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# DEVELOPMENT OF WORDWALL-BASED INTERACTIVE LEARNING MEDIA ON WHOLE NUMBER MATERIAL IN GRADE IV AT SD NEGERI 114 PEKANBARU

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***Keywords:***

*Wordwall,*
*Interactive Learning Media,*
*Whole Numbers,*
*Elementary Mathematics*

**Abstrak**

*In the era of globalization and digitalization, elementary education is required to foster 21st-century competencies, including critical thinking, creativity, collaboration, and effective communication. However, mathematics learning in elementary schools is often still teacher-centered and monotonous, causing students to feel bored and experience difficulties in understanding basic concepts, particularly whole number operations. Preliminary observations at SD Negeri 114 Pekanbaru showed that many fourth-grade students struggled to understand place value and whole number multiplication, resulting in low achievement levels below the minimum mastery criterion. Therefore, this study aimed to develop and examine the validity and practicality of Wordwall-based interactive learning media on whole number material for Grade IV. This research employed a Research and Development (R&D) approach using the Thiagarajan 4D model; however, only three stages were implemented: define, design, and develop. The developed product was validated by six experts consisting of two subject matter experts, two language experts, and two media experts. Practicality testing was conducted through teacher and student response questionnaires involving one Grade IV teacher and ten students. The expert validation results indicated that the media was valid in terms of content (79.6%), language (92.1%), and media design (95.5%), with an overall average score of 89%, categorized as highly feasible with minor revisions. Practicality results showed very practical responses from the teacher (100%) and students (96.5%). These findings suggest that Wordwall-based interactive learning media is feasible and practical to support mathematics learning, enhance students' motivation, and strengthen conceptual understanding of whole number operations.*

## INTRODUCTION

Basic education is an important foundation in shaping students' intellectual abilities and character. In today's era of globalization and digitalization, education no longer focuses solely on mastering knowledge, but also demands the development of critical thinking, creativity, collaboration, and effective communication skills. Therefore, 21st-century learning approaches require teachers to implement innovative strategies that integrate technology. The Kurikulum Merdeka implemented by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) is one of the efforts to address these challenges, emphasizing student-centered learning and the use of technology in teaching and learning processes (Kemendikbudristek, 2022).

Mathematics is one of the essential subjects in elementary school that plays a major role in developing students' logical, systematic, and analytical thinking skills. However, classroom reality shows that mathematics is often perceived as difficult and intimidating by students. This lack of interest often leads to low motivation and poor learning outcomes. Whole number material taught in Grade IV of elementary school, such as place value recognition, comparing numbers, and addition and subtraction operations, is a fundamental topic that students must understand. However, many students still face difficulties in fully comprehending these concepts (Agustini & Pujiastuti, 2020).

One reason for these difficulties is that the learning methods used by teachers are still dominated by lectures and monotonous drill-based exercises. The learning media used also tends to be static, less attractive, and does not provide sufficient interaction opportunities for students. In fact, elementary school students have unique characteristics: they are generally active, enjoy playing, and are highly attracted to visually engaging learning experiences.

In line with the results of a preliminary observation conducted by the researcher on May 25, 2025, with Mrs. Fitria, S.Pd as the Grade IV homeroom teacher at SD Negeri 114 Pekanbaru, it was found that mathematics learning still faced various obstacles, especially in whole number material. The teacher explained that many students had difficulty understanding large numbers, arithmetic operations, and word problems because learning was still teacher-centered using monotonous lecture methods, which caused students to become bored quickly and fail to grasp the meaning of concepts deeply. This condition affected students' learning outcomes, as most of them obtained scores below the Minimum Mastery Criterion (KKM) of 70, with average scores ranging from 40 to 68. To overcome these issues, the teacher believed that more interesting, visual, and interactive learning media were needed so that students could understand the material more easily.

