



### NEEDS ANALYSIS OF MATHEMATICS EVALUATION TOOLS BASED ON WORDWALL WEBSITE AT SDN LALADON 02 BOGOR DISTRICT

Farid Fadillah<sup>1</sup>, Zainal Abidin Arief<sup>2</sup>, Yeni Raini<sup>3</sup>

<sup>1,2,3</sup>Teknologi Pendidikan, Universitas Ibn Khaldun Bogor, Indonesia

\*faridfadillahbgr12@gmail.com

#### Abstrak

Penelitian bertujuan untuk menentukan fitur yang dibutuhkan oleh siswa kelas IV di SDN Laladon 02 di Kabupaten Bogor dalam pelajaran matematika dengan menggunakan sebuah alat penilaian *online* yang disebut *Wordwall*. Metode penelitian yang digunakan adalah *Research and Development* (R&D) melalui pendekatan kualitatif dan kuantitatif (*mix method*). Model pengembangan berdasarkan Borg & Gall, dengan beberapa modifikasi yang dibuat oleh Sugiyono. Penelitian ini hanya menggunakan 8 dari 10 proses penelitian, karena terbatasnya waktu dan disesuaikan dengan kebutuhan Penelitian yang dilakukan. Digunakan 8 langkah penelitian sebagai berikut: Mengumpulkan kebutuhan, mengumpulkan data, mendesain produk, memvalidasi desain, merevisi desain, melakukan uji coba produk awal, merevisi produk, dan uji coba pemakaian. Peserta didik kelas IV menjadi subjek penelitian menggunakan evaluasi *one to one* dengan 3 siswa dan evaluasi kelompok kecil dengan 10 sampai 15 siswa. Proses pengumpulan data dilakukan dengan menggunakan angket. Hasil angket kebutuhan menunjukkan bahwa guru belum menggunakan alat penilaian pembelajaran interaktif dalam memberikan nilai kepada siswa. Guru masih menggunakan teknik tradisional seperti ujian tertulis. Diperlukan teknik evaluasi yang dapat membantu siswa mengubah cara pandang mereka terhadap pembelajaran.

**Kata kunci** : Alat evaluasi, Pembelajaran matematika, Wordwall.

#### Abstract

*The research aims to determine the features needed by fourth grade students at SDN Laladon 02 in Bogor Regency in mathematics lessons by using an online assessment tool called Wordwall. The research method used is Research and Development (R&D) through qualitative and quantitative approaches (mix method). Development model based on Borg & Gall, with some modifications made by Sugiyono. This research only used 8 out of 10 research processes, due to limited time and adjusted to the needs of the research being carried out. The following 8 research steps were used: Gathering requirements, collecting data, designing the product, validating the design, revising the design, conducting initial product trials, revising the product, and using trials. Class IV students were research subjects using one to one evaluation with 3 students and small group evaluation with 10 to 15 students. The data collection process was carried out using a questionnaire. The results of the needs questionnaire show that teachers have not used interactive learning assessment tools in giving grades to students. Teachers still use traditional techniques such as written exams. Evaluation techniques are needed that can help students change their perspective on learning.*

**Keywords:** Evaluation tools, Mathematics learning, Wordwall.

Diserahkan: 21-06-2024 Disetujui: 22-06-2024 Dipublikasikan: 30-06-2024



Kutipan: Fadillah, F., Arief, Z. A., & Raini, Y. (2024). Needs Analysis Of Mathematics Evaluation Tools Based On Wordwall Website At SDN Laladon 02 Bogor District. *Educate: Jurnal Teknologi Pendidikan*, 84-88.

## **I. Introduction**

Education evaluation is defined as the activity of controlling, guaranteeing, and determining the quality of education for various components in each path, level, and type of education which is relevant to Law No. 20/2003 on National Education System in Chapter 1 of Section 1 paragraph 21. For some reason, maths is one of the subjects that children find daunting and challenging. The low averages of maths scores at almost all levels of education are evidence of this. On the other hand, human thinking - which is tightly linked to reasoning, thinking, and processes - leads to the acquisition of mathematical knowledge. Assegaf et al. (2022) state that mathematics is a logical discipline that deals with regular structures and patterns of regularities. But in reality, there are still many students in some areas who struggle and cannot use mathematical concepts, logic, and creativity in solving different mathematical problems.

The mathematics teaching method has been guided by the same sources as the textbooks that are now readily available. In addition, students feel bored because the evaluation procedures do not utilize technology and the instruments used are often boring and dependent on stationery. One innovation to avoid student boring is to use technology-based learning (Negara, 2019). There are many types of assessment tools available in schools, such as daily exams, midterm exams, and final exams. However, are these tools used to their full extent? The word wall website is one of the modern technological devices that can be used as supporting materials in the educational assessment process. Students today are more aware of how to use technology for their purposes and sometimes they even forget to use it appropriately, this reason being a concern. Current devices can be used to assist learning activities, due to the rapid advancement of information and communication technology (Permatasari, 2023).

Many assessment or learning techniques can be done entirely through practice. Students do not understand how to use technology and applications in the classroom, especially in math lessons. Because technology evolves so quickly, it is employed in education both directly and indirectly. According to Darianto (2016) the term "environment" involves the real location of where students may learn, but also the methods of employing media, evaluation tools, and systems and resources that teachers rely on in carrying out their duties. There is a need for the newest and most innovative media to keep students from losing backward. This is mostly because technology is continually changing and students are growing more competent at using it.

