COMIC DEVELOPMENT BASED ON DISCOVERY LEARNING AS THE LITERATION INCREASING MEDIA FOR ELEMENTARY STUDENTS

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Abstract : **Comic Development Based On Discovery Learning As The Literation Increasing Media For Elementary Students**. The purpose of this study is to develop and test the validity, practicality, and effectiveness of comic media with the basis of discovery learning on thematic learning in elementary schools. The research method used was R&D and the ADDIE design which has 5 stages, namely Analysis, Design, Development, Implementation, and Evaluation. The validity of the product was tested by experts by using media, material, and learning expert validation instruments. The practicality of the product was seen from the questionnaire of student responses to the media. Product effectiveness was seen from the results of the assessment of the three aspects of literacy, namely the process of understanding, the purpose of reading, and the attitude of reading from a reading and comic. This research produces comic based discovery learning as a medium to improve the literacy of elementary school students. This comic proved to be valid, as seen from the expert media and material test. Comics proved to be practical, seen from student responses to media questionnaires. Comics proved to effectiveness, seen from the result of the assessment of the three aspects of literacy.

Keywords: Comic based on Discovery Learning; Media; Literacy

Abstrak : **Pengembangan Komik Berbasis *Discovery Learning* Sebagai Media Meningkatkan Literasi Siswa Sekolah Dasar.** Tujuan dari penelitian ini adalah untuk mengembangkan dan menguji kevalidan, kepraktisan, dan keefektifan dari media komik berbasis *dicovery learning* pada pembelajaran tematik di Sekolah Dasar. Metode penelitian ini adalah *R&D* dan menggunakan desain ADDIE yang memiliki 5 tahap yaitu *Analysis*, *Design*, *Development*, *Implementation*, dan *Evaluation*. Kevalidan produk di uji oleh pakar dengan menggunakan instrumen validasi pakar media, materi, dam pembelajaran. Kepraktisan produk dilihat dari angket respon siswa terhadap media. Keefektifan produk dilihat dari hasil penilaian dari ketiga aspek literasi yaitu proses pemahaman, tujuan membaca, dan sikap membaca dari sebuah bacaan dan komik. Penelitian ini menghasilkan komik berbasis *discovery learning* sebagai media untuk meningkatkan literasi siswa Sekolah Dasar. Komik ini terbukti valid, dilihat dari uji pakar media dan materi. Komik terbukti praktis, dilihat dari angket respon siswa terhadap media. Komik terbukti efektif, dilihat dari hasil penilaian ketiga aspek literasi.

Kata kunci : Komik Berbasis *Discovery Learning*; Media; Literasi

INTRODUCTION

Developing Character is a habitual activity of positive attitudes and behaviors in the school environment starting from the beginning of the first day of school, the orientation period of new students to the above levels in elementary school, even up to school graduation (Permendikbud Number 23 of 2015). Habitual activities are not only carried out by students, but also by educators and staffs in schools. The purpose of this practice is to make a generation that can have a positive

character and a generation that can grow good habits. One habit that is being intensively carried out by teachers is to carry out literacy in learning at school. Literacy is one of the basic skills that must be mastered by every individual. (Tryanasari, Aprilia, & Cahya, 2017).

Literacy is important for developing skills in the 21st century. Of the 4 skills that exist, among others: thinking ability, creativity, communication, and collaboration can be understood and mastered through reading. Along with the development of times, students' literacy skills diminish. Students are losing interest in reading. If the problem of reading interest is left alone, it will have an aftermath on the quality of this nation. Because if the reading interest is low, the community will be difficult to keep up with developments in the world. Based on the study results of the 2016 Most Littered Nation In the World, it showed a low level of interest in reading in Indonesian society. Our country is in the order of 60 out of 61 countries.

To overcome this, it is necessary to habituate the teacher in creating a learning that can improve student literacy. In carrying out the learning, the teacher has an obligation as stated in the Constitution Number 20 of 2003 chapter 40 paragraph 2 (a) that an educator has an obligation to create a meaningful, pleasant, creative, dynamic and dialogical educational atmosphere. Creating learning system in such a way depends on how the teacher will package a learning. One of them is by utilizing media for learning. Using media during learning can make students more active, generate learning motivation, improve learning outcomes and so on (Fadilah, Rais, & Handayani, 2018).

Media is a tool which can be used to convey information easily in print or audio-visual form. With media, students can remember a material for a long time compared to the delivery of material by lecturing and face-to-face without using a tool (Rusman, 2017).

Teachers must be more creative to create or develop a media that can increase students' interest in reading. Azzahra (2017), argues that some teachers are unable to use the media to the fullest. There are even teachers who don't use the media at all, only deliver the material verbally. One of the media that can be used is comics.

According to Gumelar (2011), comics are sequences of images arranged according to the purpose and philosophy of the maker so that the message of the story can be conveyed well. Comics as a medium are used in thematic learning, especially in class III. More precisely on Theme 6 of Energy and Change, Subtheme 1 Energy Sources, Learning 3. Media with comic forms are expected to provide interesting learning experiences. This media will make students not easily bored. In addition, it can also facilitate students to learn because it can be used anytime and anywhere. Agreeing with Wakhyudin and Permatasari (2017), comic media can create enthusiasm for learning and increase students' enthusiasm in participating in learning.

