Design of Instagram Comic Strips for Learning Media in Elementary School

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Keywords:	ABSTRACT
Learning Media; Comic; Design; Questionnaire; Instagram.	Information was obtained based on the writer's interviews with the principal at elementary school. During the pandemic, students' interest in learning at elementary school was relatively low, especially for grade IV students. Especially for Mathematics, Natural Sciences, Social Sciences, Citizenship Education and Indonesian Language. Student interest is low during the pandemic because the learning media is less attractive. The principal wants engagingengaging learning media in the form of comics, such as on Instagram that is easily accessible while studying at home. This media is applied to increase student interest in learning during a pandemic, which must be by the characteristics of the material and learning objectives. Based on this background, the writer was inspired to make a digital comic as a learning medium for elementary school students in grade IV at elementary school. The goal is the creation of comic learning media at elementary school. The system development method consists of three stages. The pre-production stage, the production stage, and the post-production stage. The pre-production stage, at this stage is a process that includes determining ideas, themes and preparing storyboards. Storyboards are made with two-dimensional images of learning materials. At the production stage, comic character drawings are designed ,given backgrounds and coloring for characters using CorelDraw software. Then at the post production stage, the comic editing process begins using Adobe Photoshop software, starting from setting color balancing, giving shading, merging with comic text, after which the comics are exported and distributed on Instagram. In this research the evaluation of satisfaction learning media was carried out through a questionnaire and the questionnaire was calculated. The results of testing the comic learning media concluded that as many as 79.06%, of and included in the category agree in the application of digital comics as a learning medium for grade IV at elementary school.

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A. INTRODUCTION

In learning media, messages are conveyed as a learning resource that can channel messages so as to help overcome learning styles, interests, intelligence, sensory limitations, physical disabilities, and power constraints of geographical distance, time (Sadiman, 2012). In addition, learning media means conveying and channeling messages from sources in a planned manner so

as to create a conducive learning environment where the learning process can be carried out effectively and efficiently (Munadhi, 2014).

Learning media can be used to achieve learning goals for messages to be channelled to stimulate students' attention, interests, thoughts, (Kristanto, 2016) and feelings in learning activities (Saurina, 2016). The use of media can improve the teaching and learning process because using the media can help learn independently, not limited to a specific time, and can reduce the duration of the previous time. Learning media can be said to be effective if it can increase learning objectives and achieve these goals through increased knowledge and skills and attitude development through the learning process (Daryanto, 2014).

The development of new learning models must follow the development of learning media. Learning models are used to assist teachers in implementing teaching materials that need to be delivered to students. With the learning model, teachers get a variety of alternative ways to convey information to students (Muizaddin & Santoso, 2016). One of the learning media that makes it easier for teachers to convey subject matter and help students understand the material in comics. This learning media can significantly influence the learning process, as described in the study (Riwanto, 2020), and the ease of presenting learning materials, primarily material that is simulation in nature (Saputro & Saputra, 2015).

Instagram is a social media created for interaction with other users. On Instagram, users can share photos, videos or content on their respective social media accounts. In its use, Instagram is widely used among the public, ranging from utilization in the economic, social, education to business fields. According to research there are 33.90 million Indonesian Instagram users, dominated by those aged 18-24 years, 19.8% were women and 17.5% were men. And 16.9% were dominated by women and 15 .3% were male users in the 25-34 year age group. Then as many as 7% were female users and 5.2% were male users in the 13-17 year age group. Then in the 35-40 year old group it was 6% female users and 5.5% male users. It can be concluded that Instagram has many users from various age groups so that Instagram is now an application that is very popular with the user community (Cindy, 2021).

Comics are one of the learning media that make it easier for teachers to deliver subject matter and help students understand the material. Comics are the results that become social objects. Comics are understood as a socio-cultural form that is born from the existence of visual language that is formed through human cognition from two human behaviours in work, namely writing and drawing (Syafuddin, 2020). Comics were initially concerned with all things funny. Comics come from the Dutch "komiek", which means comedian, while the language of ancient Greek ", komikos", is formed from the word "kosmos", which means having fun or joking (Nurgiantoro, 2018). Comics are one of the communication media in the form of literary works of images. Nick also added that comics have been part of Indonesian society for a long time. The beginning of comics in Indonesia has started since prehistoric times, which can be seen in the reliefs of Borobudur (Soedarso, 2015).

