The Development of Digital Comic Learning Media on Youth Pledge Topic for Elementary School Students

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Abstract

This study aims to produce a digital comic-based learning media on youth pledge event topic for fifth grade students in SDI Al-Azhar 21 Pontianak in the form of a pdf document with a file size of 34 MB and contains the main material of the 2013 curriculum in second semester of fifth grade on the theme of 7 events in The life of Subtheme 1 national events during the colonial period has fulfilled the basic competencies, indicators, and learning objectives and is appropriate according to the assessment of media experts, material experts, language experts, teachers, and students. The feasibility of digital comics based on experts' assessment, the average percentage from the media aspect is 93% with very feasible criteria, from the material aspect 94% has very feasible criteria and 73% language aspect has feasible criteria. The feasibility of digital comics in the first phase of the trial is based on the response from the teacher, 98% had very feasible criteria, and 88% of students had very feasible criteria. In the second stage of the trial, based on the teacher's response to use, 100% of the criteria were very feasible, and 92% of the students' assessments were very feasible.

Keywords: Development, Digital Comic, Learning Media

INTRODUCTION

Using learning media in the delivery of learning materials is very influential on the ongoing learning activities in the classroom. In addition, the use of learning media must be adjusted to the curriculum and characteristics of students who are generation Z (digital native). However, Indonesia is currently experiencing educational disruption due to COVID-19. So that the learning process is carried out online, and the PJJ (Distance Learning) system is implemented until an undetermined time. In the face of educational disruption due to COVID-19, teachers are expected to create learning media that can support online learning. Learning media is made in digital form, so children can use it through their devices wherever they are.

In reality, the teacher does not maximize the use of learning media. It is in line with an interview conducted with a fifth grade Ma'wa teacher at the SDI Al-Azhar 21 Pontianak on March 5, 2021. Teachers in the learning process use PowerPoint media and learning videos on youtube so that the use of these media is still felt to have weaknesses. Besides that, students find it challenging to understand the material, especially in thematic learning, the theme of 7 events in life, sub-theme 1 of
the colonial period national event, because it has substance material. Based on the pre-research questionnaire conducted to fifth grade, students at the SDI Al-Azhar 21 Pontianak, it was also known that 68% of the fifth-grade students of Ma'wa enjoyed learning to use digital comics. Empirically, students tend to prefer illustrated books, colorful and visualized in the form of cartoons. It opens the possibility to invite students to learn to use digital comics. Based on the above problems, it is necessary to "develop digital comic-based learning media on the material for the 1928 youth pledge event for fifth-grade students at SDI Al-Azhar 21 Pontianak.

Digital comic-based learning media, namely comics media using digital packaging in pdf format that can be accessed through electronic media such as smartphones and used to convey messages and learning materials. The spread is easy by sharing via WhatsApp to class groups. The use of digital comic-based learning media can also make it easier for teachers to deliver learning materials, helping students to understand learning materials and facilitate students in learning online. In line with the opinion Susilana (2012) stated that learning comics can increase students' interest in reading, improving learning outcomes.

The general purpose of this research is to produce a digital comic-based learning media product on the topic of Youth Pledge event for students of fifth grade at SDI Al-Azhar 21 Pontianak. While the specific objectives of this study are as follows (1) Knowing the characteristics of digital comic-based learning media products on the topic of the youth pledge event for fifth-grade students at SDI Al-Azhar 21 Pontianak, (2) Knowing the feasibility of comic-based learning media products digital in terms of appearance, learning and language aspects according to the assessment of media experts, material experts, and linguists, as well as responses to use from teachers and students.

**METHOD**

The type of research used in this research was research and development and the approach used in this study was descriptive quantitative and descriptive qualitative (mixed method) because data collection is done quantitatively and qualitatively.

While the method used in this research and development is the 10-step Borg and Gall model. The method was chosen because it can produce a product with a high level of validity. The high validity is obtained from several stages of the test eligibility by several experts and some product testing phases in the field.