Therefore, interactive and enjoyable learning media are needed to facilitate students' activeness and engagement in learning. Along with the development of information and communication technology, various digital media can now be utilized in teaching and learning processes, one of which is Wordwall. According to the teacher, Wordwall can increase students' enthusiasm and focus because its appearance resembles games, making the learning atmosphere more enjoyable. Wordwall is a web-based application that provides a variety of interactive games and quizzes, such as matching games, group sort, anagrams, random wheel, and quizzes. Wordwall is highly

flexible because it can be used online or offline and can be accessed through various devices such as computers, laptops, and smartphones (Ayustyaningtias et al., 2024). This media can be an alternative solution in creating a more attractive, participatory, and enjoyable Mathematics learning environment.

Several research findings show that the use of Wordwall in learning can increase students' interest, motivation, and conceptual understanding of learning materials. Rahayu et al. (2024) stated that Wordwall media can significantly improve elementary school students' learning motivation because it combines game elements and interaction suitable for children's world. Similarly, Khoiriyatin et al. (2025) argued that the varied use of Wordwall can improve learning outcomes and student engagement during the learning process.

In this study, there is a gap between the need for engaging learning and the current mathematics learning condition, which remains conventional. Learning dominated by lecture methods causes students to be passive, quickly bored, and less able to deeply understand whole number concepts, which results in low learning outcomes, where most students' scores are still below the KKM. Based on this condition, this research offers novelty in the form of developing interactive learning media based on Wordwall, designed specifically for whole number material for Grade IV students at SD Negeri 141 Pekanbaru by integrating visual and digital interactive elements so that learning becomes more interesting and aligned with the school's needs and limited facilities. The novelty of this research also lies in its focus not only on improving learning motivation but also on strengthening students' conceptual understanding through enjoyable and meaningful learning experiences.

The urgency of developing interactive Wordwall-based learning media, especially in Mathematics learning at the elementary school level, lies in the need to create learning processes that are more interesting, interactive, and meaningful for students. The development of varied Wordwall learning media is highly important in Mathematics learning, particularly in whole number material for Grade IV. This media can present abstract concepts in a more concrete and understandable form, strengthen students' memory through interactive exercises, and foster learning enthusiasm through enjoyable challenges. Moreover, varied media development enables teachers to accommodate students' different learning styles, making learning more inclusive and effective.

Based on the explanation above, it can be concluded that the development of interactive Wordwall-based learning media that is varied and structured for whole number material in Grade IV elementary school is essential to improve the quality of learning processes and student learning outcomes. Therefore, the researcher is interested in conducting research entitled: "Development of Interactive Wordwall-Based Learning Media on Whole Number Material for Grade IV at SD Negeri 114 Pekanbaru." This research is expected to contribute to the development of technology-based learning media capable of addressing modern educational challenges and improving students' overall learning outcomes.

## LITERATURE REVIEW

### *1. Definition of Research and Development*

According to Waruwu (2024), research and development is a systematic process aimed at designing, developing, and evaluating an educational product through valid

procedures whose effectiveness can be tested. In this approach, each learning product must go through a series of stages starting from needs identification, design, development, validation, and dissemination. According to Okpatrioka (2023), research and development (R&D) is an activity that includes the process of investigating, designing, producing, and testing the effectiveness of a learning product before it is widely used. This activity is often presented as a 4D activity, namely research, design, production, and testing.

***2. Characteristics of Research and Development***

According to Okpatrioka (2023), there are four characteristics of development research, as follows:

a. First, the problem addressed is a real problem related to innovative efforts or the application of technology to improve the quality of learning.
b. Second, it involves the development of learning models, approaches, methods, and learning media that support the effectiveness of achieving students' competencies.
c. Third, the product development process and validation carried out through expert judgment and limited field trials must be conducted so that the resulting product is useful for improving the quality of learning.
d. Fourth, the development process of models, approaches, modules, methods, and learning media must be properly documented and systematically reported according to research principles that reflect originality.

***3. Definition of Mathematics Learning***

Mathematics is a systematic scientific discipline that examines relationship patterns, patterns of thinking, art, and language, all of which are studied using logic and are deductive in nature. It is useful in helping humans understand and master social, economic, and natural problems. In addition, mathematics is a science whose objects of study are abstract concepts, which are then presented in the form of numbers and symbols to interpret a mathematical idea based on facts and logical truth within the universe of discourse or context (Siswanto & Meiliasari, 2024).

