DEVELOPMENT OF INTERACTIVE WORDWALL AND VIDEO COMBINED-MEDIA TO IMPROVE ELEMENTARY STUDENTS' LEARNING OUTCOMES

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Abstract

Disruption in the world of education today encourages educators to innovate and foster students' high creativity to create enjoyable learning processes. Learning in elementary schools currently still has a conventional approach that tends to be monotonous and does not optimally involve student activities. This research has two objectives: (1) to produce Wordwall learning media, and (2) to determine the validity, practicality, and effectiveness of Wordwall media on the theme of weather. The research subject are the is the 3rd-grade students of SDIT Nurul Ilmi who used Wordwall media combined with Video on the Weather Theme. The research method used is descriptive qualitative research. Data analysis in this study is based on the validity of the material and media, practicality, and the effectiveness of the learning media. Wordwall can be systematically and rigorously developed to support interactive and enjoyable learning for students in understanding the concept of weather. The research findings are as follows: (1) the product produced is Wordwall, an educational wordwall game based on a website presented in the form of a link combined with a video, (2) the Wordwall learning media has met the validity criteria (material expert validation of 96.99% and media expert validation of 88.57%), practicality (scoring 91.67%), and effectiveness (scoring 71,36%). Wordwall can be systematically and rigorously developed to support interactive learning and improve students' learning outcomes in understanding weather concepts.

Keywords: Interactive Media; learning outcomes; Elementary School

INTRODUCTION

The rapid advancement of information and communication technology also enhances human life, planning creative thinking, and innovating to determine a bright future. Education plays an active role in navigating a vision to realize a golden generation of the nation that is ready to face the challenges of globalization and digitalization, as well as the changes of the times. Interactive media has become one of the best ways to improve the quality of learning in schools. This not only makes the lessons more interesting and enjoyable, but it can also increase student participation. Rachmadtullah (2015) states that meaningful learning occurs when students can directly engage in the learning process and discover information firsthand.

Elementary education is one of the sectors affected by the ongoing digital development, which encourages the integration of technology into the learning process. This condition requires teachers to have the ability to create innovative learning using technology.Additionally, according to Ariani, Niken (2010), learning using multimedia will become more engaging and interactive, and the time spent on teaching can be reduced. Becoming an educator, we are required to create interactive and engaging learning media to capture students' attention, enhance their perspectives, and improve the quality of learning. Awi & Dariyanto (2022) We must be able to use it as a tool to increase students' motivation to learn at school. Learning media are tools that are used or utilized to ensure that teaching runs smoothly and to bring closer or facilitate the path towards the established goals.

In thematic learning, various subjects are integrated into one topic or theme so that students can understand the relationships between ideas and apply them to real-world situations. Thematic learning has been widely used, but actively engaging students and enhancing their interest and understanding of the material remains challenging. Therefore, it is necessary to use interactive media to enhance thematic learning in the third grade at SDIT Nurul Ilmi.

The educational game Wordwall is here as a solution to the current issues. (ogiyanto (2014) stated that this media can be used both in the classroom and at home. Febriani et al., (2023) states this media has advantages, including being usable on individual devices without needing to open a laptop or computer, as it includes media elements such as text, graphics, audio, video, and games. Therefore, this media can increase motivation and the enthusiasm of students to always learn, especially in offline or online mathematics learning (Rahmatullah et al., 2020). The use of Wordwall media can provide many benefits in the context of learning. First, this media can increase student engagement. By using interactive elements, such as games, puzzles, or flashcards, Wordwall can make learning more engaging and enjoyable for students. They will feel actively involved in the learning process and become more enthusiastic in completing the assigned tasks. Secondly, Wordwall media allows for a variety of diverse learning activities. Through various templates and available content, teachers can easily create activities tailored to the needs of their students. For example, multiple-choice activities, word games, or word puzzles. With this variation, students have the opportunity to learn in different ways and discover the most effective methods for themselves.

METHOD

This research uses the Research and Development (R&D) development research method. The ADDIE model is used for research design, which consists of five stages: 1) Analysis; 2) Design; 3) Development; 4) Implementation; and 5) Evaluation. In this study, the researchers developed interactive media in the form of a word wall that will be used in learning about the weather theme.
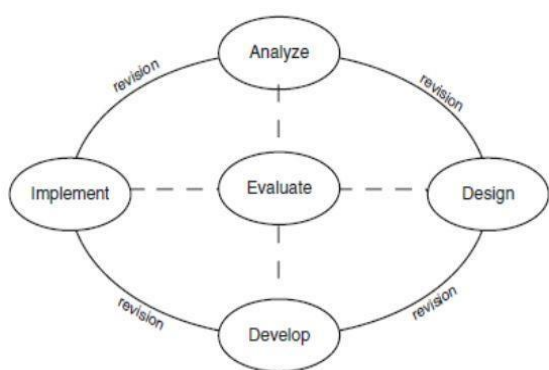
Figure 1. Stages of ADDIE Model Development Tonia A. Dousay (2022)

