game features. After implementing Wordwall, there was a significant increase in learning motivation and the development of students' collaborative skills. This indicates that Wordwall has a significant impact on increasing student learning motivation.

Integrating Wordwalls into the curriculum can create a more interactive and effective learning environment and improve the quality of education in Indonesia. Through a collaborative approach involving teacher-student interaction and the use of visualization of key words, Wordwalls can increase active student participation in group learning. Therefore, Wordwalls have the potential to significantly increase student learning motivation in group learning contexts. Using Wordwalls as a gamification medium in learning can help reduce student boredom and fatigue. Furthermore, Wordwalls have a positive influence on learning motivation and are an easy-to-use interactive medium that can enhance student motivation. Wordwalls are a type of learning media that can improve students' mastery of material and motivate them to learn enthusiastically. Using Wordwall game applications helps design engaging and easy-to-understand learning materials, fostering student motivation in the classroom, increasing students' enthusiasm for learning in a fun environment. Teachers can utilize Wordwalls to support student success in the learning process.

Wordwall learning media can be used as one of the tools used in the current independent curriculum. Besides being easy and affordable to use, this media also offers many alternative options for presenting material and questions. Fun and varied media will make students more active and motivated in participating in the learning process. Teachers can utilize Wordwall media to collaborate on gamification-based learning. The application of Wordwalls in learning is considered relevant as a learning medium for developing student understanding. Through intelligent test layouts, Wordwall also makes it easier for students to analyze student learning outcomes. Wordwalls integrate technology into learning to create a more engaging and effective learning experience. Equipped with a variety of game features, Wordwall applications are considered to increase student motivation.

Learning using digital media, such as the Wordwall platform, in learning makes students more enthusiastic, interested, and motivated in participating. This is possible because learning is interspersed with games, so students don't feel bored during the learning process. This learning experience becomes more engaging and

enjoyable. The availability of a wide variety of educational games makes Wordwall a learning medium that doesn't get boring when used repeatedly. Its free features also make it accessible to anyone. However, this also depends on the selection of varied and innovative learning methods, strategies, and media. Despite some constraints, such as signal strength and device specifications (phone/computer/laptop), the implementation of gamification with Wordwall can increase student motivation and learning outcomes. This is because improved student learning outcomes are indirectly influenced by increased motivation to learn. Using Wordwall creates a more dynamic, enjoyable, and conducive learning environment, positively contributing to student understanding and interest. This contributes to the development of technology-based learning media and encourages teachers to integrate Wordwall into learning activities to increase the effectiveness and efficiency of the learning process.

Using Wordwall significantly increases student motivation because the application is equipped with interactive features that support more engaging and enjoyable learning and help students deepen the material more easily. There are many features and types of games available on the free Wordwall application, but to access more comprehensive features, users must use the paid version. Of course, the paid version offers far more comprehensive features than the free version. Furthermore, Wordwall can increase student participation and engagement in learning activities, and the gamification and visualization elements provided by Wordwall significantly contribute to increasing student interest and motivation. As an interactive learning medium, Wordwall offers a variety of quizzes, games, and engaging learning activities that are easily accessible to students, thereby increasing student interest and enthusiasm in learning. Using Wordwall also makes it easier for teachers to deliver material in a varied and interactive manner and create a fun and effective learning environment. Therefore, Wordwall can be an innovative solution to foster student enthusiasm in learning activities.

The success of Wordwall implementation is influenced by several key factors, including the readiness of technological infrastructure, teachers' digital competence, support from educational institutions, and the design of appropriate and structured learning activities. This indicates that this platform is an effective solution for modernizing learning methods. Wordwall also offers a more engaging learning alternative in the digital era, creating a more dynamic and interactive learning environment, and supporting the achievement of learning objectives more effectively. Wordwall has demonstrated its capabilities as an effective interactive learning platform, relying not only on technological sophistication but also on the appropriate integration of technological, pedagogical, and institutional aspects to create a more dynamic learning environment and achieve learning objectives more effectively. Teachers need to utilize this medium optimally as an additional, engaging and interactive learning strategy. However, it is important to remember that while Wordwall games can improve motivation and learning outcomes, their use must be integrated with a comprehensive and diverse learning approach. Teachers must continue to pay attention to individual student needs, encourage active participation, and accommodate different personalities and learning styles. Therefore, the use of Wordwall games can be an effective alternative to contribute to the development of innovative learning strategies oriented towards increasing student motivation.