***4. Benefits of Mathematics Learning***

According to Rahmaini & Chandra (2024), the benefit of learning mathematics is that it can help individuals think more systematically, which is very important in living life, both in work and everyday activities. Through habits of calculating, practicing sequences, and other activities.

***5. Objectives of Mathematics Learning***

The main objective of mathematics learning in elementary school is to develop critical and logical thinking skills, train arithmetic skills, and build problem-solving abilities. This is in line with the Kurikulum Merdeka, which emphasizes strengthening numeracy competence as part of the basic competencies of the 21st century (Kemendikbudristek, 2022).

***6. Definition of Learning Media***

Learning media are facilities or tools used to support the teaching and learning process so that it runs effectively and efficiently. In general, learning media function as a communication intermediary between teachers and students that can clarify messages and materials delivered. In the context of modern education, learning media include various forms such as printed media, audio, video, multimedia, and interactive digital media. According to Firmadani (2020), learning media are all forms of physical and non-physical tools used to deliver learning materials in order to facilitate students'

learning.

***7. Benefits of Learning Media***

According to Fadilah et al. (2023), learning media have benefits as follows:

a. Learning media can clarify the presentation of messages and information so that they can facilitate and improve the learning process and learning outcomes.
b. Learning media can improve and direct learners' attention, thereby generating learning motivation, more direct interaction between learners and their environment, and the possibility for learners to learn independently according to their abilities and interests.

***8. Types of Learning Media***

Learning media consist of various forms, ranging from the simplest and most affordable to the most expensive and most advanced. According to Tanjung (2021), learning media are divided into three main elements, namely audio (sound), visual (images or text), and kinetic (movement). Based on the combination of these elements, learning media can be classified into several types, namely:

a. Printed media,
b. Audio media,
c. Still visual media,
d. Moving visual media,
e. Semi-still audio media,
f. Semi-moving audio media,
g. Still audio-visual media,
h. Moving audio-visual media.

***9. Criteria for Developing Learning Media***

In developing or selecting learning media, educators must consider the principles of effectiveness, efficiency, and suitability with students' characteristics and instructional objectives. Several experts mention the main criteria that should be used as guidelines in selecting learning media.

***10. Definition of Wordwall***

Wordwall is a web-based digital platform that provides various types of interactive activities to support the learning process. Wordwall allows teachers to create, customize, and share various types of educational games such as quizzes, crosswords, word matching, random wheels, and other interactive games. According to Prasipi et al. (2025), Wordwall is one effective learning solution because it can combine entertainment and education in one medium. This application supports active learning and provides an enjoyable and challenging learning experience for students.

***11. Characteristics of Wordwall***

Wordwall is one of the popular digital platforms used in interactive learning processes, both online and offline. This application allows teachers to create various quizzes, games, and interactive activities based on templates that can be adjusted to the learning material.

a. Interactive and Responsive

The main characteristic of Wordwall is its ability to present material in the form of interactive activities such as quizzes, word matching, random wheels, crosswords, and other educational games. According to Monigir & Wakari (2024), interactive media such as Wordwall can increase student participation because it allows them to be actively involved, not only passively receiving information.

b. Multiplatform and Easy Access

Wordwall can be accessed through various devices such as computers, laptops, tablets, and even mobile phones, either through the application or directly from a browser. This ease of access supports flexible learning, especially in the context of hybrid learning or distance learning.

c. Provides Various Educational Game Templates

Wordwall provides a variety of activity templates that can be customized by teachers without requiring design or programming skills. This becomes a distinct advantage because teachers can focus on delivering the material. It is added that Wordwall's template flexibility makes it easier for teachers to create thematic and competency-based learning media.

d. Can Be Used Offline and Online

Activities created in Wordwall can be played directly in class (offline) using a projector or online by sharing links with students. Media such as Wordwall are very suitable for use in blended classrooms because they have adaptive capabilities for both learning modes.

e. Provides Immediate Feedback

Students participating in Wordwall activities will immediately know the results of the answers they provide. This creates a direct learning effect (immediate feedback), which is considered important in concept formation. Instant feedback helps strengthen understanding and quickly correct misconceptions.