The subjects of the research are the 3rd-grade male and female students of the Integrated Islamic Elementary School Nurul Ilmi, totaling 26 students. (15 male students and 11 female students). The data collection techniques include interviews, observations, and questionnaires. 1) The observation framework includes questions about media for teachers and students, with indicators for teachers covering the use, operation, and utilization of media, while student indicators include whether the media is engaging, easy, and beneficial for students; 2) The teachers cover several aspects, are: process, material, and learning media; 3) The questionnaire framework consists of a questionnaire sheet for material expert validators (alignment of KI and KD with the subject, material accuracy, material techniques, and presentation completeness), and media experts. The research instrument consists of test instruments for pretest and posttest, and the validity of the instrument is assessed by expert lecturers in content and media.

The data analysis techniques in this study are based on the validity of the material and media, practicality, and the effectiveness of the learning media. The validity of the material and media is obtained through validation by experts in the relevant field, while practicality is obtained through observation and assessment of media usage in real contexts. Meanwhile, the effectiveness of the learning media is evaluated through measuring the impact and learning

outcomes achieved by students after using the media. By analyzing the data based on those aspects, researchers can determine the extent to which the developed learning media is effective, practical, and valid in supporting the learning process.

Validity analysis technique by Kamila & Kowiyah (2022):

Table 1. Validity Result Criteria

Percentage	Category
81-100%	Highly eligible
61-80%	Eligible
41-60%	Fairly eligible
21-40%	Less eligible

Practical analysis technique by Lestari & Yudhanegara (2017):

$$P = \frac{Score}{Highest\ score} \times 100\%$$

Effective analysis technique Hake (2002):

$$N - Gain = \frac{posttest\ score - pretest\ score}{highest\ score - pretest\ score} \times 100\%$$

Table 2. Categories of Validity, Practicality, and Effectiveness of Learning Media Sugiyono (2018)

Percentage	Criteria
81-100%	Very Valid/Practical/Effective
61-80%	Valid/Practical/Effective
41-60%	Somewhat Valid/Practical/Effective
21-40%	Less Valid/Practical/Effective
0-20%	Not Valid/Practical/Effective

RESULTS AND DISCUSSION

Learning media is a means in the form of visual, audio, or audiovisual is the driving force behind this learning process. Use of learning media has various benefits, including make learning effective. (Ummah, 2021) states that learning using media will make the material presented the teacher will be clearer, the students' attention will be more centered, helped in understanding and deepen the material so that you finally get it achieve learning goals. (Rosdiani et al., 2021) states that Wordwall is a learning site where teachers can

create various learning templates designed in the form of games. In line with that statement (Sun'iyah, 2020) said the advantage of this application is that it has various quiz templates in the form of games, this can increase student interest so that learning becomes more interactive and can increase student interest in learning.

In this research, a product in the form of an interactive wordwall media focused on the theme of weather for 3rd-grade elementary school students was produced. Wordwall was created using the Wordwall platform and integrated with video. The use of digital learning media really influences student learning outcomes and activities. refers to opinions (Siswa et al., 2017) which states that the development of e-module media that integrates wordwall in science learning can improve students' cognitive abilities. (Fitri et al., 2024) also found that learning using wordwall media in PAI learning can increase students' interest in learning.

Wordwall was created using the Wordwall platform and integrated with video. The production process follows the ADDIE model procedure, which consists of five stages: analysis, design, development, implementation, and evaluation. Model ADDIE e-module development is very effective used because of its very stages systematic. (Sugihartini & Yudiana, 2018) states that the tages in ADDIE helps in creating ready products used and meets test standards product development. Through this approach, Wordwall can be developed systematically and tested to support interactive and enjoyable learning for students in understanding weather concepts.

A. Analysis Stage

The researcher analyzes the needs of students and teachers in the learning process. According to the results from the observations and interviews, the learning media at the Integrated Islamic Elementary School Nurul Ilmi were found to still use conventional media.

B. Design Stage

The design stage is based on the actual analysis results obtained during the observations and interviews, and is further reinforced by the initial pretest. Researchers began innovating by pouring their ideas and concepts into creating the interactive media Wordwall. This media is integrated into a website, which then generates a link that can be shared and worked on by students using a laptop or gadget. Here is the display of the Wordwall media design results

Figure 2. Wordwall Main Menu List

Figure 3. Content of The Weather Theme Material and Exercise

The Wordwall media design can be used by students by utilizing the website, created in an engaging manner so that students can play games continuously. The media is connected to the Wordwall platform, which then appears as a link combined with a video. To make it easier for students, they just need to click on the link provided by their teacher, provided that the internet connection is stable, and it can be accessed through a laptop or gadget.