Discussion

Based on a literature review of 21 journal articles and proceedings, nine articles fall into the category of using Wordwall as a learning gamification medium at the elementary school level, two articles fall into the category of using Wordwall as a learning gamification medium at the junior high school level, and ten articles fall into the category of using Wordwall as a learning gamification medium at the senior high school level. According to researchers (Roudlotul & Wijayanti, 2024), the use of Wordwall as a learning medium can increase student enthusiasm, motivation, interest, and learning outcomes. This is similar to research

(Nurmelati, 2022), which states that the use of Wordwall web games has a positive influence on learning motivation and is an easy-to-use interactive medium that can increase student motivation. Wordwall learning media has been proven effective in increasing student learning motivation, with an increase of 85%, according to research by (Hutabarat, Tampilen, & Suriana, 2024).

The use of Wordwall game applications in learning, as found in research by (Putri & Ulan, 2024), can foster student learning motivation in the classroom, thereby making students more enthusiastic about learning. Furthermore, learning activities are more enjoyable, thus supporting student success in the learning process. This aligns with research (Soraya & Dewi, 2024), which states that Wordwall game-based learning media consistently increases student motivation. Students demonstrate higher levels of motivation, are motivated to actively participate in learning, and exhibit increased interest. Research conducted by (Renata et al., 2024) shows that Wordwall increases students' intrinsic motivation from 60% to 85%, extrinsic motivation from 55% to 80%, and interest in the lesson from 65% to 90%.

Researchers (Azhari, Khadijah, & Rif'iyati, 2023) also conducted innovative uses of Wordwall game-based learning media, resulting in increased student motivation. The application of Wordwall in learning is considered relevant as a learning medium because it can develop student understanding through intelligent test layouts and is equipped with various game features. Wordwall also facilitates educators' analysis of student learning outcomes. The Wordwall-assisted educational game developed by researchers (Amalia, Purwanto, & Risdianto, 2024) showed that 83% of students strongly agreed and needed the Wordwall-assisted educational game as a learning medium. Validation data analysis by media experts yielded a percentage of 87.5%, material experts 77.8%, student responses 84.36%, and an N-gain of 0.67, indicating increased student motivation, making it suitable for use as a learning medium.

Wordwall-based educational games have a significant impact on increasing student learning motivation, as evidenced by research by (Atika & Amelia, 2024). Data analysis yielded a t-test hypothesis: $t = 2.57 > t = 1.68$, with a significance level of $0.014 < 0.05$. Thus, H_0 was rejected and H_1 was accepted. Researchers (Aprilia, Jamhuri, Yusuf, & Nur, 2023) also implemented Wordwall web media for learning, and the results found that Wordwall web media can improve student motivation and learning outcomes. This demonstrates that Wordwall-based learning media is effective for use in learning activities. This is consistent with research by (Nugroho, Raharjo, Handoyo, Sumartiningsih, & Yuwono, 2024) that found that Wordwalls can increase student participation and motivation, as evidenced by their activeness, enthusiasm, and willingness to ask questions and actively participate in the learning process.

A significant increase in group learning motivation occurred after implementing Wordwall media, according to research by (Hidayat & Patmanthara, 2024). In this case, students demonstrated greater engagement in the learning process, which positively impacted their understanding of the material and the development of collaborative skills. Wordwall learning media can also help students become more motivated to learn, according to research findings (Pramesti, Prasasti, & Retno, 2024). Learning videos using Canva are suitable for use in learning, according to research by (Tanthowi et al., 2023) because they are enjoyable and present no significant obstacles, making them effective in learning. The effectiveness of Wordwall media was also explained by researchers (Rahman, Rusdi, & Al-Anshori, 2024) who showed a significant increase in learning motivation with an Asymp. Sig. value of $0.000 < 0.05$, meaning the alternative hypothesis (H_a) was accepted. The average increase in pretest and posttest scores was 13.00 with a total increase of 325.00.

