Validity of Development of Microsite-Based Wordwall Learning Media as a Learning Evaluation Tool

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Abstract. Evaluation is a learning activity that aims to help identify students' understanding of the material being taught. The problem in this research is that some teachers have not been able to develop learning media, especially learning evaluation tools. This research aims to determine the level of validity of the wordwall learning media being developed. The type of research used is development research (RnD) with a Borg and Gall model design that has been modified by Sugiyono. The stages in this development are potential and problem analysis, information gathering, product design, validation by experts, design revision, and product revision. The research instrument used was a questionnaire using a Likert scale measurement. The media expert validation results obtained a percentage of 97.8% (very valid), the material expert validation obtained a result of 95.6% (very valid), and the language expert validation was 96.5% (very valid). Based on the results obtained, it can be concluded that the development of Wordwall learning media is good for use in learning evaluation activities.

Keywords: microsite, learning media, wordwall

1 Introduction

Learning during the Covid-19 pandemic experienced many changes, such as learning which was usually carried out face-to-face (offline) then switched to online learning. One of the important points in learning in the Covid-19 era is the use of technology. This is in line with the direction from the Ministry of Education and Culture which directs that the learning process must utilize technology in the classroom so that it can increase effectiveness and efficiency in learning [1].

In the learning process, technology is used as an evaluation tool with the increasing development of online exams with the help of computers, laptops, even smartphones [2]. The process of adapting technology in the learning space is a necessity in facing changes in the era of globalization, technological developments have an influence on the learning process [3]. One of the technological

H. S. Panigoro et al. (eds.), *Proceedings of the 2nd International Conference on Sciences, Mathematics, and Education 2023 (ICOSMED 2023)*, Advances in Social Science, Education and Humanities Research 927,
https://doi.org/10.2991/978-2-38476-410-5_52

developments that teachers must make is to utilize technology in learning evaluation.

Learning evaluation is one way that educators can find out how far students have achieved in participating in learning activities [4]. Evaluation aims to assess the learning that the teacher has provided to students. Evaluation is generally carried out at the end of learning, but its implementation needs to be designed at the beginning of learning. Evaluation is used as an indicator of educators' success in delivering material and providing understanding to students. However, in fact, evaluation activities have many obstacles. One of them is that teachers generally still use quizzes and exercises in the form of essay and multiple-choice questions which still use stationery and which students feel are still less interesting [4]. Apart from that, teachers experience obstacles in carrying out evaluations due to limited use of technology. The difficulties experienced by educators are due to a lack of knowledge about creating IT-based learning media, so many of them only use theme books as the main teaching material in the current online learning process.

Teachers in learning, especially in distance learning, experience difficulties in the evaluation process and are considered less effective [5]. One of the problems teachers faced during the Covid 19 process was the lack of use of technology in evaluation activities. Even though assessment is a mandatory activity that must be carried out at least at the end of every discussion chapter to determine the level of students' understanding of the material that has been taught [6].

Learning evaluation involves assessing not only learning outcomes, but also all processes experienced during the learning process. Generally, educators use essay questions or multiple-choice practice questions as learning evaluation tools, and this can make students feel bored, especially in subjects such as mathematics which are often considered difficult. Of course, this can have an impact on student evaluation results [7]. Therefore, more creative and innovative evaluation media are needed to reduce students' boredom when working on evaluation questions.

One of the learning media that can be used by teachers to assist learning activities, especially learning evaluation, is the wordwall application. Wordwall is a learning media in the form of a game that utilizes technology that can be used by teachers which can increase student learning motivation [8]. Wordwall is a learning application that can be used as an interesting teaching medium or evaluation tool for students in the online learning process [9]. This software has the advantage that the templates used can be obtained for free. Wordwall software has many types of games such as crossword, quiz, random cards and many others. The wordwall application is able to foster feelings of joy that make students less stressed when working on evaluation questions or other exercises during the learning process [4].

This wordwall application will then be connected to the microsite. A microsite or microsite is a small web page that is separate from the main website. Several links can be contained in a microsite that is designed as a single unit and formed into a mini website. Its use is intended so that several links that you want to load can be launched on one site only so that it is more practical and easier

to access [10]. However, in using this microsite-based Wordwall there are still several drawbacks, including the time needed to adapt to the existing format on the platform. Therefore, it is necessary to test the validity of developing microsite-based Wordwall learning media as a learning evaluation tool.

