

Development of learning media for the Google site web-based on character

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Abstract

This research aims to develop learning media based on the Google site web-based on character values, which will help elementary school teachers and students learn, especially on social studies content on ethnic and cultural diversity material in Indonesia. This study uses the ADDIE R&D model with five stages. The results of the feasibility validation from design experts show a percentage of 88.5% with excellent and valid criteria. Material experts perform a presentation of 86.6% with excellent and valid criteria. Linguists with a presentation of 80% with excellent and valid criteria. While aspects of application and student attractiveness with a presentation of 85% and teachers with a presentation of 96%. From the aspect of effectiveness, with a presentation of 98.4%, and from the aspect of student PPK assessment, with a presentation of 94.2%. These results indicate that media can be applied to process learning in schools, especially in grade IV SD.

Keywords: Instructional Media; Web Google Site; Character Value.

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INTRODUCTION

Throughout the learning process in a school, teachers try to make learning fun and engaging for students. However, changing conditions from a Study-from-home system to a face-to-face learning system has brought new polemics for students and teachers to adjust to a shared mindset (Rozhana & Anwar, 2022; Sari, 2021; Sari et al., 2021).

Teachers always try to maintain the quality of learning, especially the material delivery, to improve students' cognitive abilities. The growth of science and technology brings patterns of human life to become very advanced and develop rapidly (Clark et al., 2020; Constante, 2021; Sari et al., 2021). This causes humans to change their mindset in searching for and obtaining data quickly and easily (Carreira et al., 2016; Murthy et al., 2016). Before getting to know technology, all types of activities were performed manually; teachers also did those by making

two-dimensional learning media, but it was deemed impractical to carry. All works previously done manually and took longer can be done quickly by machines (Hu et al., 2016; Smith et al., 2009; Thomas et al., 2020). In terms of this development, teachers are expected to think forward to not be behind the time, especially in online and offline teaching and learning activities, to achieve learning goals.

The development of time creates progress in the field of technology (Laurens et al., 2018; Orlando, 2013; Technology & Arabia, 2019; Webb et al., 2018; Williams & Barlex, 2020; Yoo & Euchner, 2020; Aldon & Panero, 2020; Clark et al., 2020; Lagrange & Erdogan, 2009; Lindberg, 2020; Nerdel & von Kotzebue, 2020), growing technology has gone digital. In Indonesia, several fields have started using technology to make work easier, including education (Engelbrecht et al., 2020; Lestari, 2018). The learning process in Indonesia is carried out online based on SE (Circular Letter) Kemendikbud No. 1 of 2020 concerning preventing the spread of COVID-19 in Indonesia. SDN 1 Landungsari Malang Regency is one of dozens of elementary schools that must participate in implementing online learning, where all students' learning processes are performed from home.

Learning about ethnic and cultural diversity in Indonesia is ongoing, but using media to convey material is less than optimal (Rozhana & Anwar, 2022; Rozhana & Sari, 2019). Learning media is needed during the learning process, considering that during the pandemic, the latest innovations are needed in the teaching process. During its implementation, learning is carried out through lectures and working on questions on student worksheets. Furthermore, the pandemic conditions exacerbated this, so the learning process is less than optimal. Teachers often used lecture methods, discussions, and the following applications, i.e., WhatsApp, Google Classroom, and Zoom Meet when children were learning from home. The poor variations in the delivery of materials worsen the condition of students who have cognitive abilities that are below average and need teacher assistance in learning—referring to Teacher and Lecturer Law Number 14 of 2005, article 8 shows that teacher qualifications could include individual competence, certification, physical/spiritual health and the ability to realize national education goals. Other competencies such as pedagogical, personality, social, and professional through professional education also have been stated.

The results of surveys and short interviews conducted randomly by the author in several elementary schools in Malang City and Malang Regency show that the use of Web-based learning media (World Wide Web/www) using Google sites in the Social Sciences learning content "Ethnic and Cultural Diversity in Indonesia" class IV in social studies content, no one has ever attempted or tried to implement it. Teachers still use conventional methods such as lectures and direct discussions. Several facts were found that teachers carried out lectures, discussions, question and answer methods, and the teaching materials used were thematic guidebooks. This condition makes students feel less enthusiastic about the learning process, as stated by Clark et al. (2020) and Constante (2021). The students must genuinely understand the material chosen for teaching as learning social studies on ethnic and cultural diversity in Indonesia will later be encountered by students in social or everyday life. With the social science material that will be implemented, it is

expected that the learning will also be related to character values so that positive habits can be performed at home and school.