Wordwall is one of the digital resources that teachers can use to assist in conducting interactive learning assessments in a fun way. According to Idzi Layingnati (2021:5) Wordwall may be defined as a website that creates enjoyable activities based on appropriate quizzes to develop and evaluate learning. According to Auliya (2021:29) Wordwall is a platform that provides instructional quizzes and converts them into interactive learning games. Wordwall is a visually pleasing website that is an instructional, media, and evaluation tool for students. (Putri, 2020: 18–22).

Based on an interview on the learning evaluation conducted with Mr. Eko Listiawan, S.Pd., a fourth-grade teacher at SDN Laladon 02 Bogor district. Related to the interview, the researcher obtained the following data: Students still have a lot of difficulties in answering the assessment question. During evaluation, pupils are more likely to choose media-based methods than manual methods. Along with the difficulties of understanding and responding to questions, students also complain about the complex and monotonous evaluation way. Teachers believe that there is still a lack of student participation in the evaluation process, hence they observe innovation in the assessment process as important. Furthermore, the unpleasantness of the evaluation question is an important aspect that allows teachers to generate new ideas for innovating tools for assessment. The teachers also agreed that wordwalls should be utilized as an alternative evaluation medium.

Based on observations conducted at SDN Laladon 02 Bogor district, teachers commonly employ questions from textbooks or ask students in general as an evaluation technique. Furthermore, the researchers discovered that because the evaluation methods utilized by teachers are monotonous, children become bored. Furthermore, the need analysis carried out by the researchers on a ten sample of fourth-grade students from SDN Laladon 02 Bogor district indicated that children desired more exciting and fun ways of evaluation to test their comprehension of mathematics. The article will cover the need analysis of the web-based mathematics learning evaluation application Wordwall SDN Laladon 02 Bogor District regarding the previously provided information.

## II. Research Method

This study focuses on interactive educational media and employs a Research and Development (R&D) methodology. The product's potential usefulness in the classroom will be evaluated utilizing these R&D methodologies. The model development approach is based on Sugiyono's adaption of the Borg and Gall model. However, because the research is limited to fulfilling the development and research criteria, only 8 out of 10 phases are used. This study followed eight research steps, which are included below: Begin with need analysis, then collect data, develop a product, validate a design, revise the design, run a first trial, assess the product, and test its functionality. Students become research subjects. Class IV students employ one-on-one evaluation to pick three students, while students use small-group assessment to select 10 to 15 students. Interviews, observations, and raises are used to acquire information from material, language, and media experts. Furthermore, the study employs a mixed method of qualitative and quantitative data to present an overview of the responses to the analysis conducted.

## III. Findings and Discussion

The results of the student needs analysis are shown in the table below:

Table 1. The results of the students needs analysis

No.	Questions	Answer Yes	Persentase (%)
1.	Do you like Math lesson?	7	70
2.	Is the evaluation or assessments of mathematics lesson in your school still using paper/manuals?	10	100
3.	Has your school used interactive technology during a maths evaluation?	0	0
4.	Did your teacher ever give you a math quiz that utilized interactive media or a certain thing?	0	0
5.	Do you know Wordwall?	0	0
6.	Is the evaluation of the Mathematics subjects consistent with the given material?	8	80
7.	Is the evaluation of the mathematics subjects offered easy to understand, and attract you to engage in them?	6	60
8.	Do you need any additional evaluation materials to support the evaluation?	8	80
9.	Do you need a more exciting and enjoyable evaluation?	10	100
10.	Do you agree that the evaluation or assessments use Wordwall?	10	100

Based on the data presented above, 70% of pupils enjoy mathematics, and 100% believe assessments in these subjects still occur on paper with no interactive technology employed. Additionally, students are unfamiliar with Wordwall. Up to 80% of students express that the mathematical evaluation they use is consistent with the information provided. Furthermore, 60% of students feel that the mathematics evaluation is simple to understand and encourages students to focus on the problem. 80% of students say they need more evaluation material to help with evaluation tasks, and 100% say they need an interesting and enjoyable evaluation method. The students also felt that utilizing Wordwall for conveying questions would be helpful.

Based on the data presented above, a wordwall-based learning evaluation tool can be developed. The media to be generated is a network-based digital gamification application that includes various game components and quizzes that teachers can use to assess subjects. Based on the information acquired during this need analysis, the media that will be developed will be customized according to the needs of students and teachers in the process of assessing their learning. It is hoped that considering the existence of the requirement analysis, the medium that will be generated later will be appropriate, to offer a solution to the difficulties that arise.

#### IV. Conclusion

Based on the findings of this research investigation, the conclusion consists of (1) The evaluation instrument usually employed by teachers is asking students to complete questions from textbooks or written examinations. (2) Teachers and students demand more engaging and pleasurable evaluation tools for assessing mathematics learning.

Data collection, product design, design validation, design revision, small-scale trial, product revision, and usage trial are the next steps in this research, which only started with the needs analysis phase. Students are supposed to be more motivated to learn since they have control over these media and can utilize them to implement educational technological innovations.

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