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Development of Digital Comic on Thematic Learning to Improve Literature Skills of 5th Grade Students in Elementary School

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Abstract

The development of information technology is very influential in the world of education, so that it can be used as a medium of learning. One way to improve the quality of education through technology is by organizing digital literacy. Digital literacy teaches a person to operate digital technology and think critically. Digital comics are one of the media that can improve students' literacy skills. This study aims to develop appropriate and effective comic products for students. The research method used is research and development which refers to the Richey and Klein development model using three stages, namely: planning, production, and evaluation. The research was conducted for grade V elementary school students, before being tested on students the product was evaluated first by media experts, linguists, and material experts. The results of the assessment of the media expert obtained a score of 92.85% in the very good category, the linguist got a score of 80% in the good category, the material expert got a score of 94.23% with the very good category. Based on the results of experts, digital comic media is said to be very feasible. Furthermore, the one to one test got a score of 93.06% in the very good category and the small group test got a score of 92.08% in the very good category, so the product was said to be very feasible. Meanwhile, the effectiveness test of conducting the T test with the pretest and posttest obtained a value of 0,000 < 0,05. So it is concluded that digital comic media can improve student learning outcomes and can improve student literacy skills.

Keywords: *Learning media, digital comics, literacy*

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INTRODUCTION

At this time, Indonesia is entering the era of 4.0 (digital era), many new technologies are entering our country, making it more sophisticated and easier for our population, because everything can be done using technology. The presence of new technology, especially the Internet, is very influential on individuals or society, because the presence of this new technology will change the pattern of old technology and can even change communication behavior (Salma, 2013). One of them, reading activity is less than the activity of internet users. Therefore, to attract interest in reading, it is necessary to have a good visualization.

Visualization is one way that can be done to concretize something abstract. Two-dimensional Figures or three-dimensional models are visualizations that are very useful approaches to learning (Ariani, 2010). Mayer (2009) suggested that design is very necessary because it attracts students' interest, some experts argue

that visuals can affect students' emotions (Tomita, 2018). Comics can be used as media to improve student literacy because comics present messages in the form of (design) pictures that are interesting and easy to understand by students (Ilham, 2019). Children's interest in comic books has been studied for a long time, including by Hurlock who said that regardless of the level of intelligence, almost all children like comic books, both jokes and adventures. Comic books are interesting because of their good design, fun, exciting, easy to read and stimulate children's imagination (Dini, 2018a).

Humans can absorb material as much as 70 percent of what they wear, 50 percent of what they hear and see (audio visual), 30 percent of what they see, 20 percent of information and only 10 percent of what they read. Moreover, the teaching and learning process is often faced with material that is abstract and outside the daily experience of students, so that this material becomes difficult for teachers to teach and difficult for students to understand (Bobbi De Porter).

In the era of globalization, the development of information technology is very influential in the world of education. Seeing the rapid development of media today, it provides various options for children to enjoy information in various ways. One of the media that is currently developing is digital comic media. Thus, teachers can provide students with educational content delivered through digital comics.

Through the digital comics used, it can train students' digital literacy. Based on the results of similar research conducted by Efendi and Wahyu that comics are not only reading for children, but comics also combine the power of Figures and writing that are arranged in a storyline, Figures make information easier to absorb. As a medium of visual communication, comics can be applied as educational aids and are able to convey information effectively and efficiently. Therefore, this researcher provides a solution in the form of E-KOMPEN (Electronic Comics Short), this E-KOMPEN uses a digital technology system as a smart solution in increasing reading interest or digital literacy of Indonesian people in the digital era, so that the quality of human resources in Indonesia also increases. (Iqra, 2019a). Therefore, the role of teachers in the school environment is also needed because it is very important to implement digital literacy and teachers must also direct positive content that has education.

Education that wants to focus on improving the quality of literacy provides a means to improve literacy or requires simple tools that can be implemented quickly, such as digital comics. (Beecher et al., 2017). Meanwhile, based on the results of research and development that comics media to train improve literacy skills in mathematics learning in one school are declared feasible and practical to use in learning. From the results of student learning, it can be said that there is a significant difference between the results of the pretest and posttest data and comics media are also effectively used in learning (Jurnal et al., 2019).