Based on the results of interviews, it was found that 1) Learning is carried out online or through distance learning; 2) The teacher only uses books as open material in delivering the material; 3) In distance learning, teachers often use short lecture mode and give assignments to students; 4) Students are getting bored with distance learning; 5) The teacher has never tried to carry out learning using web-based media. Meanwhile, the initial test results of 14 students had an average overall score of 73.84%.

"Development of Google Sites web-based learning media for Class IV in Social Sciences Content on Indonesian Ethnic and Cultural Diversity with Strengthening Character Values" was developed for an effective learning process. The aim is high demands on teachers to become more creative teachers in learning (Dumas et al., 2016; Hershkowitz et al., 2017; Lithner, 2006; Ndiung et al., 2019; Rozhana & Sari, 2019; Webster, 2010). Learning during the pandemic is carried out online, so the media developed can provide innovations in the world of education. Learning that applies innovation can increase student activity, so teachers must innovate more in learning so that students using online learning can still receive and understand the materials optimally and provide increased academic value (Jandrić, 2020; Teräs et al., 2020a).

Apart from using innovation in learning, the media also provides character values/strengthening character education as a forum for teaching the value of nationalism to students. Strengthening character education is an attitude that teaches values that are the basis for having a positive attitude. Budhiman (2017) which states that character education/character strengthening is the process of building and equipping the golden generation in Indonesia in changing times, whether through ethics, aesthetics, literacy, and kinesthetics.

METHODS

Media development using development methods (Research & Development) produces media and tests their effectiveness (Hanafi, 2017). The product plan will be produced in the form of Google Sites web-based learning media regarding ethnic and national diversity in Indonesia for class IV social studies content. The following is a flow diagram of the ADDIE procedural model in media product development.

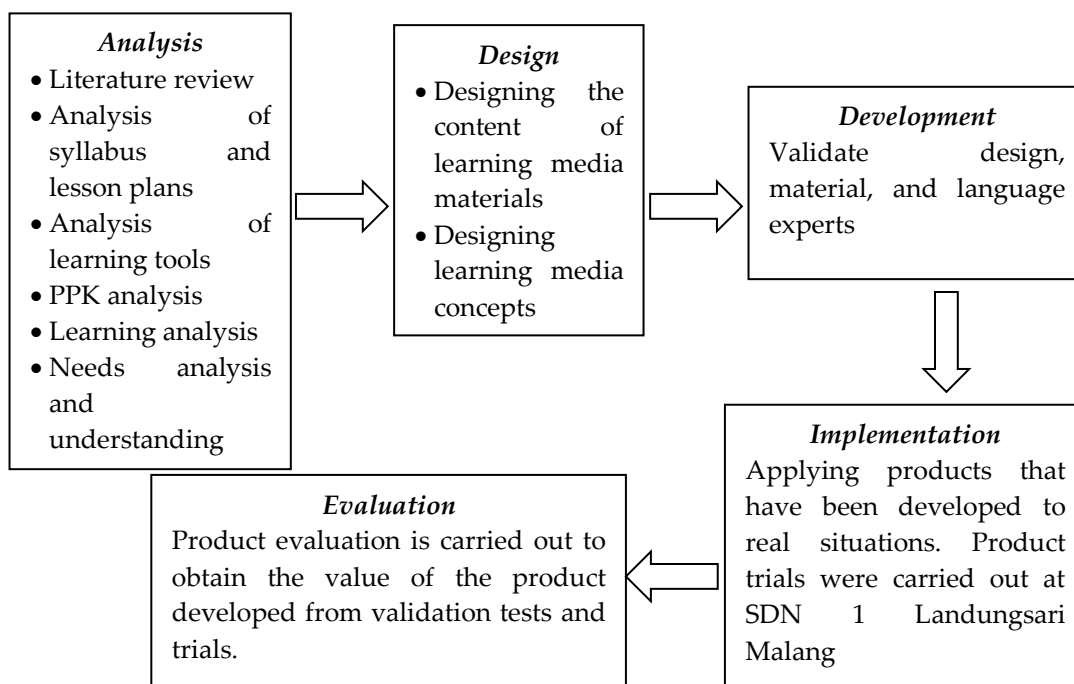


Figure 1. Flowchart of ADDIE model development

The ADDIE model is used in the development plan that researchers want to carry out, consisting of five stages: (1) analysis, (2) design, (3) development, (4) implementation, and (5) evaluation (Sugiyono in Noviyanti & Gamaputra,2020) and a description of each stage according to the flow diagram presented in Figure 1. Assessment instruments in media products are developed based on aspects of suitability and character values in them. Product analysis is obtained from design, materials, and language. Several aspects of the assessment can be seen in the table 1.