### *12. Definition of Whole Numbers*

Whole numbers are a set of numbers that begin with zero and continue with natural numbers, namely {0, 1, 2, 3, 4, …}. These numbers are used to count objects as whole units and to express quantities in everyday life. Understanding whole numbers is very important because it is the foundation for learning arithmetic operations such as addition, subtraction, multiplication, and division. If students do not understand this concept correctly, they will experience difficulty in subsequent, more complex material.

### *13. Characteristics of Fourth Grade Elementary School Students*

There are definitions of the characteristics of elementary school children according to several experts, including: Elementary school-age children are active individuals and excellent imitators, and the cognitive development stage of elementary school-age children is at the concrete pre-operational stage. The characteristics of elementary school children basically experience neuron development in their brains, forming more connections compared to neurons in the brains of adults. The characteristics of elementary school children are believed to develop faster when they interact with one another.

## RESEARCH METHOD

This study uses a Research and Development (R&D) approach which aims to develop and test the feasibility of an educational product in the form of an interactive learning media based on Wordwall. This approach is considered appropriate because it allows the researcher not only to create a new product, but also to evaluate the effectiveness and practicality of the product in a real learning context. The development approach provides a systematic framework to explore user needs, design solutions, and evaluate the results of innovation (Sugiyono, 2022).

This research refers to the Thiagarajan 4D model, which consists of the stages of

define, design, development, and dissemination. However, in the procedure or design of this research and development, only three (3) stages will be implemented, namely the define stage, design stage, and development stage. Primary data in this study are obtained from interviews and validation sheets, which serve as the main sources in developing interactive learning media based on Wordwall on the topic of Whole Numbers. Secondary data in this study are obtained from books, articles, journals, theses, and websites that are related to development research. Data analysis techniques are methods used to simplify data collection into a form that is easier to read and interpret. This study consists of qualitative and quantitative data analysis.

## RESULT AND DISCUSSION

In this study, the product developed is an interactive learning media based on Wordwall for fourth-grade students of SD Negeri 114 Pekanbaru in the Mathematics subject. This media is designed to support classroom learning by presenting material on whole numbers, delivered interactively through Wordwall. Based on assessments by experts, namely subject matter experts, language experts, and learning media experts, this learning media received an overall evaluation in the very good category.

In addition, the implementation of the 4D development model became an important factor in achieving the very good evaluation results, because this model provides a systematic and gradual working procedure, so that each development step refers to the previous stage in order to produce a high-quality product. Based on the assessments of experts, namely subject matter experts, language experts, and instructional design experts, this learning media obtained an overall evaluation in the very good category.

To answer the three research problems that have been determined in this study, namely (1) the process of developing interactive learning media based on Wordwall on whole number material for Grade IV, (2) the validity of the interactive learning media product based on Wordwall on whole number material for Grade IV, and (3) the practicality of the interactive learning media based on Wordwall on whole number material for Grade IV, the researcher presents a detailed explanation as follows:

### *1. Development Process of Interactive Wordwall-Based Media*

The discussion in this study describes the process of developing interactive learning media based on Wordwall on whole number material for fourth-grade students at SD Negeri 114 Pekanbaru using the 4D development model (Define, Design, Develop, and Disseminate). In this study, the stages implemented by the researcher include the analysis stage (Define), the design stage (Design), and the development stage (Develop). These three stages form a systematic series in producing Wordwall interactive learning media that are feasible, practical, and in accordance with students' needs. The discussion is presented as follows: The defining stage (define) was conducted to identify real needs in the field before the learning media was developed. This is in line with Zamsiswaya et al. (2024:13), who stated that at this stage, an analysis of needs is carried out to collect information, determine learning objectives, themes or topics, targets directed to students, and content to be delivered. This process includes three main components, namely teacher and student needs analysis, curriculum analysis, and material analysis. The teacher and student needs analysis, curriculum analysis, and material analysis showed that the development of interactive learning media based on Wordwall is highly needed in whole number learning for Grade IV. The

results of interviews and observations revealed that students still experienced difficulties in understanding place value concepts and number operations because learning tended to be conventional, causing them to become easily bored and less active. Teachers need media that are interactive, easy to use, and able to provide immediate feedback to support learning that is more interesting and suited to differences in students' abilities.