Proficiency in digital literacy relies primarily on academic experiences such as reading. So that learners can organize and integrate the information they find from how much information they read. The findings of this study indicate that digital media is applicable or helpful for digital literacy (Bulger et al., 2014). From the results of previous studies that literacy skills for elementary school students is how to make elementary school students like reading and writing. Therefore, in order for the growth of reading culture among elementary school students, teachers

are required to always be creative in using learning resources in the classroom. The use of comics that are integrated with the material can be used as a medium to improve student literacy. The use of pictures in comics can be a special attraction for elementary school students. Comics can strengthen literacy culture for elementary school students, therefore comics can be used as companion books after textbooks during the learning process. This needs to be done by the teacher, so that the learning process is created effectively and efficiently (Arafat, n.d.).

Based on the results of research in one school, it was obtained information that the teacher presented social studies material to students using the lecture method, the use of powerpoint which contained long writings, the use of textbooks and discussions. (Alfiani et al., 2018a). From the explanation above, it can be seen that the learning media used by the teacher is less varied because the teacher focuses more on using powerpoint in delivering learning materials. Therefore, researchers are interested in developing learning media in the form of webtoon media (digital comics) which are expected to make social studies learning materials more interesting and the media used more varied and it is hoped that this digital comic will increase reading interest and literacy of the Indonesian people. (Alfiani et al., 2018b). Thus, with increasing digital literacy, the quality of Indonesian human resources will also increase. Thus, Indonesia's economic growth can increase (Iqra, 2019b).

Learning media is a tool provided by the teacher in a planned manner to explain, present, and convey messages or learning materials to students so that they are stimulated to learn (Muhsetyo, 2009: 23). Digital learning media can be formulated as *a large collection of computers in networks that are tied together so that many users can share their vast resources* (Williams, 1999). Understanding digital learning includes aspects of hardware (infrastructure) in the form of a set of computers that are interconnected with each other and have the ability to transmit data, either in the form of text, messages, graphics, video or audio (Munir, 2017). From the two opinions above, it can be concluded that digital learning media is a tool to convey information provided by the teacher in the form of digital tools which include hardware such as computers and others that can send data.

There are 3 functions of digital learning, namely: Additional functions (supplements), there is freedom in choosing, not being required to use electronics, even though using electronics can increase knowledge. Complementary function (complement), supporting to complete the material that is lacking. Substitution function, various alternative learning models are available such as face-to-face or through digital (Munir, 2017: 10).

Comics can be defined as a form of cartoon that reveals characters and acts out a story in a sequence that is closely related to Figures and is designed to provide entertainment to the readers (Sudjana, 2013). Comics are stories that are arranged in such a way with pictures. Comics are more interesting in the eyes of children because they are full of pictures so they are more interesting and easy to digest (PIPP Digital Comics Online Training Team). Based on the research results, comics were made to facilitate teaching and learning activities for educators and students. With the comic story children, students are more interested and motivated in teaching and learning activities (Wardana, 2018). The results of another study revealed that in the use of electronic comics media they were very excited,

encouraging children to be interested in the ocean and then thinking about what to do to protect it (Dini, 2018b). Thus, the research in using electronic comic media can attract students' attention and foster sustainable thinking.

Opinions according to experts regarding the definition of literacy as the a narrow sense is the ability to read and write (Goody, 1999). It is not just limited to read and write but adds knowledge, skills, and abilities that can make a person have the ability to think critically, be able to solve problems in various contexts, be able to communicate effectively and be able to develop potential and actively participate in social life (Alberta, 2009). Literacy is a fun science and able to build students' imaginations (Cordon, 2003) to explore the world and science (Malawi, 2017).