Table. 1 Assessment aspects

| Aspect | Data | Instrument | Observed Data | Respondent |
|---------------------------------------|--|---------------------|--|--|
| Eligibility for media products | Validation Expert | Angket | Feasibility of learning media products (1) | <ul style="list-style-type: none"> • Design expert • Material expert • Linguist |
| | Application | Angket sheet | Learning media products (2) | <ul style="list-style-type: none"> • Teacher • Student |
| | Effectiveness of learning media products | Questioner sheet | Result of Study (3) | <ul style="list-style-type: none"> • Student |
| PPK (Tolerance) | Attitude value | Instrumen Observasi | Student Behavior (4) | <ul style="list-style-type: none"> • Student |

The suitability of media products is assessed by design experts, material experts, language experts, teachers, and fourth-grade elementary school students. The validation by experts aims to provide information and suggestions for the media

products being expanded. The validation is helpful for systematically finding out whether or not the instruments and learning media developed are under the objectives. The feasibility of the data by experts is obtained by providing a grid of instruments and research instruments; then, experts provide assessments, suggestions, and comments on the available instruments. After the experts have assessed the instruments provided, if things need to be corrected, they need to be revised to improve them. In the PPK (Tolerance), the data aspect is the attitude value of fourth-grade elementary school student respondents. The validator experts selected for this research are teachers and lecturers with teaching experience and abilities according to their fields. The selected student respondents were the fourth-grade elementary school students in Malang City and Malang Regency whom the author had randomly selected.

The data were obtained by observing learning methods, learning media, student activity, student characteristics, and so on, which were carried out directly on the research object. The data was also obtained from interviews with teachers and fourth-grade elementary school students in Malang City and Malang Regency, who were randomly selected. Furthermore, the last is through questionnaires and test sheets for expert validators, teachers, and students.

RESULT AND DISCUSSION

Research and development were performed during August - December 2021. The data from the research and development process were generated from validation experts (materials, language, and design) and the feasibility in the field. The validation with media experts was carried out on November 8, 2021, by looking at the quality of the media developed so that the values obtained were as follows.

Table 2. Design/media expert validation

| No | Aspect | Amount |
|----|--------------------------|---------------|
| 1 | Design Validation | 62 |
| | Average Score (%) | 88.5 % |

Table 2, media expert validation, shows 88.5% (excellent and valid), which can be used with revisions they suggested. Apart from the quantitative data above, the qualitative data was obtained from general comments by media experts: "Evaluation is critical to measure the extent of students' understanding in using media. As with attractiveness, Evaluation also plays an important role. The use of letters must be enlarged in the main menu, and do not forget to include the source."



Figure 2. Revision from design/media experts

The validation for stage 1 to material experts was carried out on November 3, 2021, with 12 indicators. The assessment is related to the explanation of the content of the material displayed on the Google Sites web learning media. The following are the results from material experts.

Table 3. Material expert validation, grade 1

| No | Aspect | Amount |
|----|---------------------------------|---------------|
| 1 | Material Expert Validation Test | 32 |
| | Average Score (%) | 53.3 % |

The material expert validation results show 53.3% with good enough criteria and should be reviewed again. The general comments from material experts are Complete KD, which describes this media as limited to what kind of learning, sub-themes, class, and source. The researcher then carried out revisions for the second validation.

Table 4. Material expert validation, grade 2

| No | Aspect | Amount |
|----|---------------------------------|---------------|
| 1 | Material Expert Validation Test | 52 |
| | Average Score (%) | 86.6 % |

Validation with language experts was carried out on November 17, 2021, with ten indicators. Validation indicators are related to language, words, and sentences in the Google Sites web learning media. Next, the language expert validators assessed the media being developed. The results of the material expert validation are described in the table 5 below.