Indirectly, comics can increase a person's interest in reading because comics are generally favoured by many people, ranging from children to adults who enjoy reading comics. Along with technological advances, the development of comics also developed, not only with printed media in the form of paper but with the formation of digital comics. Digital comics are the creation of comics that are assisted in designing or making using digital devices (Budiarti, 2018).

Digital comics are comics whose publication is done digitally, which consists of a single image or composed of several parts, has a harmonious reading path, has a visible frame, has symbols such as word balloons, and has a writing style that communicates its visual meaning

(Aggleton, 2018). Digital comics can be defined as images or symbols that are aligned in a deliberate sequence, which in the process is done using a computer (as opposed to comics that are done conventionally) which are scanned with a scanner and then coloured with a computer and published digitally. as another form of the printed version). In this case, it is usually done by computers, gadgets, smartphones, and the like (Sung & Putra, 2018).

According to a survey by The Reading Agency, more children like to read. This is revealed in its survey; 89% of children aged 7 to 11 years have read in some form, including spending more time reading than at school. Most kids find inspiration about what to read from digital influences who get ideas from youtube and social media. The survey involving children ages 7 to 11 also found that 68% of boys and 70% of girls reported love of reading. About three children have chosen to read books and comics (Devega, 2017). While literacy education comics have always been the number one choice most favoured by students. In this research, digital comic media will be based on Instagram social media. Instagram is taking users' photos, applying digital filters and sharing them to various social networking services that allow photo sharing, including for Instagram owners.

The school still does not use learning media to support the learning process because the teachers who teach at Elementary school still conduct face-to-face schooling and use the same method daily. The purpose of this research is to make a learning media to increase learning motivation through media to attract students. There is a need for media that increases students' interest in learning during a pandemic.Based on interviews that the author conducted with the Principal at Elementary school, information was obtained that during the pandemic period, student interest in learning at Elementary school was relatively low, especially for grade IV students. Especially for the subjects of mathematics, natural sciences, social sciences, citizenship education and the Indonesian language. Student learning interest is low during the pandemic because the learning media is less attractive. Media that can be accessed in the form of cartoon images are media that attract students' interest in learning while at home.

B. METHODS

This study uses interview and observation methods to obtain information. Interviews are a data collection technique to obtain information extracted from direct data sources through conversations or questions and answers (Safrizal et al., 2022). In this study, interviews were conducted by direct dialogue with the principal of elementary school and teacher representatives to get inputs related to problems. This comic is expected by all parties concerned.

Observation is obtaining data that must be collected through research directly or indirectly. Observation of this research was done by observing activities in Elementary school. A literature study is a method of collecting data by searching, reading, and studying the books available in the library and browsing through the internet as a reference to support writing preparation (Sasongko & Widiastuti, 2019). The literature study looked for previous research on manufacturing digital comics as a learning medium. The researchers used a questionnaire to generate the required information and data to collect data in this study. The questionnaire is a data collection technique that gives respondents a set of questions or written questions to answer (Sugiyono, 2013). The researcher submitted a questionnaire about ownership of Instagram social media among parents who have fourth-grade children who attend Elementary school and the satisfaction of Instagram comic media users.

1. Research Concept

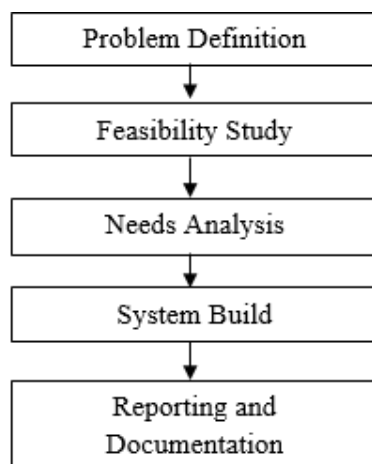The following is the research concept, as shown in Figure 1.

Figure 1. Research Concept

a. Problem Definition. The author conducted observations and interviews with the principal and teacher representatives to obtain information so that the author could define the problems experienced at Elementary school, namely the absence of a learning model using comic media.

b. Feasibility study. The author looks for various literature sources and previous research to determine the feasibility of comic media based on the analysis of objectives and benefits.

c. Needs Analysis. In this stage, the author analyzes the time needed to conduct research and what needs are needed starting from hardware and software requirements.

d. System Build. In making digital comics as learning media, there are three stages of development, namely the pre-production, production, and post-production stages.

e. Reporting and Documentation. After making digital comics, the author makes a report and documentation in the form of a thesis as a requirement to complete the research, see Figure 1.