2 Method

The type of research used is R&D development research (research and development) using the Borg and Gall research model. The Borg and Gall development model has 10 implementation stages 1) research and information collecting, 2) planning, 3) develop preliminary from product (4) preliminary field testing, 5) main product revision, 6) main field testing, 7) operational product revision, 8) operational field testing, 9) final product revision, 10) dissemination and implementation [11].

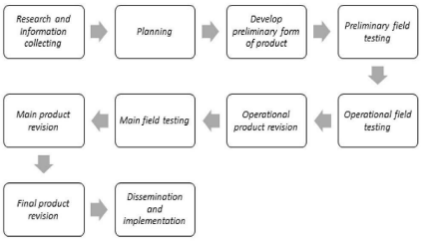

Fig. 1. Borg and Gall Model of Development

The wordwall learning media product that has been created is then validated by experts. Validity is a scale that shows the level of validity of a product. Validation is carried out by three validator experts, namely material validator, media validator and language validator. Each validator fills out a questionnaire in the form of several statements in the form of a Likert scale. The results of the questionnaire assessment are used as a reference in working on media revisions. Guidelines for giving scores on the validation sheet questionnaire are depicted in Table 1.

Table 1. Validation Assessment Questionnaire Scores

Score	Criteria
4	Very good
3	Good
2	Not good
1	Very not good

The validation results are then calculated using the following formula:

$$\text{Percentage} = \left(\frac{\sum \text{Validation Scores}}{\text{Maximum Score}} \right) \times 100$$

Furthermore, after the validation value is obtained, the value is adjusted to the validation criteria depicted in Table 2.

Table 2. Percentage Level And Media Validity Criteria

Score	Eligibility Categories
¡21	Invalid
21-40	Not valid
41-60	Fairly valid
61-80	Valid
81-100	Very valid

3 Result and Discussion

3.1 User Needs Analysis

Based on the results of interviews conducted with MAN Tolitoli teachers regarding learning at school, problems were found regarding evaluation tools which were limited to use during the pandemic. Apart from that, the media used by teachers only focused on power points and animated videos which made students pay less attention to explanations and students felt bored in the learning process.

3.2 Goal Formulation

In formulating objectives, it can be seen that some teachers find it difficult to evaluate online learning. Apart from that, students also feel bored with the learning process. It is necessary to provide learning evaluation tools that can help teachers and also support the learning process.

3.3 Planning

After formulating the objective problem, the decision to create learning media was to create Wordwall media. For the process of designing Wordwall media, there are several ideas that have been added, namely creating several questions about Hormones in Plants, there are pictures and audio that can make students not feel bored when using Wordwall learning media [12]. The steps for creating a Wordwall are Create or register an account at https://wordwall.net then complete the data listed therein, Select create activity then choose one of the existing templates, Write down the title and description of the game, and Select done, as the final step if we have finished creating it.

3.4 Initial Master Creation

In making the initial master, the process carried out was the process of creating wordwall (quiz) learning media. This Wordwall media was created to help teachers overcome various problems in the learning process. In the Wordwall media there is a quiz about hormones in plants that students can use for independent learning and there are pictures and audio that make students not feel bored when using the Wordwall application. This quiz was created using the wordwall application. Initial construction can be seen in Figure 2.

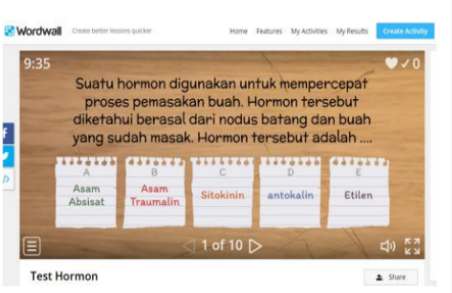

Fig. 2. The Initial Master View of The Wordwall Media

3.5 Evaluation

After creating the initial master, the wordwall learning media which contains quizzes/questions about hormones in plants, the format was evaluated by a material, media and language expert validator. The results of the material validator assessment can be seen in Table 3.

Based on the results of the material validator assessment, it is known that wordwall media is classified as very valid/very feasible with a percentage of 97.8This means that in terms of aspects the material is as expected and can be used to support the learning process. The results of the media validator assessment can be seen in Table 4.

Based on the results of the media validator assessment, it is known that wordwall media is classified as very valid/very feasible with a percentage of 95.6%. The results of the language validator assessment can be seen in Table 5.

Based on the results of the language validator assessment, it is known that wordwall media is classified as very valid/very feasible with a percentage of 96.5%.