Table 5. Language validation

| No | Aspect | Amount |
|----|--------------------------|------------|
| 1 | Language Validation Test | 40 |
| | Average Score % | 80% |

The results of validation by linguist experts show 80% with excellent and valid criteria for use with revisions as recommended by linguist experts. Apart from the quantitative data above, the qualitative data was obtained from general comments by media experts, namely: Pay attention to the standard words according to EYD, the media application in the evaluation menu is still empty, do not forget to include the source for the image or video in the media.

Google Sites web-based learning media products that experts have validated are conducted in field trials. Results of the field trial in this research were carried out at SDN 1 Landungsari on November 25, 2021, with the target being teachers and grade IV students. Data on the results of field trials were obtained through questionnaires filled out by teachers/students after using Google Sites web-based learning media. The table of student response results can be seen from the following table6:

Table 6. Student response result class iv

| No | Aspect | Amount |
|----|---------------------------------------|---------------|
| 1 | Applicability and Interest (Students) | 927 |
| | Average Score (%) | 85,8 % |

Based on the results of responses from class IV students in a field trial involving 18 respondents, it was found that the Google Sites web-based learning media product was very suitable for use, with an average presentation of 85.8% with excellent criteria. Student responses were also obtained from the comment column, a learning media that is very interesting and helps students in the learning process.

Table 7. Teacher Response Results

| No | Aspect | Amount |
|----|--------------------------------------|-------------|
| 1 | Applicability and Interest (Teacher) | 48 |
| | Average Score (%) | 96 % |

Based on the results of responses from class IV teachers, it was found that the Google Sites web learning media was very suitable for use, with a percentage score of 96%. Responses from class IV teachers were also obtained from the comment column, namely that the learning media was good in PBM, children were more enthusiastic, learning was fun, and made it easier for children to understand the material. Next is the PPK value, which is measured during the learning process. Through existing activities, researchers observed students' attitudes toward tolerance. Researchers use learning media on the Google website to include tolerance values in students' learning media. The table of student PPK score results can be seen in the following table 8:

Table 8. Student PPK score results

| No | Aspect | Amount |
|----|--------------------------|---------------|
| 1 | PPK Value (Tolerance) | 424 |
| | Average Score (%) | 94.2 % |

Based on the researcher's observations of students with a "tolerance" character score of 5 indicators with 18 students, it was found that Google Sites web-based learning media products were very suitable for use with an average presentation of 94.2% with excellent criteria.

Table 9. Student PPK Score Results

| No | Aspect | Pretest | Posttest |
|----|--|---------|----------|
| 1 | Effectiveness of Student Learning Outcomes | 970 | 1.280 |
| | | 74.6% | 98.4 % |

The pretest and posttest function to measure improvements in student learning outcomes. The table above shows that the average score on the pretest was 74.6%, while there was an increase with an average score of 98.4% on the posttest. With this increase in value, the Google Sites web learning media is valid and effective for use by students.

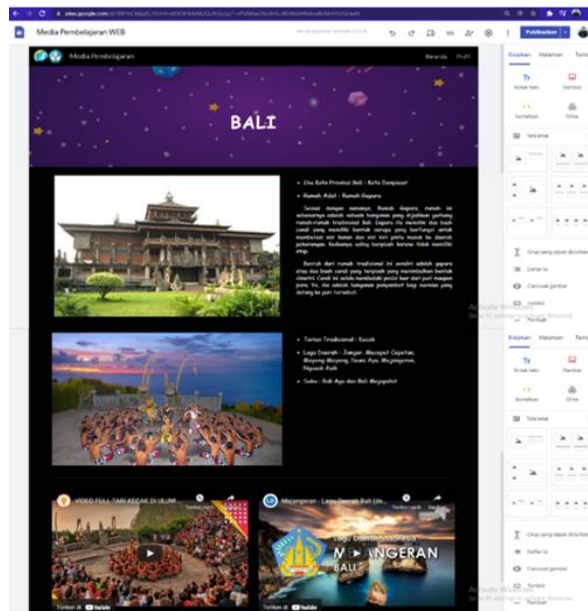


Figure 3. Google sites web appearance

The media expert validation results show 88.5%, with the criteria being very valid and can be used directly by teachers and students without needing revision. Material expert validation showed 88.6% with very good criteria and can be used without revision. Linguist validation shows 80% with very good criteria and can be used without revision. Meanwhile, the student's application and attractiveness aspects showed an average percentage of 85.8% with very good criteria. The teacher's applicability and attractiveness are 96% (very good). Furthermore, the effectiveness aspect shows 98.4% (very good) and is effectively used by students. Furthermore, the student PPK assessment aspect showed 94.2% (very good). Over the past year, the elementary school SDN 1 Landungsari, Malang Regency's learning process has resulted in many obstacles in implementing learning activities.