The ten steps of research and development, according to Borg and Gall (1989), are research and information gathering, planning, initial product development, first stage trial, product revision, second stage trial, product revision, operational field trial, final product revision, deployment and implementation (Sugiyono, 2017). However, only seven steps will be taken in this research and development due to time and cost constraints.

- **Preliminary Study Stage**
  
  The initial stage carried out in the research is to conduct research and collect information to determine need analysis which aims to find out problems that occur in the learning process are related to the use of learning media. Information was collected through interviews and distributing pre-research questionnaires.

  The interview was conducted with the fifth-grade teacher of SDI Al-Azhar 21 Pontianak, and distributed pre-research questionnaires to all students on March 5, 2021. Furthermore, to determine what products are developed and their specifications, the researcher conducts a curriculum analysis stage and a digital comic needs analysis stage for teachers and students.

- **Planning Stage**
  
  This planning stage is planned in terms of material, media, and language. This stage begins with determining the Theme and Sub-theme in Thematic learning. Then determine the basic competencies and formulate learning indicators. After that, the material was compiled based on indicators. The storyline, characters, and characterizations, locations, and concept illustration images are made.
Early Product Development Stage

At this stage, the manufacture of digital comic-based learning media products was carried out in accordance with the plans that have been made. Applications that were used to create illustrations in comics using the paint tool sai application. Comics are made as attractive as possible according to the characteristics of students and learning objectives. The stages of the comic-making process are making the story. The conditions in the story were poured into the storyline, making a simple sketch on the image called sketching, thickening the lines on the image to form an image object called lineart, the coloring process in comics was called coloring, and finally, added word balloons in the form of writing or dialogue called typesetting. After going through the following stages, slides comics which were initially in the form of JPG, were then exported into document form with PDF file format so that digital comics were easy to distribute by developers and easily accessed by students.

Product Design Feasibility Test Phase

Products that have been made need to be tested for feasibility before being tested. It is to determine the level of product feasibility according to experts. The design feasibility test will be carried out by three validator experts: one material expert, one media expert, and one linguist. This product design feasibility test aims to determine the feasibility of the product that has been developed. The advantages and disadvantages of the developed product can be identified based on criticism and suggestions from experts so that the product is improved to make it better. Experts provided an assessment in the form of comments and suggestions orally and in writing on the design products that have been developed.

Product Trial Phase First Phase

After the product was tested for feasibility, the product was tested on fifth-grade teachers and small-scale trials for ten fifth-grade students at SDI Al-Azhar 21 Pontianak. The selection of students includes the ability criteria of good, moderate, and poor. In selecting the criteria for students in terms of their cognitive level, they were assisted by the teacher. Teachers and students used digital comics learning media products that have been sent via WhatsApp groups. After that, the teacher and students filled out the use response questionnaire for teachers and students. The results of the questionnaire response to the use of teachers and students are useful for determining the feasibility of the product being developed and obtaining input as a basis for reference to improve product development.

Initial Product Revision

After testing the digital comic-based learning media, you can see shortcomings in the media. Weaknesses in the media being tested must be revised to become better and more quality media.

Product Trial Phase Second Phase

After the product was revised, the product was tested again for fifth-grade teachers and a medium-scale trial for 19 fifth-grade students at SDI Al-Azhar 21 Pontianak. The selection of students includes the ability criteria of good, moderate, and poor. Teachers and students used digital comics learning media products that have been sent via WhatsApp groups. After that, the teacher and students filled out the use response questionnaire.

Final Product Revision Stage

After going through the trial phase which was carried out 2 times, it was known that the advantages and disadvantages of digital comic-based learning media were carried out, then a thorough improvement was carried out so as to produce a final product of digital comic-based learning media that was feasible according to experts, teachers and students.

Data Type

Qualitative data in this study were obtained from criticism and suggestions by experts. Quantitative data was obtained from the results of assessments by experts.

