

Development of Powtoon-based Learning Videos for Grade 4 Elementary School Students

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Abstract—This study aims to produce a product in the form of powtoon learning media on the material of cultural diversity in Indonesia by strengthening the character of love for the homeland that is valid according to material experts and media experts and is practically used by teachers and interesting for fourth-grade students at SDN Mangunharjo 6 Probolinggo. This study uses the Borg and Gall model. Data collection techniques used include interviews, questionnaires, and documentation. The percentage of the results of the assessment of material experts is 95%, media experts are 93.8%, practical use by teachers as users is 95.8%, and interesting for students in product trials, a percentage of 100% is obtained and usage trials are obtained by a percentage of 100%. The character of love for the homeland for students in the trial and test of product usage obtained a percentage of 100%. Based on the results of the assessment, it can be concluded that the powtoon learning media is valid according to material and media experts, and is practical to use for teachers, attractive to students and the character of love for the homeland appears.

Keywords—instructional media, elementary school students, powtoon

I. INTRODUCTION

The development of science and technology is becoming increasingly sophisticated and advanced, directly or indirectly so that it has a major influence on several aspects of human life. One aspect that is influenced by the development of science and technology is the aspect of education. Because education has an important role to improve the quality of human resources. Especially now that education is undergoing changes and advances, one of the

advancements in education is learning media that can be accessed online.

Learning media and education have a close relationship, the learning process will not run smoothly without the right learning media. An effective, fun, interesting, and meaningful learning process for students is influenced by various elements, including teachers who fully understand the nature, nature, characteristics of students, learning methods centered on student activities, adequate student learning facilities, the availability of various learning resources, and media that are interesting and encourage students to learn (Susilana & Riyana, 2008; Krismon et al., 2020).

One of the subjects that require learning media is a social science (IPS). Social science is one of the subjects in elementary school that is related to studying the interaction between individuals and society with the environment (physical and socio-cultural). Social studies learning at school is the basis for students to acquire concepts related to their immediate environment or themselves. One of the materials related to social life is cultural diversity. The material on cultural diversity is one of the sub-themes contained in the theme of the beauty of diversity in my country in thematic learning for fourth-grade elementary school.

The results of interviews conducted with fourth-grade teachers at SDN Mangunharjo (SDN is abbreviation of Sekolah Dasar Negeri or state elementary school) 6 on February 9, 2021, obtained information related to the learning process that has arrived at theme 7. In learning, teachers have not maximally used learning media or online learning applications. The learning media used are still in printed form which is less attractive and varied so that students do not play an active role, are less enthusiastic, bored, bored, and less of interest and enthusiasm for students in learning (Putra et al., 2020;

Wahyuningtyas et al., 2020; Putra, 2019; Andajani et al., 2020).

In addition to the importance of the teacher's role in the success of the student learning process, it must also be supported by the cultivation of student character in a learning process. One of the character plantings that students must have is love for the homeland. Instilling the character of love for the homeland to elementary school students to increase mutual respect, respect, protect, protect, and love the nation and country nation (Ramly, 2011; Nadhiroh, 2020).

The indicator of love for the homeland is a way of thinking, acting, and acting that shows loyalty, concern, and high appreciation for the language, physical, social, cultural, economic, and political environment of the nation (Ramly, 2011; Nadhiroh, 2020). Based on the explanation of the problems above, alternative solutions that can be given are by implementing more innovative, varied, practical, interesting, and easily accepted learning by students, one of which is the Powtoon learning media.

Powtoon is a learning media that has very interesting and practical animation features, including handwritten animation, animated cartoons, and livelier transition effects as well as very easy timeline settings (Awalia, 2019). Powtoon gives an interesting learning impression for students, not only writing but there is sound. Powtoon has the following advantages: interactive, covers all aspects of the senses, its use is practical, collaborative, varied, and can motivate students in learning.

Based on the preliminary research, this development aims to produce a product in the form of powtoon learning media on the material of cultural diversity in Indonesia by strengthening the character of love for the homeland that is valid according to material experts and media experts and is practical to use for teachers and interesting for fourth-grade students at SDN Mangunharjo 6 Probolinggo City.

II. METHOD

The research and development model adopted in developing powtoon learning media by strengthening the character of love for the homeland uses the Borg and Gall development model which has 10 stages Sugiyono (2012) .The stages carried out include, among others, potential and problems, collecting data, product design, design validation, product design revision, product testing, product trial revision, usage testing, final product revision, and mass production. Based on the procedure for developing powtoon learning media by strengthening the character of love for the homeland in class IV SDN Mangunharjo 6 through the following steps.