From the curriculum perspective, the Kurikulum Merdeka emphasizes student-centered learning and requires mastery of competencies such as understanding place value, performing whole number operations, and solving word problems using various concrete strategies. Meanwhile, the material analysis showed that students often make mistakes in multiplication operations due to a lack of understanding of basic concepts and a tendency to rely more on memorization. This condition confirms the need for media that provides structured, gradual, and enjoyable exercises. Therefore, Wordwall is considered relevant to be used because it is able to present varied educational games, provide immediate feedback, and increase students' motivation and understanding of whole numbers.

Next, in the design stage (design), the researcher designed interactive learning media based on Wordwall by referring to the results of needs analysis, curriculum analysis, and material analysis. Thus, the presentation of whole number multiplication up to 100 was arranged sequentially starting from the basic concept as repeated addition, multiplication facts, and up to word problem exercises. This is in line with the statement of Dewy et al. (2023:100) that the Design stage is the initial stage of designing the product being developed, adjusted to the material and learning outcomes of the basic electronics course. The material was simplified to match the cognitive abilities of Grade IV students without reducing the depth of the concept. The researcher then designed a simple but attractive visual display by considering the selection of colors, icons, and layout that match elementary school students' characteristics, while maximizing Wordwall's interactive features such as automatic feedback so that students can immediately know the results of their answers.

The design process also included preparing evaluation instruments in the form of expert validation sheets and teacher and student response questionnaires to assess the suitability of the material, clarity of instructions, and attractiveness of the media. Furthermore, the media was developed through the Wordwall site by logging in, selecting game templates, entering questions and answers in the Enter Content feature, and conducting a preview to ensure the flow and appearance of the game worked well before it was used in the development stage.

The development stage (development), according to Harjanto et al. (2023:5), is the stage of validating or assessing the feasibility of the product design, through evaluation carried out by experts in their respective fields. In the development stage, there are two important objectives, namely producing the product and selecting the best product. At this stage, the design from the previous stage is realized into a media product that is ready to be implemented. In this stage, the researcher conducted validation involving six expert validators: two subject matter experts, two language experts, and two media experts.

### *2. Validity of Interactive Wordwall-Based Media*

In this study, the researcher conducted validation with three types of experts consisting of a subject matter expert, a language expert, and a media expert. The results of each expert validation are explained as follows:

In the content aspect, subject matter expert validation was carried out to ensure that the content in the interactive Wordwall learning media was in accordance with correct mathematical concepts, the cognitive development level of fourth-grade students, and the requirements of the Kurikulum Merdeka, so that the media could truly support students' understanding of whole number multiplication operations. At this stage, the subject matter expert assessed the media based on the aspects of presentation, content quality, construction, usage, and quality of the evaluation instrument, which later became the basis for product revision before trials.

The results of the first validation by Mrs. Dr. Indah Widiati, M.Pd., showed an average score of 77.8% in the valid category, indicating that the media was feasible to use with minor revisions. To ensure quality, a second validation was conducted by a different expert, namely Mrs. Artinda Afriani, S.Pd., with a result of 81.5% in the very valid category. Although the media was considered valid, the researcher received minor revisions from the validator. Improvements were mainly made to errors in operation results and inconsistencies in answer options in several items. After being revised according to expert suggestions, the display and content of the media became more accurate and systematic, so that the presentation of the material was clearer and aligned with the predetermined learning objectives.

In the language aspect, language expert validation was carried out to ensure that the language used in the interactive Wordwall learning media complied with Indonesian language rules, was clear, and was easily understood by elementary school students, considering that the clarity of instructions and question wording greatly determines learning effectiveness. At this stage, the language expert assessed aspects of straightforwardness, communicativeness, appropriateness, and compliance with the Indonesian Spelling System (EBI), which then became the basis for improvement so that the media would be more user-friendly.