There are 6 (six) types of literacy skills, namely (1) literacy, through literacy skills, one must be able to understand the content and meaning of written texts. If you already have this ability, then you can pour ideas and ideas into writing; (2) Numerical literacy, this literacy requires a person to have skills in using various symbols related to Basic Mathematics. This ability aims to solve practical problems in everyday life such as analyzing information displayed in the form of graphs, tables, and charts; (3) Scientific literacy, can be defined as scientific knowledge and skills to be able to identify questions, acquire new knowledge, explain scientific phenomena, and draw conclusions based on facts, understand the characteristics of science, awareness of how science and technology shape the natural, intellectual and cultural environment, and willingness to engage and care about science-related issues. The goal is that a person has the ability to understand natural and social phenomena in the surrounding environment; (4) Financial literacy, namely the knowledge and skills to apply an understanding of concepts and risks, to improve financial well-being, both individually and socially, and to be able to participate in the community. Implementation of financial literacy can be done to students by inviting them to think critically about how businesses make money, spend, save, and donate money; (5) Digital literacy, namely technical skills in accessing, compiling, understanding, and disseminating information. The purpose of digital literacy is to build one's ability to understand the times in the current digital era. Digital literacy is needed to obtain or filter information; (6) Cultural literacy and citizenship, is the ability to understand the rights and obligations as citizens. Through this literacy, a person is required to have the ability to understand the rights and obligations as a citizen including the ability to diversity in ethnicity, language, customs, beliefs, and so on (Dikdas dan Dikmen, 2020).

Learning media in the form of digital comics can be used during the thematic learning process. Thematic learning is one of learning that combines several subjects, so it requires some concrete media that can help students. Thus, the existence of digital comics aims to make students interested in lessons, make it easier for students to understand lessons and to help students' literacy skills.

METHODS

The research method used in this research is Research and Development (RnD). According to Brog & Gall in Punaji Setyosari, research and development or Research and development (RnD) is a process used to develop and validate educational products (Setyosari, 2015). Research and development is used to

develop products. Products are developed systematically starting from designing, developing and evaluating products to meet standard criteria. The development of digital comics is carried out to support students' literacy skills. The development model is the first step in making a product. The development model used in this study is the Richey and Klein (2009) development model. Which in this development model there are 3 steps, namely: Planning, Production, Evaluation (Sugiyono, 2019).

Figure 1. Richey and Klein *development model* (Sugiyono, 2019).

This study consists of interviews with teachers and students of 5th grade and disseminating questionnaires to find out the feasibility of media by experts and know the media trials developed. The data collection instrument used in the study was a questionnaire using the Likert scale. Data obtained in the qualifications and used to determine the interactive digital comic on thematic learning includes product feasibility and effectiveness.

Analysis of the data used in the development of digital comics is descriptive statistics and quantitative descriptive data processing. To determine the feasibility and effectiveness of the product, it can be seen from data obtained from questionnaires or questionnaires from expert reviews as well as from the results of one-to-one evaluation, small group, and field tests using a Likert scale.

RESULTS & DISCUSSION

Results

The results of the development of digital comic designs on thematic learning for literacy skills of fifth grade students are described based on Richey and Klein's steps. The results of the development of each research procedure are based on the steps for developing digital comics as follows:

1. Planning

At the planning stage, start by doing a needs analysis. Needs analysis was obtained from interviews with teachers and literature review of research journals. At this stage, results are obtained regarding various problems in the application of thematic learning, including the thematic learning process has not been running properly since the availability of learning media at Elementary School was not adequate. or still need other learning media. If the school has a complete learning media, it can be used and makes it easier for students to understand the lesson and student involvement will be active especially for theme 6 (heat and its transfer).

2. Production

The process of developing a digital comic design starts from making a storyline, then the comic storyline that has been created is processed with Adobe Illustrator software.

a. Creating Storyline

1) The theme carried in this product is 6th theme "Panas dan Perpindahannya".
2) The material contained in digital comics consists of sub-theme 1, namely: Indonesian language with key words and summarizing text, science with heat transfer material, SBdP with scale material, PPKn with rights and obligations material, social studies with human interaction material with the environment. Then, there are 6 plots with a continuous story, besides that it is also equipped with a quiz at the end of the plot
3) The direction of the story will be focused on the daily life of students both at school and at home which is adjusted to the basic competencies, indicators and learning objectives.
4) In the story, there are seven characters consisting of Ariana, Rizky, Fadli, Niki, mother, father and teacher who have their own characteristics and personalities.
5) Storyline describe Ariana, Rizky and Fadli are 3 friends who are always together. They are studying at Elementary School, sitting in fifth grade. Their houses are close together, in the same school and even in the same class, so they always do anything together. From going to school, playing at school, playing at home to doing school assignments, they are always together. Ariana has a mother, father and brother named Niki who are good and love her very much. Every day, Ariana always gets new knowledge that she didn't know before from the people around her.

b. Software processing

The process of drawing or creating digital comics is processed using Adobe Illustrator software, there are several stages, namely making patterns for characters, making patterns on background Figures, coloring and giving dialogue text.