At the potential and problem stage, this is done by collecting data used for research purposes, namely in

the form of problems and needs in elementary school. These potentials and problems were carried out through interviews that had been conducted on February 9, 2021, with the fourth-grade teacher at SDN Mangunharjo 6. Interviews were conducted to obtain information about the learning media used in grade IV. This stage aims to examine the purpose of the product to be developed. Furthermore, data collection, in data collection there are several stages. The first stage is to review the curriculum that is being used at SDN Mangunharjo 6 so that the powtoon learning media about cultural diversity does not deviate from the learning objectives. The second stage is the analysis of the needs of teaching materials. The steps for analyzing material needs for media development are: identifying KD and KI learning in grade IV teacher books and student books, and identifying and determining the scope of KD to be developed, identifying cognitive, affective, and psychomotor aspects that will be developed in KD that will be developed. already selected.

After the data collection stage, the next step is a product design that is compiled using the Powtoon application with a colorful background design, there are pictures of traditional houses, traditional clothes, tribes, musical instruments, dances, music and sounds to support the material being reviewed, as well as the addition of animation. to be more interesting and practical to use in the learning process. Furthermore, product design validation, this activity process is carried out to assess product design rationally and effectively. In this development, several experienced validators are needed to assess products in the form of powtoon learning media.

After validating the product design, the next step is to revise the product design according to the input and suggestions from the expert validator. The number of revisions made depends on the input and suggestions of the validator. The next step is a product trial conducted on 6 fourth-grade students at SDN Mangunharjo 6, with different criteria for children. The sample criteria used were 2 smart children, 2 middle children, and 2 fewer children. Implementation is carried out online / online through WAG.

After testing the product, the next step is product revision, which is the stage after testing the product on 6 fourth-grade students. Product revisions are carried out if in real conditions there are deficiencies or weaknesses based on a google form questionnaire filled out by 6 fourth grade students at SDN Mangunharjo 6. The next step is a trial for use, this stage is carried out to 26 fourth grade students at SDN Mangunharjo 6. Implementation is carried out online/ online via WAG. After the product usage test is the final product revision, this stage is carried out based on student response questionnaires via a google form.

The next step is mass production, this stage is carried out if the product test is declared effective and feasible for small-scale mass production. Mass production will be carried out in collaboration with the school. Product results can be published for these elementary schools and other elementary schools in the form of CDs, or video links for powtoon learning media.

The types of data in this study are qualitative data and quantitative data. Qualitative data were obtained from input and advice from material experts, media experts, and teachers, and the responses of fourth-grade students. Quantitative data were obtained from the results of the validation test of material experts, media experts, as well as the practicality of the teacher and the attractiveness obtained during the product test of fourth-grade students at SDN Mangunharjo 6 Probolinggo City.

III. RESULTS

The results of this research and development are in the form of Powtoon learning media products on cultural diversity material by strengthening the character of love for the homeland in class IV SDN Mangunharjo 6. The product is made attractive with background, animation, music, and sound that match the material. The material contained in this Powtoon is also easy to learn because it is equipped with pictures, making it easier for students to understand learning such as Figure 1 and Figure 2 below.



Figure 1. Cover Powtoon



Figure 2. Content Powtoon

Validation results were obtained through validity tests from material experts and media experts, as well as practicality tests from teachers as users, and

attractiveness tests from fourth-grade students' responses. From the test results obtained the following data.

Table 1. Material Expert Validation Data

No	Assessment Indicators	Score	Percentage (%)	Validation value	Description
1	Content	4	100	95%	Very valid, can be used without revision
2	Material Coverage	4	100		
3	Language	3	75		
4	Presentation technique	4	100		
5	Learning Presentation	4	100		

The validation results in Table 1 if interpreted based on the criteria contained in chapter III, then the validation results are in the interval 85.01%-100.00%. This means that the product is categorized as very valid so that it can be used without revision. While the qualitative data was obtained from the validation of material experts in the form of input and suggestions for the material contained in the Powtoon learning media product. Inputs and suggestions from material expert validators are that there is no need for improvement.

Table 2. Media Expert Validation Data

No	Assessment Indicators	Score	Percentage (%)	Validation value	Description
1	Application	4	100	93,8%	Very valid, can be used without revision
2	Appearance	3	75		
3	Language	4	100		
4	Presentation	4	100		

The validation results in Table 2 if interpreted based on the criteria contained in chapter III, then the validation results are in the interval 85.01%-100.00%. This means that the product is categorized as very valid so that it can be used without revision. While the qualitative data obtained from the validation of media experts in the form of input and suggestions for the material was contained in the Powtoon learning media product. Inputs and suggestions from media expert validators are (1) the voiceover is not clear, (2) the music/back sound is too loud.