3.6 Revision

Based on the evaluation results, there are several parts that need to be improved because there are parts that are still lacking and adjusted according to sugges-

Table 3. Assessment of Wordwall Media

Assessment Aspect	Score Obtained
A. Suitability of Material with Basic Competencies	
Suitability of material with basic competencies and indicators that students will achieve	5
The material is appropriate to the learning objectives	5
The material presented can achieve learning objectives	5
B. Accuracy of Material	
The material presented in Wordwall media attracts students' attention	5
The correctness of Wordwall concepts or materials in learning	5
The order of presentation of material in learning	4
The material on Wordwall media is relevant to the material being studied	5
C. Latest Material	
Activities presented in the media developed can foster curiosity	5
Ease of understanding hormones in plants in learning	5
Total Score	44
Eligibility Percentage	97.8% (Very Valid)

tions from media, material and language validators. The first revision carried out was by deleting the media stage in the results section and also adding background reinforcement to the Wordwall media quiz. The results of the revision of the Wordwall media product can be seen in Figure 3.

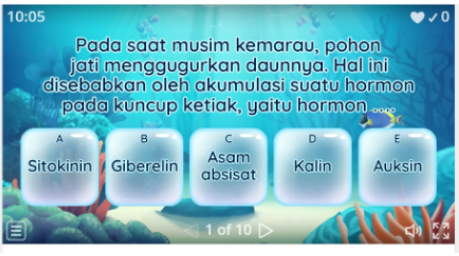

Fig. 3. The Initial Master View of The Wordwall Media

3.7 Final Master Creation

At this stage, the design and manufacture of the final wordwall media product is carried out. The completed wordwall learning media is then included on the website (Microsite).

Table 4. Assessment of Wordwall Media

Validation Results Of Wordwall Media Development By Media Experts	Score Obtained
A. Wordwall Media Display	
The media illustrates content or material that aligns with everyday life situations	3
The images displayed in Wordwall media create a positive impression to attract students' attention to learning	5
The colors used in the media have a good contrast with each other	5
The images used in the media are clear and appropriate for students' needs	5
The display and background colors used in the media form an attractive color combination	5
The sentences used in the media are easy for students to understand	5
B. Media Attractiveness	
The developed Wordwall media is attractive and easy to use in learning	5
The developed media can be used as an alternative learning tool	5
The developed Wordwall media can foster students' curiosity and create learning enthusiasm	5
Total	43
Eligibility Percentage	95.6% (very valid)

The product development stages follow the Borg and Gall development steps which have been adapted to Sugiyono's research with the stages of problem analysis, goal formulation, design, initial master creation, formative evaluation, revision, and final master creation. Based on the results of validation scores from media, material and language experts, it is known that the learning media developed received an average score of 97.8% in the very valid category.

The Wordwall media assessment aspect of the questions presented must be in accordance with the subject matter, suitability between questions and answers. For this reason, presenting questions on Wordwall media requires teacher skills to compose good questions. This skill is a competency that a teacher must have, namely pedagogical competency. This pedagogical competency can be seen from the teacher's ability to plan, process and evaluate learning. So in this case the teacher plays the role of planner, processor and evaluator [13].

Teachers as evaluators must be able to assess the entire learning process in the classroom, both competency achievement and preparation of progress reports to improve learning. Measuring student learning outcomes can be done by using interesting learning media so that it can make it easier for teachers to carry out assessments in the learning process, one of which is wordwall learning media [14]. Wordwall is a digital application that uses various game and quiz features that can be used by teachers to carry out learning evaluations. This application

Table 5. Validation Results of Wordwall Media Development by Linguistic Experts

Assessment Aspect	Score Obtained
A. Language Suitability	
The language used in Wordwall must be easy to understand	3
Accuracy of text with images	5
The letters used in the poster are simple and easy to read	5
Spelling accuracy	5
Grammatical correctness	5
Use of spelling according to EYD (Enhanced Spelling System)	5
B. Communicative	
The sentences used are clear and precise	5
The language style used in the poster is accurate	5
Appropriate use of communicative sentences	5
Total	43
Eligibility Percentage	96.5% (very valid)

is suitable for teachers because it can be used to create learning assessment methods, besides this game can be played offline [15]. This wordwall learning media is an effective learning media used during online learning like today [16].

4 Conclusion

Wordwall is a learning media that can be used to assist learning evaluation activities. Based on the results of the validation research that has been carried out, the validation value obtained by material experts is 97.8%, media experts provide a validation percentage of 95.6%, and language experts provide 96.5%. The average value of the three validators' validation results was 96.63% with a very valid product category. Thus, it can be concluded that the development of Wordwall media produces learning media that is very valid and suitable for use as a learning evaluation tool for students.

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