According to researchers (Kusnadi & Azzahra, 2024), the use of interactive learning media based on Wordwall can significantly increase student learning motivation. This is because Wordwall's interactive

features make learning more engaging and enjoyable, and help students deepen their understanding of the material more easily. Researchers (Melvi, Kustati, Amelia, & Gusmirawati, 2024) also implemented Wordwall as a gamification medium in learning, demonstrating an increase in student learning motivation and a positive impact on learning. Integrating Wordwall applications into learning can be an effective solution for increasing student learning motivation, according to research by (Suryana & Sutisno, 2024). This finding aligns with research by (Togatorop, Nisa, & Masdawani 2024), which found that Wordwall learning media is easy to use and can increase student interest and motivation in learning activities.

Wordwalls significantly influence student learning motivation, according to research (Hizbullah, Anwar, & Ulum, 2024), as indicated by an rxy value of 0.845, ranging from 0.70 to 0.90. This indicates a positive correlation between variables x and y, categorized as a strong or high positive correlation, making them effective as a learning tool. Implementing Wordwalls can significantly impact learning motivation, according to research (Simanjuntak, Sitorus, Herliani, & Purnasari, 2024), which found that this platform was proven effective in increasing student learning motivation by up to 75%, with an active participation rate of 82% and a 70% increase in learning material retention. Researchers (Nuria, Firman, & Desyandri, 2024) also implemented Wordwall-based learning media, with positive results. The use of Wordwalls significantly improved conceptual understanding and student learning motivation at the elementary school level.

The use of Wordwalls as a gamification medium in learning to increase student learning motivation can be seen in a literature review of several previous studies. Most literature indicates that Wordwall is highly effective as a gamification medium in learning and can significantly increase learning motivation. Teachers can incorporate gamification-based learning through Wordwall. Wordwall can transform learning into a game, enhancing students' imagination and further developing their skills in utilizing online game-based learning media. The application of Wordwall in learning is considered relevant as a learning medium for developing student understanding. Through intelligent test layouts, this application also facilitates educators in analyzing student learning assessment results. Equipped with a variety of game features, Wordwall has been proven to increase student learning motivation

The success of Wordwall implementation is influenced by several key factors, including the readiness of technological infrastructure, teachers' digital competence, support from educational institutions, and the design of appropriate and structured learning activities. The practical implications of these findings indicate that this platform can be an effective solution for modernizing learning methods. Furthermore, Wordwall also offers a more engaging learning alternative in the digital age, creates a more dynamic and interactive learning environment, and supports the achievement of learning objectives more effectively.

With various interactive features such as quizzes, games, crossword puzzles, spin the wheel, open the box, random cards, and engaging visuals, Wordwall presents material in a more creative way, enabling students to absorb it more effectively. Furthermore, the conducive learning environment created by this medium can also boost students' confidence and encourage more active participation in class. This not only increases their enthusiasm during the learning process but also increases their motivation to learn. Wordwall allows teachers to create various types of interactive learning activities, such as word cards, word puzzles, crossword games, and more. Wordwall is highly flexible and can be easily used by students at various school levels. It is non-monotonous and engaging to play. It is also creative, stimulates student interest in learning, and can serve as a learning evaluation tool. Using Wordwall as a learning medium can also increase student engagement, motivate students to learn independently, and facilitate teachers in delivering material dynamically.

In addition to increasing motivation, Wordwall also plays a role in enriching students' social interactions and familiarizing them with the use of technology in the learning process. Thus, Wordwall can be an innovative and relevant alternative as a gamification medium for learning in this digital era. Besides being easy and inexpensive to use, this medium also offers numerous alternative presentation options for materials and questions, allowing educators to explore alternative options for various learning experiences. Fun and varied media will engage students and motivate them to participate in the learning process.

Teachers need to utilize Wordwall optimally as a creative, engaging, and interactive learning strategy. However, it's important to remember that while Wordwall games can improve motivation and learning outcomes, their use must be combined with a comprehensive and diverse learning approach. The potential for reliance on technology and the distraction of game elements can sometimes reduce students' focus on the subject matter. Teachers must remain mindful of students' individual needs, encourage active participation, and accommodate different personalities and learning styles. Furthermore, Wordwalls require more time to create than other learning media because they are visual. Overall, however, Wordwalls can make a significant contribution to improving student motivation and learning quality. Learning with Wordwall applications can be implemented with adequate internet connection. Therefore, before carrying out learning with the Wordwall application, it is recommended to ensure the availability of a stable internet connection.