The results of the first validation with Mr. Latif, M.Pd., showed an average percentage of 90% in the very valid category, meaning that the language quality of the media was already very good, communicative, and feasible to use without major revisions, so that it could optimally support students' understanding during learning activities using Wordwall. To ensure quality, a second validation was conducted by a different expert, namely Mrs. Zuwairiyah, S.Pd., with a result of 94.2% in the very valid category.

Lastly, media expert validation was conducted to assess the feasibility of the appearance, design, and technical aspects of the interactive Wordwall-based learning media, so that the media not only presented correct content but also had visual quality and navigation that could optimally support fourth-grade students' learning. At this stage, the media expert reviewed clarity of display, attractiveness of design, consistency of visual elements, ease of use, and the suitability of Wordwall features with learning objectives, which then became an important reference for the researcher in refining the product.

The results of the first media expert validation by Mr. Yayendra, M.Pd., showed an average percentage of 94.6% in the very valid category, indicating that the media was feasible to use with minor revisions to the display and color selection to make it clearer and more attractive. To ensure quality, a second validation was conducted by a different expert, namely Mrs. Sabrina Azzahra, S.Pd., with a result of 96.4% in the very valid category. Although the media was considered valid, the researcher received minor

revisions from the validator. These revisions resulted in a more consistent and comfortable display, thereby increasing effectiveness and user experience during the learning process.

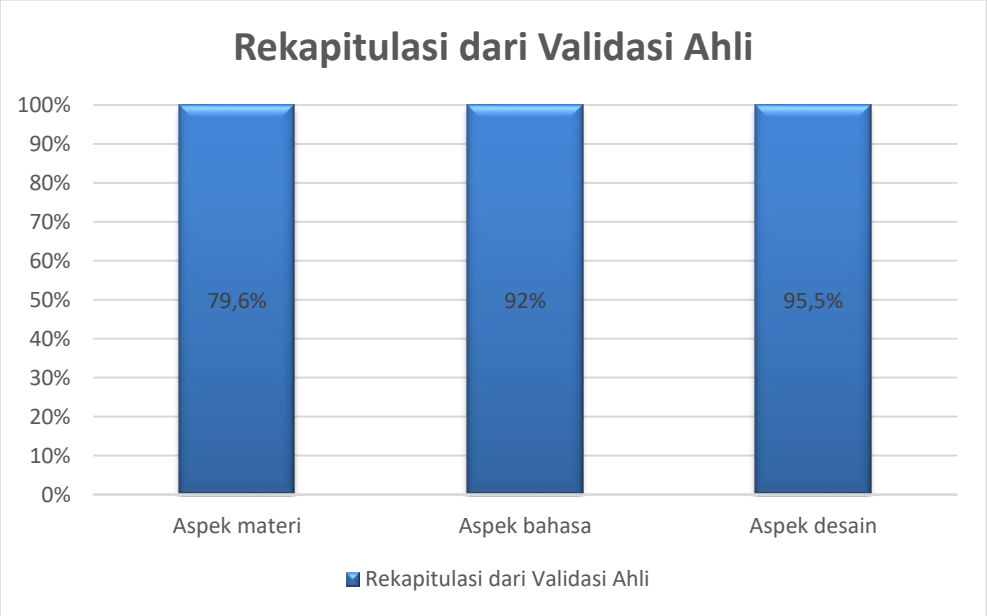
The three validated aspects assessed by six experts, namely two subject matter experts, two language experts, and two media experts, were used to evaluate the feasibility of the product developed by the researcher. This evaluation was conducted to ensure that the media met the feasibility of content, language, and visual appearance as required.

**Table Recapitulation of Expert Validity Test Results**

| No. | Assessed Aspect | Validity Result |
|---|---|---|
| **1.** | Content Aspect (Material) | 79.6% |
| **2.** | Language Aspect | 92.1% |
| **3.** | Media Aspect | 95.5% |
| | **Overall Average** | **89%** |

*Source: Processed Research Data (2025)*

Based on Table above, it is known that the validity results show that the interactive Wordwall-based learning media obtained a very good assessment from the three assessed aspects. In the content aspect, the media received a percentage of 79.6%, which is included in the valid category, indicating that the content is in accordance with mathematical concepts and learning objectives, although it still requires slight improvement. The language aspect obtained a score of 92.1% in the very valid category, meaning that the language used is clear, communicative, and in accordance with Indonesian language rules. Meanwhile, the media aspect obtained the highest score, namely 95.5%, in the very valid category, showing that the design, appearance, and technical aspects of the media are already very good and support learning effectiveness. Overall, the average validity score reached 89%, so the media is declared feasible to use with minor revisions in several parts.