2. System Development Method

The system development method in this research has three stages in producing a multimedia system: the pre-production stage, the production stage, and the post-production stage, evaluation user satisfication using quistionare see Figure 2.
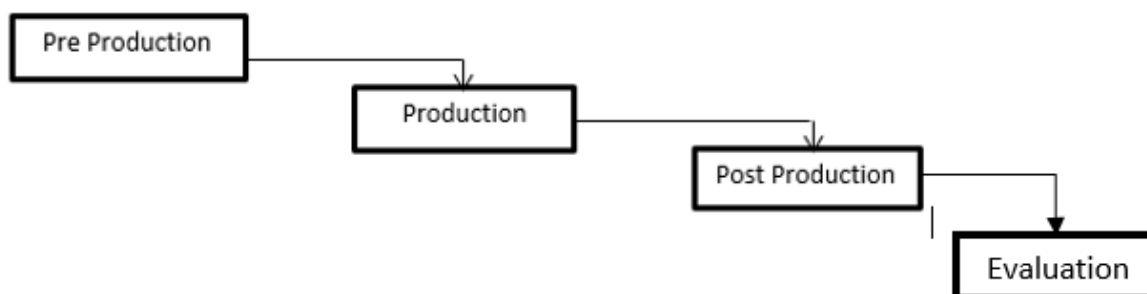

Figure 2. System Development Method

C. RESULTS AND DISCUSSION

1. Pre Production Stage

a. Idea

This digital comic is a visual form of several subjects in Elementary school. The discussion in the comic contains material for grade IV students. For the subjects discussed, among others, Natural Science discusses material about knowing parts of plants, Mathematics discusses material for multiples of numbers, Social Sciences discusses material on renewable natural resources, Citizenship Education discusses material rights and obligations as citizens, and the Indonesian language discusses material poems. In selecting comic material, the curriculum used at Elementary school uses the 2013 curriculum.

b. Theme

After getting the idea, the next stage is the theme. The theme here is the core or basic idea contained in this comic. The theme of making this digital comic is learning.

c. Storyboard

Before entering the production stage, a storyboard is made to make it easier to convey ideas, and here is the process of making a storyboard, as shown in Figure 3.
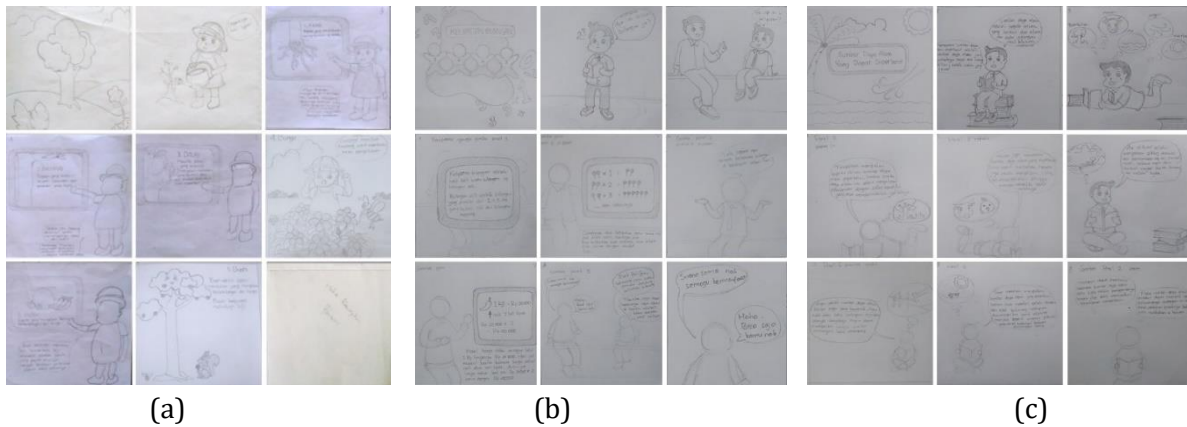

(a) (b) (c)

Figure 3. Storyboard of the comics materi (1)