The interview results show difficulties in teaching due to the lack of media teachers use. Students also find it challenging to **understand** the material and get bored in the online learning process. In this way, researchers developed learning media based on the Google Sites web. Google Sites, according to (Sugawara & Nikaido, 2014), is a web/online site developed in 2008 that provides an online site application as a class or document editing project that provides an attractive appearance; apart from that, it can also include videos, calendars, presentation text, attachments. - attachments with text, as well as being able to create groups in it. According to researchers, Google Sites is considered suitable for use in the online learning process because it will simplify the learning process (Ameen et al., 2019; Joubert et al., 2020; Teräs et al., 2020b) and can be a new learning variation for teachers and students.

Researchers think that as time passes, all groups can operate and use electronic media as needed, including students and teachers who, in the past year, have been forced to understand and use electronic media such as cell phones and laptops. This is because the learning process must be online (Hrebenyk, 2019) so that the learning process continues. Students and teachers carry out the learning process using cell phones or laptops.

Media products developed in Social Sciences education contain material on ethnic and cultural diversity in Indonesia. Social Sciences education is a group of social humanities and basic humanitarian activities organized and/or presented in a scientific, pedagogical/psychological context for one educational goal (Hilmi, 2017). The researcher chose social studies content because, so far, no media has been developed or created for social studies content at SDN 1 Landungsari; apart from that, the learning media being developed is in direct contact with technology, which is very suitable for online learning. The purpose of learning media products is to assist teachers in conveying material to students. This learning media was also developed in digital form, which can be applied via cell phones and laptops, making it easy to use and practical.

The development research process was developed using the ADDIE model developed by Robert Maribe Branch with five stages: 1) analysis; 2) design (design); 3) development (product development); 4) implementation (implementation); 5) Sugiyono's evaluation in (Noviyanti & Gamaputra, 2020). Furthermore, after carrying out the five stages of developing the ADDIE model based on the results of product trials performed at SDN 1 Landungsari, Malang Regency, the average presentation results from 18 student respondents were 85% with excellent criteria. Student responses from the questionnaire stated that the Google Sites web-based learning media was very suitable for use in the learning process and was interesting, so students enjoyed using the Google Sites web-based learning media. Furthermore, based on the results of observations from researchers on students with a "tolerance" character score of 5 indicators with 18 students, it was found that Google Sites web-based learning media products were very suitable for use with an average presentation of 94.2% with excellent criteria. Meanwhile, the percentage of results from product trials assessed by class IV teachers was 96% with excellent criteria. The teacher responded that the learning media was good to use in class. Children were

more enthusiastic, and learning using the Google Sites web media made it easier for students to understand the material.

Based on data analysis obtained from the development of Learning Media products, the Google website is said to be very suitable (usable) based on the results of the three expert validation teams with a design score of 88.5%, material 86.6%, language 80% with the criteria "very suitable" for use in the teaching and learning process. Teacher and student data were obtained as respondents regarding the applicability and attractiveness of learning media products using the Google website. The average number obtained by students was 85% and from teachers 96%. Furthermore, the effectiveness aspect was obtained with an average of 98.4%, while the Strengthening Character Education (PPK) value was 94.2%. This shows very good criteria. So that the development of Google web sites learning media can be implemented in schools, especially class IV. Based on the limited use of this research, especially regarding the material and school levels covered, the researcher suggests developing this media with different themes and class levels.

CONCLUSION

Based on data analysis obtained from the development of Learning Media products, Google websites are said to be very suitable (can be used) based on the results of the three expert validation teams with a design score of 88.5%, material 86.6%, language 80% with the criteria "very suitable" for use in the teaching and learning process. Teacher and student data were obtained as respondents regarding the applicability and attractiveness of learning media products using Google websites. The average number obtained by students was 85% and from teachers 96%. Furthermore, the effectiveness aspect was obtained with an average of 98.4%, while the Strengthening Character Education (PPK) value was 94.2%. This shows very good criteria. So that the development of Google web sites learning media can be implemented in schools, especially class IV. Based on the limited use of this research, especially regarding the material and school levels covered, the researcher suggests developing this media with different themes and class levels.

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