1) Character Pattern Creation
   Making the required physical appearance and personality of the character is based on and adapted to the information from the storyline design.
2) Background Pattern Creation
   Before making the background, you must determine the paper size first. In this product the paper size used is A4, one sheet of comic paper is divided into two to four boxes (panels). Making the background or background can be adjusted to the scenario that has been designed in the storyline.
3) Coloring
   Digital comics are made in various colors to make them more attractive.
4) Adding dialog text
   The dialogue text uses the Anime Ace typeface with a font size of 9 and a spacing of 12, so that the text in the dialogue is legible or clearly visible.

3. Evaluation

Before the digital comic product is tested on students, the product is evaluated first with experts, namely media experts, linguists and material experts. Expert evaluation is carried out so that the digital comic product developed does not

experience too many errors and will get a guarantee that the product to be developed is worthy of being tested on elementary school students. After the digital comics have passed the evaluation stage by media experts, material experts and linguists and have made improvements. Furthermore, digital comics will be tested on a one-to-one trial consisting of 3 students and a small group trial consisting of 5 students. Then, the effectiveness test done by giving pretest posttest questions to 20 students. The evaluation results from experts, expert revisions, product trials and effectiveness tests are as follows:

a. Expert evaluation

1) The evaluation result of media expert

The evaluation of media experts aims to test the feasibility of presenting in terms of appearance and quality of digital comics.

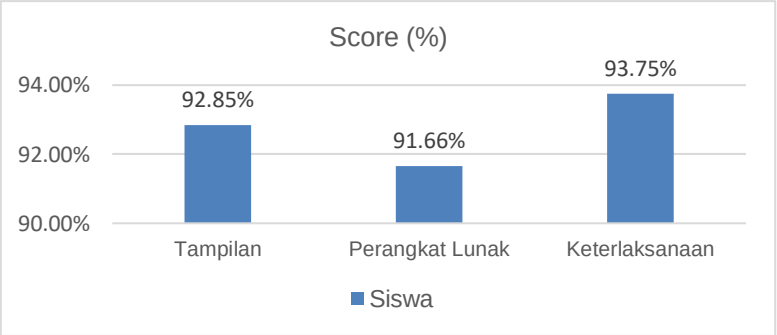

Figure 2. Evaluation of Media Expert

Based on Figure 2 Evaluation of Media Expert, the average score is 92.85% with a very decent category. It can be concluded that digital comic products in terms of display presentation and quality that will be developed are very feasible to use.

2) The evaluation result of language expert

The linguist's assessment aims to determine the feasibility of each word from digital comics to match the language used by elementary school students in everyday life.

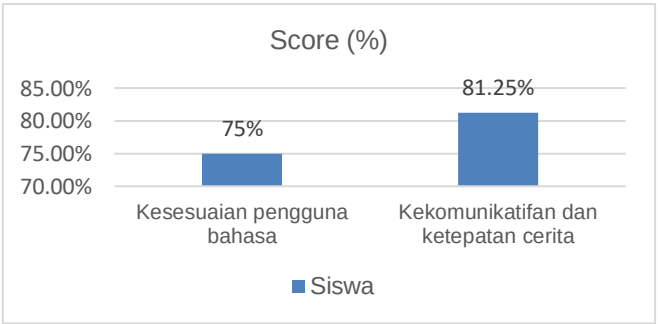

Figure 3. Evaluation of Language Expert

The results of the evaluation of linguists listed in Figure 3 Evaluation of Language Expert show that the average score is 80% with a very decent category. Thus, the language of the product is declared very feasible to be tested.

3) The evaluation result of material expert
The material expert's assessment aims to determine the feasibility of thematic material on theme 6 "heat and its transfer" whether it is appropriate or not.