Input and advice from media experts in the form of improvements to the addition of voiceovers and music to be clearer and less loud. Media experts gave suggestions to improve the voiceover and music more clearly so that the powtoon can be understood for fourth graders.

The validation results in Table 3 if interpreted based on the criteria contained in chapter III, then the validation results are in the interval 85.01%-100.00%. This means that the product is categorized as very practical so that it can be used without revision. While the qualitative data was obtained from the validation of the teacher as a user in the form of input and suggestions for the material contained in the Powtoon

learning media product. Inputs and suggestions from material expert validators are (1) learning media can be reproduced and disseminated, (2) learning media are very helpful for teachers, (3) teachers do not bother making their media.

Table 3. Teacher Validation Data

No	Assessment Indicators	Score	Percentage (%)	Validation value	Description
1	Content	4	100	95,83%	Very practical, can be used without revision
2	Material Coverage	4	100		
3	Appearance	4	100		
4	Language	4	100		
5	Material Presentation technique	4	100		
6	Learning Presentation	3	75		

Table 4. Product Trial Questionnaire

No	Descriptor	Score	Percentage (%)	Validation value	Description
1	Does the powtoon learning media make it easier to understand the material on Cultural Diversity in Indonesia?	6	100	100%	Very interesting, can be used without revision
2	Is powtoon easy to operate?	6	100		
3	Are the instructions for use on powtoon easy to understand?	6	100		
4	Is powtoon easy to use?	6	100		
5	Can powtoon be used anywhere and anytime?	6	100		
6	Is the powtoon look attractive?	6	100		
7	Are the backgrounds, images, animations, music, and sounds in powtoon interesting?	6	100		
8	Is the material presented in the powtoon easy to understand and clear?	6	100		
9	Can Powtoon be installed or run on electronic devices (computers, laptops, and cellphones) easily?	6	100		
10	Did you know anything new when using powtoon?	6	100		
11	Are you passionate about learning when using powtoon learning media?	6	100		
12	Does using powtoon learning media cost a fortune?	6	100		

The validation results in Table 4 if interpreted based on the criteria contained in chapter III, then the validation results are in the 85.01%-100.00% interval. This means that the product is categorized as very attractive so that it can be used without revision. In the product trial, the character of love for the homeland was also seen when 6 students scored 6

because they met 6 indicators for the assessment of the character of love for the homeland.

Qualitative data was obtained from student response questionnaires in the form of input and suggestions on the material contained in the Powtoon learning media product. Inputs and suggestions from the student response questionnaires are (1) interesting, so that learning is not boring, (2) easy to understand, a variety of images, (3) respecting and respecting cultural diversity, (4) knowing and knowing various cultures.

Table 5. Use Trial Questionnaire Data

No	Descriptor	Score	Percentage (%)	Validation value	Description
1	Does the powtoon learning media make it easier to understand the material on Cultural Diversity in Indonesia?	26	100	100%	Very interesting, can be used without revision
2	Is powtoon easy to operate?	26	100		
3	Are the instructions for use on powtoon easy to understand?	26	100		
4	Is powtoon easy to use?	26	100		
5	Can powtoon be used anywhere and anytime?	26	100		
6	Is the powtoon look attractive?	26	100		
7	Are the backgrounds, images, animations, music, and sounds in powtoon interesting?	26	100		
8	Is the material presented in the powtoon easy to understand and clear?	26	100		
9	Can Powtoon be installed or run on electronic devices (computers, laptops, and cellphones) easily?	26	100		
10	Did you know anything new when using powtoon?	26	100		
11	Are you passionate about learning when using powtoon learning media?	26	100		
12	Does using powtoon learning media cost a fortune?	26	100		

The validation results in Table 5 if interpreted based on the criteria contained in chapter III, then the validation results are in the interval 85.01%-100.00%. This means that the product is categorized as very attractive so that it can be used without revision. In the trial use, the character of love for the homeland was also seen when 26 students scored 26 because they met 6 indicators for the assessment of the character of love for the homeland.

Qualitative data was obtained from student response questionnaires in the form of input and suggestions on the material contained in the Powtoon learning media product. Inputs and suggestions from the student response questionnaires are (1) the videos help make learning easier, (2) the media makes it easier to study at home, (3) it looks good, so learning is not boring, (4) knows various cultures and appreciates differences in Indonesia, (5) can respect different cultures.