The success of Wordwall implementation is influenced by several key factors, including the readiness of the technological infrastructure, teachers' digital competence, support from educational institutions, and the design of appropriate and structured learning activities. The practical implications of these findings indicate that this platform is an effective solution for modernizing learning methods. Wordwall also offers a more engaging learning alternative in the digital age, creating a more dynamic and interactive learning environment, and supporting the achievement of learning objectives more effectively.

For further implementation, it is crucial for schools and educators to ensure adequate supporting infrastructure, such as the availability of technological devices, stable internet access, and training for teachers to operate Wordwall optimally. Furthermore, it is crucial for teachers to understand how to integrate Wordwall with traditional learning methods to create a balance in material delivery, ensuring that it does not solely focus on technology but still considers the diverse needs of students. Learning using a Wordwall application can be implemented if supported by an adequate internet connection. Therefore, before implementing learning using a Wordwall application, it is recommended to ensure the availability of an internet connection. Teachers are advised to direct students to practice and diligently cultivate reading habits to improve their reading comprehension skills. One way to do this is by getting students used to working on questions that require these skills.

The use of technology-based learning media, such as Wordwall, can create a more enjoyable and effective learning environment. However, teachers must fully understand how Wordwall applications work to optimize their use in accordance with learning objectives. Likewise, schools are expected to provide adequate technological support to support the implementation of this media in the classroom. By expanding the use of technology in education, it is hoped that the learning process in schools will become more relevant, engaging, and have a positive impact on the quality of student learning.

Overall, Wordwall has proven itself to be an innovative and effective learning medium in helping to increase student motivation and participation. With appropriate support and implementation, Wordwall can be a sustainable solution to address the challenges of modern education, creating more inclusive, engaging learning and fostering holistic student development. Through this research, Wordwall is expected to inspire

teachers and schools to continue innovating in creating better learning that is relevant to the needs of today's generation. The advantages of using Wordwall as a learning medium include its flexibility and ease of use by teachers and students at various school levels, its non-monotonous nature, its engaging and creative nature, its ability to increase student interest in learning, and its ability to serve as a student evaluation tool. However, a drawback of Wordwalls is that they require more time to create than other learning media because they can only be viewed visually. The availability of a variety of educational games makes Wordwalls a learning medium that doesn't get boring when used repeatedly, and anyone can use them freely. However, this also depends on the selection of varied and innovative learning methods, strategies, and media. Despite some challenges, the implementation of this medium has proven successful and has increased student motivation.

Conclusion

Based on a literature review of 21 research articles, comprising 20 journal articles and 1 proceeding, it can be concluded that Wordwall is effective as a gamification medium in learning to increase student learning motivation, thereby developing students' thinking skills and competitiveness in understanding the material. As an educational game, Wordwall can be used as an interactive learning medium because it has many engaging features, is able to stimulate student learning motivation, and allows for interactive activities. Furthermore, Wordwall is more efficient because it has many game features for designing and reviewing learning assessments, and can be played online using a laptop or smartphone, anywhere and anytime.

Recommendations include ongoing training for teachers to optimize the use of Wordwall, the development of infrastructure that supports educational technology, and regular evaluation to measure the effectiveness of implementation. Furthermore, developing learning content that is appropriate to the platform's characteristics is also crucial, and its use must be combined with a comprehensive and diverse learning approach. Teachers must continue to pay attention to individual student needs, encourage active participation, and accommodate various personalities and learning styles. Wordwall has demonstrated its capabilities as an effective interactive learning platform, relying not only on technological sophistication but also on the proper integration of technological, pedagogical, and institutional aspects to create a more dynamic learning environment and achieve learning objectives more effectively. The results of this study can be used as a data source for further research with different variables and locations, as well as for comparison with other learning video creation applications that provide complete templates for free, unlike Wordwall, which is still paid.

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