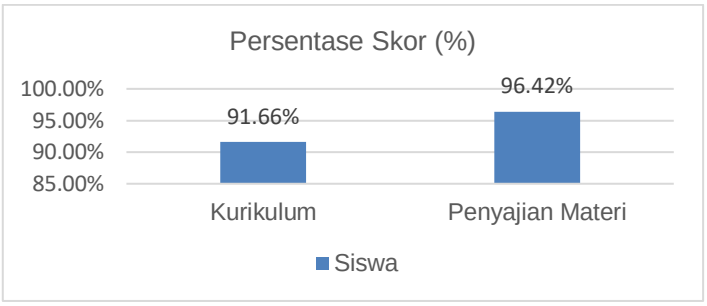

Figure 4. Evaluation of Material Expert

Based on Figure 4 Evaluation of Material Expert, the results of the analysis of the material expert's evaluation obtained an average score of 94.23%, getting a very decent category. As for the material expert's assessment, it can be concluded that the digital comic product developed is very feasible to be tested in the field.

b. Product Trial

1) One to one test

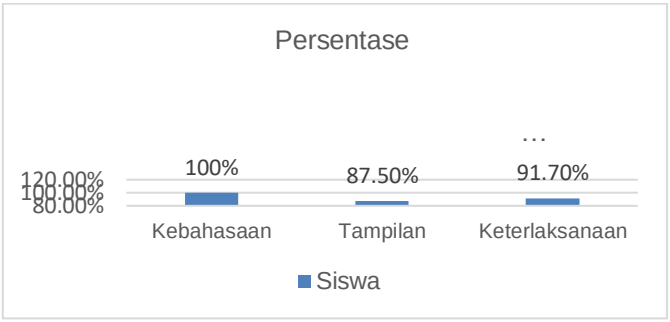

Figure 5. Result of One on One Test

The results of the one to one trial analysis in Figure 5 Result of One on One Test, the assessment obtained with an average of 97.5% falls into the very feasible category and can be continued in the next stage of testing.

2) Small group test

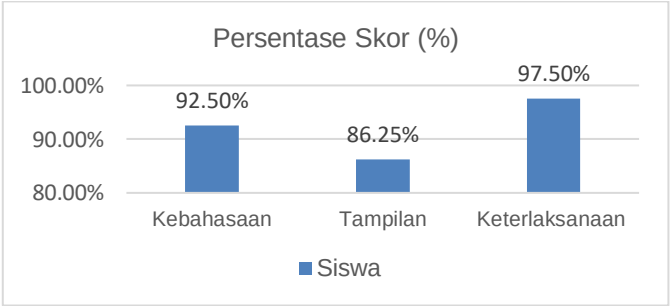

Figure 6. Result of Small Group Test

Based on the analysis of the results of the small group trial data as shown in Figure 6 Result of Small Group Test, it can be seen that the score results with an average of 94% fall into the very feasible category. Furthermore, the developed product can be tested on the effectiveness test.

c. Field test

1) Learing outcomes

The field test was carried out to find out the comparison of data regarding the results of the pretest and posttest scores. The data must be calculated using the SPSS paired sample test. The results of calculating the paired sample test data for pretest and posttest as shown in Table 1 Paired Sample Statistics. The output pretest and posttest shows the summary results of descriptive statistics from both samples or pretest and posttest data.

Table 1. Paired Sample Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	57.7333	20	11.9382[illegible]	2.66947
	POST TEST	81.9792	20	9.1637[illegible]	2.04909

The second output is the result of the correlation or relationship between two variables, namely pretest and posttest as shown in Table 2 Sample Correlations.

Table 2. *Sample Correlations*

		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	.274	.243

For the third output, the results of the paired simple test to determine whether or not there is a difference between the results of the pretest and posttest as shown in Table 2 Sample Test. Based on the significant results of paired simple test, the results of Sig. tailed is 0.000. With that, it is stated that there is a valid difference between the pretest posttest scores on learning outcomes using digital comic media because the results obtained are less than 0.05.

Tabel 2. Sample Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRE TEST - POST TEST	-24.24583	12.90925	2.88660	-30.28755	-18.20412	-8.399	19	.000

2) Student responses
The field test was conducted to determine whether the digital comic product developed could improve literacy. The field test established by involving 20 students using a questionnaire in the form of a questionnaire totaling 15 questions with a scale of 1-4 consisting of various aspects of digital literacy.