Figure 3 is a storyboard design compiled from book sources and teaching materials used in the teaching and learning process. (a) Presenting material with the topic of Science, (b) Presenting material on the subject of Mathematics, and (c) Presenting material on the subject of Social Science, as shown in Figure 4.
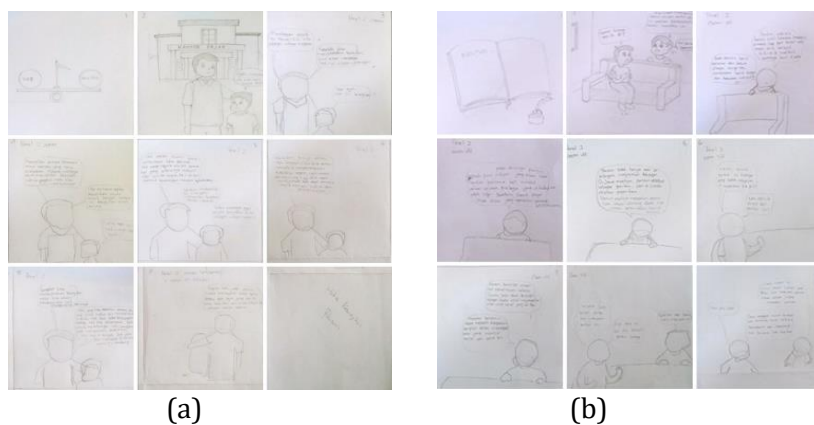

(a) (b)

Figure 4. Storyboard of the comics materi (2) Citizenship Education Storyboard

Figure 4 is a storyboard design compiled from book sources and teaching materials used in the teaching and learning process. (a) Present material on Citizenship Education, and (b) Presenting material on the subject of Indonesian.

2. Production Stage
a. Drawing
It is the process of depicting or forming characters in the presence of media related to line strokes, shading and colour. The following is a character design for making Instagram comic strips, as shown in Figure 5.

Figure 5. Sample of Comic Characters

b. Background Making
The background is the selection of the location and setting of the story. Making the background can be made simple or complex according to your wishes and needs. Making the background can also be done in an analogue way, with paper and watercolours or directly with a computer digitally using graphic software. In this digital comic, the background is made digitally using CorelDRAW software.

c. Coloring
In the colouring stage, colouring the characters adjusting the colours to describe the main character, as shown in Figure 6.

Figure 6. Coloring of the Main Characters at Instagram Comic Strips

3. Post Production Stage
a. Editing
In making digital comics, for the editing process using Adobe Photoshop software. The editing process in this comic is done to combine images and adjust colour balancing so that the colouring looks balanced. The following steps are carried out in the editing process.
1) Set Color Balancing
At this stage, adjusting the colour balance is very important so that all images become unified in their colouring and do not seem contrasted when viewed.

2) Giving Shading

In the process of giving shadows and gradations, it is intended to make the image more lively and exciting to look at, see Figure 7.

3) Merge Image With Comic Text.

Figure 7. Natural Science Comic with Coloring and Shading

b. Exporting

The author checks whether there are deficiencies or not by observing the digital comic-making project. If there is no shortage, the project is ready to be exported in a different extension form with an image format (JPG). The quality level selection uses Quality 12 with the Maximum value because the exported image remains clear or does not break due to the selection of high Export Quality, see Figure 8.

Figure 8. Social Science Comic

c. Distribution

After all, stages have been completed, the following process is distribution. The distribution of digital comics is carried out through Instagram social media by uploading and exporting image files. Digital comics are uploaded to the @edukomik account, see Figure 9, which was previously created as a learning media platform so that it can be accessed easily, as shown in Figure 9.
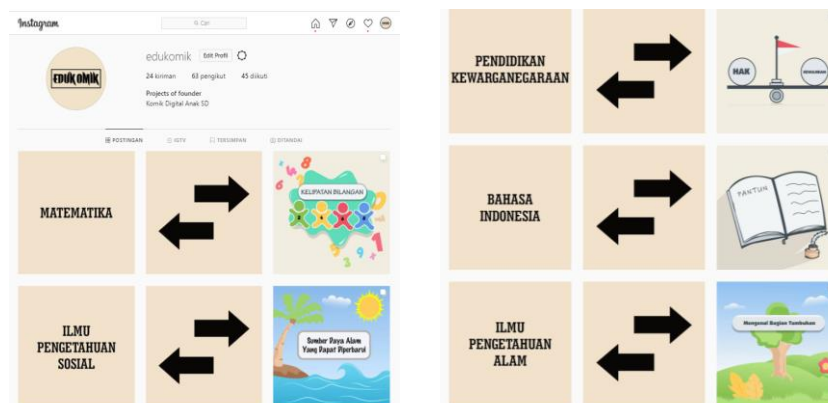
Figure 9. Comic Distribution and Post Instagram @edukomik