This comic is designed on the basis of Discovery Learning, which is a learning process where students are not given material in the final form but are expected to manage themselves (Wahyudi and Siswanti, 2015). Discovery Learning is done in 6 phases, namely stimulation, statement, data collection, data processing, verification, and drawing conclusions. With comic

reading activities during learning, it is expected to improve student literacy.

National Association for the Education of Young Children (NAEYC) has the opinion that literacy is an activity that is able to encourage and inspire children to grow as a reader and writer. Literacy activities can increase students' knowledge through activities such as reading and writing (Izati, Wahyudi, & Sugiyarti, 2018). Progress in Reading Literacy Study (PIRLS) focuses on three aspects of literacy, namely: (1) Understanding Process, which is to determine the extent to which students understand what has been read; (2) Reading Purpose, namely to find out students prefer to read for pleasure or reading to obtain information; and (3) Reading Attitudes, namely attitudes that occur during the reading process.

Based on the description, the writer developed a Discovery Learning based comic as a medium to improve the literacy of elementary students.

METHOD

The research that has been done includes the type of R & D research. This research is used to develop and validate a product. The development design used is the ADDIE model. 5 stages of the ADDIE model are as follows: Analysis, Design, Development, Implementation, and Evaluation (Mulyatiningsih, 2016).

The developed product will be tested to find out whether the product is valid, practical, and effective or not. To test the validity of the product, it is tested by several experts, namely media experts, material experts, and learning experts. Assessment of each indicator is given through an assessment score using the following criteria: score 5 is Very Good, score 4 is Good, score 3 is Fair, score 2 is Weak, and score 1 is Poor. To test the practicality of comics, it is done by giving students a response questionnaire after reading comics. To test the effectiveness of the product, it is seen from the assessment of the three aspects of literacy, namely the process of understanding, the purpose of reading, and the attitude of reading a reading and comic.

The data analysis technique used to describe the feasibility and practicality of the media is percentage and categorical descriptive. Measurements are made using a closed questionnaire. The average score for each indicator is calculated using a formula like the following:

$$AP = \frac{Actual\ Score}{Ideal\ Score} x100$$

Explanation:
a. AP is Percentage Number.
b. Actual Score is scores given by experts.
c. Ideal Score is the maximum score results between the number of items with the maximum score for each item.

The Percentage Numbers are grouped into 5 categories, namely:

Interval	Category
81-100%	Very high
61-80%	High
41-60%	Moderate
21-40%	Low
1-20%	Very low

Based on the percentage category, discovery learning based comic is said to be feasible and practical if the average percentage rate reaches a minimum of ≥61% with a high category.

The effectiveness test is seen from the assessment of the three aspects of literacy. The formula used is as follows:

$$AP = \frac{\text{Obtained Score}}{\text{Maximal Score}} \, x100$$

The Percentage Numbers are grouped into 4 categories, namely:

Interval	Category
81-100%	Very Good
66-80%	Good
51-65%	Fair
0-50%	Poor

RESULT AND DISCUSSION
RESULT

The description of the five stages of the ADDIE model according to Mulyatingsih (2016) is as follows:

a. *Analyze*

At this stage, interviews are conducted to analyze student needs. This is the first step in the media development to improve student lituracy. Interviews were conducted together with teachers and class III B students. Based on the interviews that had been conducted, the results showed that most students lacked interest in reading. They prefer playing games on cellphones or watching television than reading books. In fact, literacy has begun to be applied through the School Literacy Movement. But when reading a book, many students talk each other so they don't focus on reading. In addition, there is no media developed by teachers to improve student literacy. The teacher only uses existing media, such as books. Therefore, the researcher develop discovery learning based comic as a medium to improve student literacy.

b. *Design*

The design was carried out in 2 stages, namely composing comics and compiling Lesson Plans. The compilation of comics is done in 4 steps, namely: (1) Setting the material to be contained in the comic. The material is taken from the theme 6 of Energy and Change, Subtheme 1 Energy Sources, Learning 3. There are three contents of the lessons discussed namely Indonesian Language, Mathematics, and SBdP; (2) Making story scripts by determining the characters, determining the storyline that is adjusted to the learning model, and the story setting; (3) Creating image design using the Clip Studio Paint EX application; and (4) Selecting tools and materials for comics. The type of paper used is 230 ivory for the cover section and CTS 150 for the contents of the comic. The size used is A5 or size 148 mm x 210 mm. The researcher needs material that is easily removed to make crossword puzzles, so the researcher chose to use a Double Side Whiteboard. To fill the crossword puzzle, the researcher chose a small black marker that was modified by attaching a flannel cloth to the end of the cap marker as an eraser. The comics is spiral-bound to be stronger and last longer.