C. Development Stage

GAULL media conducted a validity test. The results from the media validator showed 88.57% in the very feasible category, while the material validator showed 96.66%, indicating it is very feasible. In conclusion, the interactive media Wordwall on the weather theme is very suitable for application in the field.

Table 3. Expert Validation Results

N o	*Assessment Criteria*	Assessment
1	Relevance of content to the Curriculum	**5**
2	Relevance of learning objectives to the weather theme material	**5**
3	Systematic presentation of the weather theme material	**5**
4	Examples of questions presented in accordance with the weather theme material	**4**
5	Ease of understanding concepts in the weather theme material	**5**
6	Use of language in the media.	**5**
Amount		**29**
Maxsimum score		**30**
Percentage (%)		**96,66%**
Category		**Very deserving**

Table 4. Expert Validation Results

N o	*Assessment Criteria*	Assessment
1	The suitability of the display with the background on the Wordwall learning media.	**5**
2	An attractive color combination on the Wordwall learning media.	**5**
3	The suitability of the image presentation with the material being discussed	**4**
4	The displayed text is clear and attractive.	**4**
5	The sound presented on the Wordwall learning media is clear.	**4**
6	Illustrations are easy to understand and relevant to everyday life.	**4**
7	The content of the learning media is organized according to the material.	**5**
Amount		**31**
Maxsimum score		**35**
Percentage (%)		**88,57%**
Category		**Very deserving**

D. **Implementation Stage**

The implementation stage is undertaken during the practical test. The practicality data in the form of questionnaire results from teachers and students' responses at the practicality test school, namely the third-grade class of SDIT Nurul Ilmi with 26 students, used the interactive media Wordwall through computers available at the school or computer lab. The Wordwall learning media developed in the research is said to be very practical. From the analysis, the practicality of the teacher's response was obtained at 91.67% with a very practical category. Here are the results of the media practicality score:

Table 5. Results of the practicality of wordwall media

No	Indicator	Assessment Teacher
1	Wordwall learning media makes it easier for teachers to deliver material to students.	4
2	Instructions for using the Wordwall learning media make it easier for teachers to convey the meaning and objectives of various activities to students.	3
3	The presentation of the sentence is easy to understand	4
4	Images in the Wordwall learning media make it easier for teachers to help students understand the learning material.	4
5	Placement of images or illustrations layout that is appropriate according to the material description.	3
6	Wordwall learning media makes it easier for teachers to engage students in learning.	4
Amount		**22**
Maxsimum score		**24**
Percentage (%)		**91,67%**
Category		**Very practical**

The calculation of the effectiveness of the Wordwall learning media for the weather theme was obtained through the N Gain Score calculation, which involved calculating the effectiveness value through the results of the posttest and pretest conducted in the research class at the third grade of SDIT Nurul Ilmi with 26 students. In the process before learning, the students were given a pretest consisting of 25 multiple-choice questions, which were completed according to the students' initial knowledge. Then, after the learning session ends, the same questions will be given again as a posttest and will receive a different score from the previous pretest. The effectiveness of the Wordwall learning media has received an effectiveness score using the N Gain score of 71.36%, categorized as effective.

E. Evaluation Stage

The researcher conducts the evaluation and revision stage to achieve the best results. The evaluation is carried out at the mid-stage of the ADDIE model, where the researcher assesses the quality of the developed media and materials. Subsequently, based on the suggestions and feedback obtained from the evaluation, the researcher makes improvements and adjustments to the developed media and materials. This aims to ensure that the produced learning media reaches an optimal level of validity. By conducting proper evaluation and revision, the researcher can enhance the quality of the developed media and materials in line with the progress of the research, resulting in a better product that meets the learning needs.

CONCLUSION

This research has produced a product in the form of an interactive Wordwall media through five stages according to the ADDIE development model and has passed validity, practicality, and effectiveness tests, so GAULL can be used as a learning medium in 5th-grade elementary school for spatial building materials. The validity of the GAULL (Wordwall Educational Game) learning media, based on media validity results with a score of 93% and material validity of 88%, is declared valid. The practicality of the GAULL (Wordwall Educational Game) learning media, based on trials, received a very good criterion with a score of 90%, making it very practical for use by 3th-grade elementary school students. The effectiveness of the GAULL (Wordwall Educational Game) learning media,

based on pretest and posttest scores with a normalized N-Gain index value in the high or very good category with a score of 0.93, is declared effective.

This research has several limitations, including the fact that the learning material only covers one theme and the subject is limited to one elementary school. However, the researchers believe that this learning media can be used in other schools as teaching materials and learning aids. This video can provide an interesting and dynamic option for teaching students.

This research is expected to contribute to advancing learning innovation, especially in the use of technology. In addition, it is also expected to provide guidance for other researches in achieving more comprehensive results in the use of technology-based learning media.

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