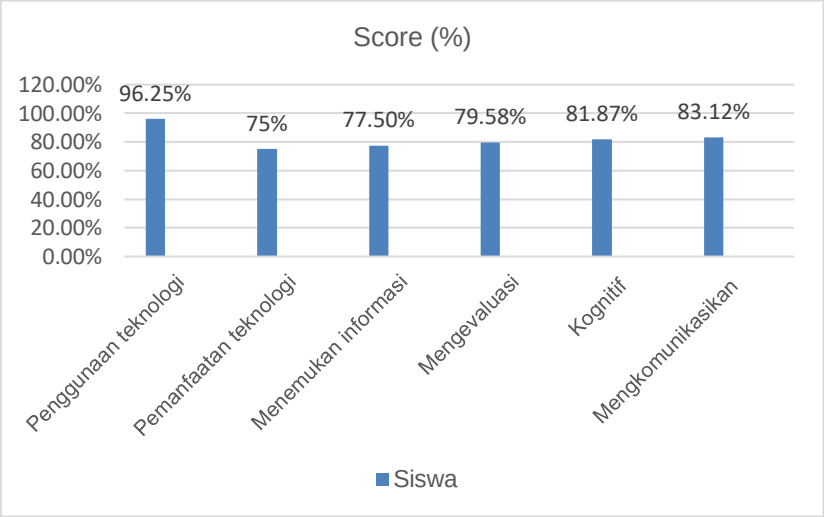

Figure 7. Result of Field Test

Based on Figure 7 Result of Field Test, there are results of the analysis of the fieldtest test assessment with an average score of 82.5% which obtained the very feasible category. Thus, it can be concluded that digital comic media is very feasible to be used in the learning process and can help improve the digital literacy of 5th grade elementary school students.

Discussion

This digital comic product had fulfilled the media expert review with very good category, linguists expert with good category, and material expert with very good category. Based on the results of experts, this digital comic media is said to be very feasible. Furthermore, this digital comic product was considered very feasible based on the one to one test with very good category and the small group test with very good category. The digital comic product had fulfilled the construction aspects, having clear structure (Vebrianto & Thahir, 2021), clear story illustration (Vebrianto & Thahir, 2021) and easy to understand (Prihanto S & Yunianta, 2018).

The digital comic product shows significant differences between pretest and post test so that it can improve student learning outcomes (Radeswandri et al., 2021) since it can increase the student motivation (Suparmi, 2018) and stimulate student to be enthusiastic (Ambaryani & Airlanda, 2017). The digital comic product also can improve students' literacy skills which it is aligned with the previous research of digital comic products for student in Higher Education (Radeswandri et al., 2021). The digital comic product has student appeal so that students are more interested in reading books that are more dominant with pictures and students are easier to remember (Sumbawati & Harmoko, 2017). In addition, from the results of other

research and development, digital comics learning media also get good marks so that digital comics are said to be in the very feasible category (Wardana, 2018).

CONCLUSION

Based on result and discussion, the evaluation results from media expert got a score of 92.85% in the very good category, linguists expert got a score of 80% in the good category and material expert got a score of 94.23% in the very good category. Furthermore, the one to one test got a score of 93.06% in the very good category and the small group test scored 92.08% in the very good category, so this product is said to be very feasible. It can be concluded that the evaluation of development digital comic on the thematic learning had met the standard criterias of digital comics as learning media.

Obtaining a score from the results of the field test shows that digital comics can improve literacy, because the greater the points obtained, the more feasible the digital comic media is tested and the more interested students are in using the media. The results of similar research and development were carried out with digital comics learning media that can be accessed through technology, the media developed received a good and decent category assessment. In addition, from the results of other research and development, digital comics learning media also get good grades so that digital comics are said to be in the very feasible category (Wardana, 2018). In the future, development interactive digital comics could be considered since the thematic learning also required interaction from students so that it can add to a more realistic learning experience.

REFERENCES

Alfiani, F., Kurniawati, T., Pd, S., Pd, M., Siwi, M. K., Pd, S., & Pd, M. (2018a). Pengembangan Webtoon untuk Pembelajaran IPS di SMP. *EcoGen*, *1*, 439–449.

Alfiani, F., Kurniawati, T., Pd, S., Pd, M., Siwi, M. K., Pd, S., & Pd, M. (2018b). Pengembangan Webtoon untuk Pembelajaran IPS di SMP. *EcoGen*, *1*, 439–449.