IV. DISCUSSION

The implementation of this research and development is carried out based on the Borg and Gall research procedure according to Sugiyono (2012). Borg and Gall research steps include: (a) potential and problems, (b) collecting data, (c) product design, (d) design validation, (e) product design revision, (f) product trial, (g) revision product trial, (h) usage trial, (i) final product revision, and (j) mass production.

Material expert validation includes five aspects of the assessment, namely material content, material coverage, discussion, presentation techniques, and learning presentation. Based on the results of calculations that have been carried out from material expert validators, the validity of the powtoon learning media is 95%. So this percentage is included in the interval of 85%-100%. If interpreted, the results are very valid and can be used without revision when the powtoon learning media will be used.

The results of this material validation are very valid because previously Adkhar (2016) who developed an animation video media based on Powtoon in grade 2 was validated 81.3%. Ginting (2019) who developed video-based learning media on the sub-theme of my country's cultural diversity in grade 4 obtained material validation results of 3.7, and Fidayanti (2020) who developed animated video learning media assisted by sparkol video scribe on cultural diversity material in Indonesia grade 4 obtain 90% material validation results.

Media validation includes application, display, language, and presentation. Based on the results of calculations that have been carried out from media expert validators, the validity of the powtoon learning media is 93.8%. So this percentage is included in the interval of 85%-100%. If interpreted, the results are

very valid and can be used without revision when the powtoon learning media will be used.

This is very valid considering the validation results obtained by Adkhar (2016) on the development of animation video media based on Powtoon in grade 2, which is 93.3%. Ginting (2019) who developed video-based learning media on the sub-theme of my country's cultural diversity in grade 4 obtained media validation results of 3.6, and Fidayanti (2020) who developed animated video learning media assisted by sparkol video scribe on cultural diversity material in Indonesia grade 4 obtained 92.86% media validation results. The input given by the media expert is that the voiceover made by the researcher needs improvement because when the powtoon video is played, it sounds clearer, namely the back sound video, not the voiceover made.

User validation was carried out by a fourth-grade teacher at SDN Mangunharjo 6 Probolinggo. User validation includes six aspects, namely material content, material coverage, appearance, language, presentation techniques, and learning presentation. Based on the results of calculations from the results of the Class IV teacher validator as a user, the results obtained are 95.83%. If interpreted, the powtoon learning media can be used without the need for revision.

The results of user validation on this product are very practical, seeing the results of user validation from Ginting (2019) who developed video-based learning media on the sub-theme of my country's cultural diversity in grade 4, obtaining results of 89.13%. For the improvement of the Powtoon learning media product, the user validator provides suggestions and input, namely that this learning media can be reproduced and disseminated to SD/MI, so that teachers do not bother to make their media, just use the media because it is very helpful (Nurdiansyah et al., 2018; Astika et al., 2019).

The product trial was carried out 2 times, namely a small-scale product trial with a total of 6 children and a large-scale trial with a total of 26 fourth grade students at SDN Mangunharjo 6 Probolinggo. Based on the results of calculations from the results of the attractiveness response questionnaire and strengthening the character of love for the homeland of fourth-grade students, the percentage result is 100%. If interpreted, the powtoon learning media is known to be very interesting to use and the character of love for the homeland appears.

The results of the student response questionnaire on this product are good, seeing the results of students from Ginting (2019) who developed video-based learning media with a scientific approach on the sub-theme of cultural diversity in my country in grade 4, the results were 89.13. For the improvement of the Powtoon learning media product, students as users

provide input and suggestions, namely the images that are displayed are good, interesting, and varied, and can appreciate culture and get to know various cultures in Indonesia.

V. CONCLUSION

Based on the test of the validity of the material and media, as well as practicality for teachers and attractiveness for students. Material validation that has been carried out by material experts shows that the results of material validity are 95% which are in the very valid category. Media validation that has been done by media experts shows that the results of media validity are 93.8% which is in the very valid category. User validation that has been carried out by the teacher shows that the user validity results are 95.83% which is in the very practical category. From the percentage of data from experts and user validation, the product can be used without revision. The results of the student response questionnaire and the questionnaire response to the character of love for the homeland from the trial use obtained a percentage of 100% which entered the very attractive criteria and the character of love for the homeland emerged.

Dissemination of products that are developed widely, should pay attention to several things, namely before using the Powtoon learning media it is recommended to read and understand the user manual, used in the learning process to complete the teaching materials used, and adapted to the situation and condition of school facilities such as LCDs, computers, and projector.

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