4. Test result

The test design uses a questionnaire technique with a questionnaire, in the sampling technique uses cluster sampling. The appropriate sample size in the study is between 30 to 500. In this study, a sample of 30 respondents was distributed to school principals, teachers, students and guardians of students to determine the assessment of comic learning media. The assessment was carried out using a Likert scale. The Likert scale is a scale that is generally used in questionnaires and is widely used in research in the form of research. The Likert scale measures attitudes, opinions, and perceptions of a person or group of people about social phenomena (Sugiyono, 2013).

a. Response Point

The Likert scale has 5 responses and has its own value. Likert scale response points and their weighted values include, see Table 1.

Strongly agree	: 5
Agree	: 4
Enough	: 3
Don't agree	: 2
Strongly Disagree	: 1

b. Score Interpretation

The interpretation of the score is categorized into five assessments based on intervals or distances with a description of each of these values. The following is the interpretation of the score based on the interval (distance), as shown in Table 1.

Table 1. Interpretation of scores

No.	Score	Information
1	0% - 19.99%	Strongly (Disagree, Bad or Less)
2	20% - 39.99%	Disagree or Not Good
3	40% - 59.99%	Enough or Neutral
4	60% - 79.99%	Agree, Good or Like
5	80% - 100%	Strongly (Agree, Good, Like)

c. Questionnaire Questionnaire

In distributing the questions contained in the questionnaire, the author distributed the questionnaire by submitting it to Elementary school, which was distributed to school principals, teachers, students or guardians of students to provide feedback about the

level of satisfaction with comic learning media that had been distributed using Instagram. The contents of the questionnaire contained five questions, among others, as shown in Table 2.

Table 2. Questionnaire Questions

Question	SA	A	E	D	SD
After the existence of digital comics, has an interest in learning increased?					
Is digital comic media attractive?					
Is the material presented in comics easy to understand?					
Are the principals/teachers/students/guardians satisfied?					
Are digital comics suitable for friends in learning?					

d. Respondent Assessment

Based on the questionnaire distributed by the author, the total number of respondents amounted to 30 people, with a total of 5 questions to respondents, and the following data were obtained.

1) Aspect 1 (After digital comics, did interest in learning increase?)

In the first aspect, it is known that the respondents who answered strongly agree were four people. Those who answered agreed were 19 people, the respondents who answered moderately were 5, the respondents who answered disagreed were two people, and those who answered strongly disagree were 0 people.

Then the calculation of the highest score with the following formula:

Y = Weight of highest score x Number of Respondents

So the score is Y = 5 x 30 = 150

After that calculate the total score and total score with the following formula:

Total score = T x Pn

T = Total respondents who chose

Pn = Choice of likert score numbers

Total score:

a) Strongly Agree / SA (5)   : 20
b) Agree / A (4)   : 76
c) Enough / E (3)   : 15
d) Disagree / D (2)   : 4
e) Strongly Disagree / SD (1)   : 0

So the resulting score = 115

After knowing the total score and the highest score, it is calculated by the index formula, as follows:

Index formula % = Total / Y x 100   .... (1)

So that the index formula is 115/150*30 = 76.6% so that it agrees with the existence of digital comics, interest in learning increases.

2) Second aspect (Is digital comic media interesting?)

The second aspect is known that the respondents who answered strongly agree were nine people. Those who answered agreed were 17 people, the respondents who answered moderately were 4, the respondents who answered disagreed were 0 people, and those who answered firmly disagreed were 0 people. Then the calculation of the highest score with the following formula:

Y = Weight of highest score x Number of Respondents

So the score is Y = 5 x 30 = 150

After that calculate the total score and total score with the following formula:

Total score = T x Pn

T = Total respondents who chose

Pn = Choice of likert score numbers

Total score:

a) Strongly Agree (5)   : 45
b) Agree (4)   : 68
c) Enough (3)   : 12
d) Disagree (2)   : 0
e) Strongly Disagree (1)   : 0

So the resulting score = 12

After knowing the total score and the highest score, it is calculated by the index formula, as follows:

Index formula % = Total / Y x 100

So that the index formula is 125/150*30 = 83.3% so I strongly agree that digital comic media is interesting.