Data source

The primary data sources in this study were students, fifth-grade teachers at SDI Al-Azhar 21 Pontianak, media experts, material experts, and linguists. Secondary data in this study were in the form of documentation, interview guidelines, and questionnaires.
Data collection technique

Data collection techniques in this study used two data collection techniques, namely interviews and questionnaires.

Data Collection Instrument

The data collection instrument in this study used interview guidelines, pre-research questionnaires, teacher and student needs analysis questionnaires, questionnaires to test the feasibility of media experts, material and language experts, and response questionnaires to the use of teachers and students.

Data analysis technique

The results of the assessment of all aspects are measured using a Likert Scale. Each indicator that is measured is given a score on a scale of 1-5. Each instrument item has a gradation from very positive to very negative (Widyoko, 2018, p.104).

The data obtained is to see the weight of each response and calculate the average score. The formula is used to calculate the average as follows:

$$\Pi = \frac{\sum x}{n \times a}$$

Information:

- \(\Pi\) = average score of each aspect
- \(\sum x\) = total number of respondents’ answers
- \(n\) = number of respondents
- \(a\) = number of instrument items

(Arikunto, 2016, p. 276)

Then for the yield percentage formula can be calculated with the following formula:

$$P = \frac{\sum x}{\sum x_i} \times 100\%$$

Information:

- \(P\) = big percentage
- \(\sum x\) = the total score of the items obtained
- \(\sum x_i\) = the number of maximum scores

The eligibility category is based on the following criteria Arikunto (in Ernawati & Sukardiyono, 2017).

<table>
<thead>
<tr>
<th>No</th>
<th>Score (%)</th>
<th>Feasibility Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt; 21%</td>
<td>Very Infeasible</td>
</tr>
<tr>
<td>2</td>
<td>21-40 %</td>
<td>Infeasible</td>
</tr>
<tr>
<td>3</td>
<td>41-60 %</td>
<td>Moderate</td>
</tr>
<tr>
<td>4</td>
<td>61-80 %</td>
<td>Feasible</td>
</tr>
<tr>
<td>5</td>
<td>81-100 %</td>
<td>Very feasible</td>
</tr>
</tbody>
</table>

RESULTS AND DISCUSSIONS

Results

On Friday, March 5, 2021, the preliminary study was conducted at SDI Al-Azhar 21 Pontianak. The preliminary study is intended to determine the aspects needed in the development research process. Preliminary study data were obtained through interviews with the fifth-grade teacher at SDI Al-Azhar 21 Pontianak.

From the results of interviews and pre-research questionnaires, the researchers stated that the solution to overcome the learning difficulties of students in understanding the theme material seven sub-theme one related to learning media by teachers who are less than optimal is to design and produce digital comic-based learning media on the topic for the youth pledge incident which is designed as attractively as possible to be used by fifth-grade students of SDI Al-Azhar 21 Pontianak. Furthermore, curriculum analysis is carried out to determine basic competencies, indicators, and learning objectives to be achieved, the teacher needs analysis to determine the need for digital comic-
based learning media, and student needs analysis to determine the specifications of comics needed by students.

Product Planning Results

Things that must be considered in planning the development of digital comic products in terms of material, media, and language are planning in terms of material reviewing the material for the youth pledge event on theme seven sub-theme 1 learning four and the suitability of the material with Basic Competencies, Indicators, and Learning Objectives. Planning in terms of media displays images in the form of cartoons complements images related to the material and digital comic media in pdf documents. Planning in terms of language Selection of appropriate words characteristics of students, the language used is easy for students to understand and uses appropriate Indonesian.

Early Product Development Results

The initial design in making digital comics begins with the storyline process, the stage of making scripts and storylines that will determine the story starting from the scene in each panel, sketching the stage of drawing a simple sketch of the comic to be made, lineart stage thickening the lines on the sketch to form an image object that has been made, coloring stage of coloring illustrations of images that have been made, typesetting stage of giving word balloons and writing in the form of conversational dialogue.