### *3. Practicality of Interactive Wordwall-Based Media*

After validation was conducted by three experts, namely a subject matter expert, a language expert, and a media expert, further assessment was carried out to obtain responses from students and the Grade IV teacher at SD Negeri 114 Pekanbaru to determine the practicality of the Wordwall-based interactive media. This is in line with the opinion of Annisa & Darussyamsu (2023:55), stating that practicality testing aims to identify teacher and student responses by using practicality sheets for teachers and students.

The teacher was asked to assess and fill out a response questionnaire, resulting in an average score of 100% in the very practical category. In addition to teacher responses, the researcher also collected student responses through a student response questionnaire involving 10 fourth-grade students at SD Negeri 114 Pekanbaru. The responses given by students obtained an average score of 96.5% in the very practical category.

The implications of the overall research results indicate that the development of interactive Wordwall-based learning media for whole number material in Grade IV has a positive impact and can serve as an effective solution in improving the quality of mathematics learning in elementary schools. First, from a pedagogical perspective, this validated and feasible media has the potential to strengthen students' understanding of multiplication concepts through interactive, gradual exercises presented in an attractive way. Wordwall's interactivity allows students to receive immediate feedback, which contributes to increased motivation, focus, and independent learning ability.

Second, from the teacher's perspective, this media provides an innovative learning alternative that is easy to use, can be integrated with any learning model, and supports the implementation of differentiated learning as required by the Kurikulum Merdeka. Teachers can utilize this media for apperception, practice, enrichment, or evaluation in a quick and practical manner.

Third, from the classroom implementation perspective, this media can create a more enjoyable and participatory learning atmosphere, helping to overcome students' boredom with conventional methods. In addition, Wordwall media can be accessed through various devices, enabling flexible use both at school and at home. Overall, the results of this study provide a tangible contribution to the development of game-based digital media in mathematics learning, and serve as a foundation for further research to develop similar media for other materials and educational levels, so that the use of learning technology can continue to be improved in elementary school environments. According to Mutmainnah & Andika (2024:181), the advantages of Wordwall media include :

a. a simple display that is easy for students and teachers to understand;
b. many templates that can be used and adjusted to needs;
c. students can access the link without having to use email;
d. students can immediately see their scores after completing the game
e. several templates also provide themes to make the display more attractive.

## CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that: The development process of interactive Wordwall-based learning media on whole number material for Grade IV successfully met the feasibility criteria and was declared

valid in terms of content, language, and media aspects. The development process through the stages of analysis, design, and development shows that this media is able to address the needs of teachers and students, aligns with the demands of the Kurikulum Merdeka, and is relevant to the characteristics of whole number multiplication material. The validity of the interactive Wordwall-based learning media on whole number material for Grade IV students at SD Negeri 114 Pekanbaru was developed based on expert validation criteria, which include content, language, and media aspects. The validation results show that this interactive Wordwall-based learning media has a very good level of feasibility. The validation results from the subject matter expert were 79.6%, the language expert 92%, and the media expert 95.5%, with an overall average of 89%, indicating that the Wordwall media is highly feasible for use in learning with minor revisions.

The practicality of the Wordwall media based on the responses of the Grade IV homeroom teacher at SD Negeri 114 Pekanbaru obtained an average score of 100% in the very practical category. In addition to teacher responses, the researcher also collected student responses through a student response questionnaire involving 10 fourth-grade students at SD Negeri 114 Pekanbaru. The responses given by students obtained an average score of 96.5% in the very practical category. This media has proven to be able to provide learning that is more interactive, interesting, and motivating, as well as helping students understand multiplication concepts through varied exercises and immediate feedback.

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