3) The third aspect (Is the material presented in comic media easy to understand?)

The third aspect is that respondents who answered strongly agreed were seven people. Those who answered agreed were 17 people, respondents who answered quite a lot were 5, respondents who answered disagreed were one person and those who answered firmly disagreed were 0 people. Then the calculation of the highest score with the following formula:

Y = Weight of highest score x Number of Respondents

So the score is Y = 5 x 30 = 150

After that calculate the total score and total score with the following formula:

Total score = T x Pn

T = Total respondents who chose

Pn = Choice of likert score numbers

Total score:

a) Strongly Agree (5)   : 35
b) Agree (4)   : 68
c) Enough (3)   : 15
d) Disagree (2)   : 2
e) Strongly Disagree (1)   : 0

So the resulting score = 120

Index formula % = Total / Y x 100   .... (2)

So that the index formula 120/150*30 = 80% is obtained, so I strongly agree that the material presented in comic media is easy to understand.

4) 4th aspect (Are the principals / teachers / students / guardians satisfied?)

The fourth aspect is known that respondents who answered strongly agree were 3 people, then those who answered agreed were 21 people, respondents who answered quite a lot were 6, respondents who answered disagreed were 0 people, and those who answered strongly disagreed were 0 people. Then the calculation of the highest score with the following formula:

Y = Weight of highest score x Number of Respondents

So the score is Y = 5 x 30 = 150

After that calculate the total score and total score with the following formula:

Total score = T x Pn

T = Total respondents who chose

Pn = Choice of likert score numbers

Total score:

a) Strongly Agree (5) : 15
b) Agree (4) : 84
c) Enough (3) : 18
d) Disagree (2) : 0
e) Strongly Disagree (1) : 0

So that the resulting score = 117

Index formula % = Total / Y x 100

So that the index formula is 117/150*30 = 78% so that it agrees that the Principal / Teacher / Student / Student Guardian is satisfied.

5) 5th aspect (Are digital comics suitable as friends in learning)

The fifth aspect is that respondents who answered strongly agreed were seven people. Of those who answered agreed, 14 people, respondents who answered moderately 7, respondents who answered disagreed were two people, and those who answered firmly disagreed were 0. Then the calculation of the highest score with the following formula:

Y = Weight of highest score x Number of Respondents

So the score is Y = 5 x 30 = 150

After that calculate the total score and total score with the following formula:

Total score = T x Pn

T = Total respondents who chose

Pn = Choice of likert score numbers

Total score:

a) Strongly Agree (5) : 35
b) Agree (4) : 56
c) Enough (3) : 21
d) Disagree (2) : 4
e) Strongly Disagree (1) : 0

So the resulting score = 116

Index formula % = Total / Y x 100

So that the index formula is 116/150*30 = 77.3% so that it is agreed that digital comics are suitable as friends in learning. From the calculation results above, it can be concluded that the final result is, as shown in Table 3.

Table 3. Final Test Results

Aspect	Index	Category
1	76.6%	Agree
2	83.3%	Strongly agree
3	80%	Strongly agree
4	78%	Agree
5	77.3%	Agree

Based on Table 3, the final results of the respondents' tests show the average results of the index formula asfollowing:

(76.6% + 83.3% + 80% + 78% + 77.3%) / 5 = 79.06%

So the average index of the respondents is 79.06%, which is included in the category of agreeing to the application of digital comics as a learning medium for class IV at elementary school.

D. CONCLUSION AND SUGGESTIONS

The conclusion obtained from this research is that an Instagram-based digital comics learning media has been made for fourth-grade students of Elementary school with a discussion of the subjects of Mathematics, Natural Sciences, Citizenship Education, Social Sciences and Indonesian Language. In this study, it can also be concluded that as many as 79.06% have the category agreeing to apply digital comics as a fourth-grade learning medium at Elementary school. Based on this research, a suggestion for further research is to develop or create digital visual animation for learning media, which can be transform to animated videos.

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