Product Design Validation Results

After the product is completed based on the initial product development plan, media experts, material experts, and linguists will test the product for feasibility. The results of the assessments of the three experts can be seen in the following table:

<table>
<thead>
<tr>
<th>Validator</th>
<th>Stage 1</th>
<th>Stage 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Expert</td>
<td>90% (VF)</td>
<td>96% (VF)</td>
</tr>
<tr>
<td>Material Expert</td>
<td>88% (VF)</td>
<td>100% (VF)</td>
</tr>
<tr>
<td>Linguist</td>
<td>64% (F)</td>
<td>82% (VF)</td>
</tr>
</tbody>
</table>

First Phase Product Trial Results

The results of the first stage product trial According to the fifth-grade teacher and ten students, the digital comic-based learning media on Youth Pledge topic that was developed was very feasible according to the eligibility criteria for use in learning. The results of product feasibility by fifth grade teachers and fifth grade students on the products developed are as follows:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percentage</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fifth grade teacher</td>
<td>98%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>Fifth grade students</td>
<td>88%</td>
<td>Very feasible</td>
</tr>
</tbody>
</table>

Results of the First Phase of Product Trial Revision

In the first stage of the trial, there were criticisms and suggestions from the teacher so that there were changes or revisions to the product. The criticisms and suggestions given are to improve some of the writing of capital letters in comics. Names of countries and cities are written in capital letters (Javanese, Indonesian, European). In the introduction of the character (Sugondo Djojosucipto), capital letters are written at the beginning of the word in the writing of his profession.

Second Phase Product Trial Results

According to the fifth-grade teacher and 19 students, the digital comic-based learning media on Youth Pledge topic that was developed was very feasible in accordance with the eligibility criteria for use in learning. The results of the product feasibility by the fifth-grade teacher for the product developed are as follows:
Table 4. Product Trial Results Stage

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percentage</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fifth grade teacher</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>Fifth grade students</td>
<td>92%</td>
<td>Very feasible</td>
</tr>
</tbody>
</table>

Results of the Second Phase Trial Revision

In the first stage of the trial, there were criticisms and suggestions from the teacher so that there were changes or revisions to the product. The criticism and suggestions given are on the page. It is better to write the number page so that students remember easily the important parts of the page.

Discussion

**Characteristics Product Media Digital Comic-Based Learning**

Digital comic products developed in accordance with the planning in terms of material (learning), media, and language. After going through the planning stages, the product is made as described in the results section regarding the product’s initial development. The characteristics of the digital comic-based learning media on the material for the youth pledge event are the setting of the story in the school, the Stovia building, and the Indonesische club building. (1) Mixed storyline, (2) Using language that is easily understood by students, (3) The type of font used in the title and content of comic sans ms, (4) The color of writing on the title is red and white, (5) The color of writing on the content is black, (6) Comics contain character introductions to make it easier for students to remember historical heroes in Indonesia, (7) Comics contain introductions to the main characters in the story, (8) The narrative used in digital comics is a mixed point of view, (9) There are word balloons for conversation and narrative, (10) There are panels to form a series of interdependent pictures, The setting of the story in the school, the Stovia Building and the Indonesische club building, (11) The storyline is mixed, (12) Using language that is easily understood by students, (13) The type of font used in the title and content of comic sans ms, (14) The color of the writing on the title is red and white, (15) The color of the writing on the contents is black, (16) Comics contain character introductions to make it easier for students to remember historical heroes in Indonesia, (17) Comics contain introductions to the main characters in the story, (18) The narration used in digital comics is a mixed point of view, (19) There are word balloons for conversation and narration, (20) There are panels to form a series interdependent images, (21) There is a moral message at the end of the story.