Ambaryani, A., & Airlanda, G. S. (2017). PENGEMBANGAN MEDIA KOMIK UNTUK EFEKTIFITAS DAN MENINGKATKAN HASIL BELAJAR KOGNITIF MATERI PERUBAHAN LINGKUNGAN FISIK. *Jurnal Pendidikan Surya Edukasi (JPSE)*, *1*, 3.

Arafat, M. (n.d.). *PENGUATAN LITERASI BERBASIS KOMIK DI SEKOLAH DASAR Oleh: Maulana Arafat Lubis 1*. *1*.

Beecher, C. C., Abbott, M. I., Petersen, S., & Greenwood, C. R. (2017). Using the Quality of Literacy Implementation Checklist to Improve Preschool Literacy Instruction. *Early Childhood Education Journal*, *45*(5), 595–602. https://doi.org/10.1007/s10643-016-0816-8

Bulger, M. E., Mayer, R. E., & Metzger, M. J. (2014). Knowledge and processes that predict proficiency in digital literacy. *Reading and Writing*, *27*(9), 1567–1583. https://doi.org/10.1007/s11145-014-9507-2

Dini, U. (2018a). *http://journal.unj.ac.id/unj/index.php/jpud Volume 12 Edisi 2 November 2018*. *12*(November), 231–240.

Dini, U. (2018b). *http://journal.unj.ac.id/unj/index.php/jpud Volume 12 Edisi 2 November 2018*. *12*(November), 231–240.

Ilham, M. (2019). *PEMBUATAN KOMIK LITERASI INFORMASI UNTUK MENINGKATKAN LITERASI SISWA DI PERPUSTAKAAN SMA NEGERI 1 PADANG (Studi Kasus: Pada Perpustakaan SMA Negeri 1 Padang)*. *September*, 204–217.

Iqra, J. (2019a). *E-KOMPEN (ELEKTRONIK-KOMIK PENDEK) sebagai solusi cerdas dalam meningkatkan minat baca masyarakat Indonesia di era digital Anwar Efendi Nasution, Muhammad Wahyu Hidayah*. *13*(01), 105–114.

Iqra, J. (2019b). *E-KOMPEN (ELEKTRONIK-KOMIK PENDEK) sebagai solusi cerdas dalam meningkatkan minat baca masyarakat Indonesia di era digital Anwar Efendi Nasution, Muhammad Wahyu Hidayah*. *13*(01), 105–114.

Jurnal, A., Matematika, P., & Indarini, E. (2019). *Pengembangan Media Komik Dengan Metode Picture And Picture Untuk Meningkatkan Keterampilan Literasi Matematika Kelas Iv*. *10*(1), 60–70.

Munir. (2017). *Pembelajaran Digital*.

Prihanto S, D. A., & Yunianta, T. N. H. (2018). PENGEMBANGAN MEDIA KOMIK MATEMATIKAPADA MATERI PECAHAN UNTUK SISWA KELAS V SEKOLAH DASAR. In *Maret* (Vol. 5, Issue 1).

Radeswandri, R., Vebrianto, R., & Thahir, M. (2021). *Evaluation on the Use of Online Comics among Students: Development Studies at Universitas Terbuka*. *23*(1), 37–48. https://doi.org/10.21009/JTP2001.6

Sumbawati, M. S., & Harmoko, D. B. (2017). PENGEMBANGAN MOBILE WEBTOON PADA MATA KULIAH PEMROGRAMAN GAME DI UNIVERSITAS NEGERI SURABAYA. *Jurnal IT-EDU*, *02*(01), 102–109.

Suparmi, S. (2018). Penggunaan Media Komik Dalam Pembelajaran IPA Di Sekolah. *Journal of Natural Science and Integration*, *1*(2).

Tomita, K. (2018). Does the Visual Appeal of Instructional Media Affect Learners' Motivation Toward Learning? *TechTrends*, *62*(1), 103–112. https://doi.org/10.1007/s11528-017-0213-1

Vebrianto, R., & Thahir, M. (2021). *Evaluation on the Use of Online Comics among Students: Development Studies at Universitas Terbuka*. *23*(1), 37–48. https://doi.org/10.21009/JTP2001.6

Wardana, A. (2018). *pengembangan komik sebagai media pembelajaran untuk mengapresiasi cerita anak pada peserta didik kelas III SD/MI*.