**Feasibility of Digital Comic-Based Learning Media Products.**

Regarding the feasibility test of media experts, the average assessment of the product by media experts is 90%, indicating very feasible qualifications. It is because the products developed have met the criteria for good learning media, namely according to the needs of students, practical in use, and durable (Arsyad, 2016). Then researchers get suggestions and criticism from media experts as revision material so that the learning media developed is even better. After the product is revised, a phase II feasibility test is carried out with an average rating of 96%.

Discussing the feasibility test of material experts, the average assessment of the product by material experts is 88%, indicating a very feasible qualification. Then the researchers got suggestions and criticisms from material experts as revision material so that the learning media developed was better. Good learning media must contain material in accordance with the learning objectives, and the content of the material must be easy to understand (Rusman, 2013). After the product is revised, a second phase of feasibility test is carried out with an average rating of 100%.

Discussing the feasibility test of linguists, the average assessment of the product by linguists is 64%, indicating a proper qualification. Then the researcher got suggestions and criticisms from linguists regarding language and writing standards. Language standards include the use of good and
correct Indonesian, the clarity of the language used, the suitability of the language, and the ease of reading (Prastowo, 2011). After the product is revised, a second phase of feasibility test is carried out with an average rating of 82%.

Discussion of the feasibility test of teachers and students in the first stage of the trial, the average assessment of the response to the use of the product by teachers in the first phase of the trial was 98% which indicates a very feasible qualification. Then the researchers got suggestions and criticisms from the teacher regarding writing letters in comics that must be improved. In addition, ten students also responded to the use of digital comic products. The selection of research subjects was grouped with the different cognitive abilities of students, namely the high, medium, and low ability groups. The average response of students in the first phase of the trial was 88%. The difference in assessment by the ten students who have cognitive abilities is influenced by internal motivation. The lower the cognitive abilities of students, the lower the learning motivation that is in them (Damayanti, 2016).

Discussion of the feasibility test of teachers and students in the second phase of the trial, the average assessment of the response to product use by teachers in the second phase of the trial was 100%, which indicated a very feasible qualification. Then researchers get suggestions and criticism from teachers regarding the addition of page numbers in comics. In addition, 19 students also responded to the use of digital comic products. The average response of students in the second phase of the trial was 92%. The results of the average assessment of the three groups of students have reached very feasible qualifications. The learning media developed have been adapted to the characteristics and cognitive development of elementary school students. Piaget (1980) stated that "children aged 6-12 years are still in the concrete operational stage" (Ibda, 2015).

CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the results of research conducted at SDI Al-Azhar 21 Pontianak, the results of data analysis obtained from experts during the process of feasibility testing and revision of the use of digital comics, it can be concluded that the characteristics of learning media based on digital comics are digital comics media developed that contain text and images (still images) which are packaged in pdf format with a capacity of 36 MB. It can be accessed via smartphones, laptops, or tablet phones on the WhatsApp application. This digital comic contains the main material for the 2013 curriculum in Fifth grade Semester 2 on Theme 7 Events in Life, Sub-theme 1 National Events during the Colonial Period, topic for the Youth Pledge Event. Media learning has fulfilled the Basic Competencies, Indicators, and Learning Objectives. Digital comic-based learning media on youth pledge topic for the fifth grade of SDI Al-Azhar 21 Pontianak, which developed is very feasible according to media experts, material experts, and linguists appropriate according to teachers and students.

Suggestions

The following are suggestions for further research related to the development of digital comic-based learning media. Learning using digital comic-based learning media on the material for the 1928 youth pledge event for fifth grade at SDI Al-Azhar 21 Pontianak can be developed by teachers on an ongoing basis for different materials. This digital comic learning media is still in physical form, electronic or digital form, so it can be updated in printed form, namely printed comics. In making digital comic-based learning media on the Youth Pledge event material for fifth grade SDI Al-Azhar 21 Pontianak some several difficulties might be an improvement for other researchers to develop learning media in the form of digital comics with other materials, including paying attention to word choice, appropriate concepts and interesting pictures related to the material to be delivered.

REFERENCES