The following is an example of the display of comics that have been made:

Picture 1. Comic Cover

Picture 2. First Page Comic

Preparation of lesson plans is carried out with the following steps: (1) Writing down the identity; (2) Writing down the Core Competencies; (3) Writing down the Basic Competencies and Indicators; (4) Formulating the learning objectives; (5) Determining the subject matter; (6) Determining the methods and models; (7) Determining the media, tools, and learning resources; (8) Preparing steps for learning activities; (9) Assessing; and (10) Enclosing the attachments.

c. *Development*

This stage is done by testing product validation to several experts, namely media experts, material

Based on media eligibility criteria, the developed comics were in the category of very high and high with a percentage value of ≥61%. This comic was declared fit for the trial.

d. **Implementation**

The next step is to conduct limited trials and field trials. The limited test was carried out by 5 children from class III A of Sidomulyo 04 Public Elementary School. The results of the

questionnaire analysis of students' responses to the media obtained a percentage of 92%. It can be concluded that comics were ready for field trials.

Field trials were carried out through teaching practices in class III B of Sidomulyo 04 Public Elementary School. When the researcher practiced, the teacher experts, and learning experts. The product developed must be validated by experts to find out whether the product is worth testing or not. The following are the results of the expert test:

Table 1. Expert Assessment Results

Indicator	Ideal Score	Actual Score	AP (%)	Category
Learning Media	75	64	85%	Very high
Learning Material	50	47	94%	Very high
Learning	30	24	80%	High

made observations to assess the feasibility of the chosen learning model. Based on the observation sheet of teacher activities, a percentage of 100% was obtained. In other words, the researcher can implement 16 indicators or all indicators that have been well prepared.

The teacher also assesses the media by using a validation sheet. Based on the results of the teacher's response to the media, a percentage of 90% was obtained. It can be concluded that according to the teacher the media developed is feasible to use.

To find out the student's response to the media, the researcher gave a questionnaire to 32 students of class III B. The following is the result of analyzing student responses to the media:

Table 2. Student Response Analysis Results

No	Question	Score
1	Are you interested in using comics in learning?	32
2	Are comics easy to use in learning?	31
3	Are there words that you don't understand?	25
4	Can the writing be read clearly?	31
5	Are comic images interesting?	31
6	Do you have difficulty in understanding comic stories?	28
7	Does the existence of comics make it easier for you to understand the material?	30
8	Do you prefer to learn to use comics?	30
9	Does comic make you more enthusiastic in learning?	30
10	After reading comics, can you retell the contents of the comic story?	21
Total		**290**
Percentage		**91%**

Based on the results of the analysis of student responses to the media, a percentage of 91% was obtained and included in the very high category. With this large percentage, it shows that students respond to comics very well. So, it can be concluded that comics are practical to use.

e. *Evaluation*

This stage is done by giving pretest and posttest questions. The results of the completion of the pretest and posttest are presented in the following bar diagram:
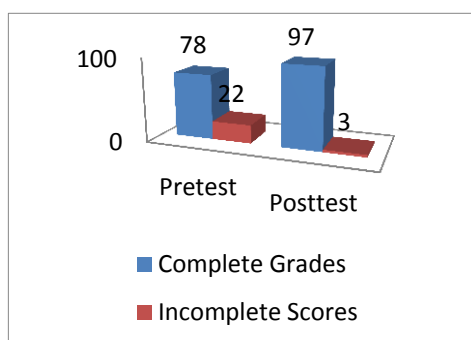
Based on the bar diagram, it can be seen that 78% of students get complete grades and 22% of students get an incomplete score when given the pretest. Whereas when given a posttest question, 97% of students get complete grades and 3% of students get incomplete scores.

To see whether comics can improve literacy or not, the researcher used questionnaires and observations. PIRLS focuses on three aspects of literacy. The first aspect of literacy is the process of understanding which is seen from the skill of retelling the contents of a reading. The second aspect of literacy is the reading purpose which can be seen from the questionnaire given. The third aspect of literacy is the reading attitude seen from the observation sheet. The following are the results of reading and comics reading analysis:

Table 3. Reading Analysis of Readings and Comics Results

Analysis	Obtained Score	Maximal Score	Percentage
Articles Reading	2507	3200	78%
Comic Reading	2826	3200	88%

Based on the increasing literacy results, it can be stated that comics are effective in increasing student literacy.

When reading the articles, it only get a percentage of 78%. While reading comics, it get a greater percentage of 88%. Increasing literacy is presented with bar charts like the following:
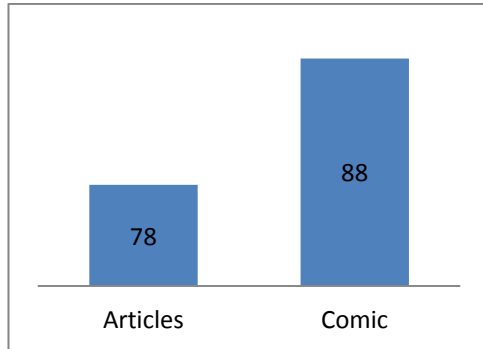
From the data, it can be seen that there is an increase of 10%. At first, it included in the good category, then it rose to a very good category.

DISCUSSION

The results of the study show that discovery learning based comic as a media can improve the literacy of elementary school students. This can occur because students get the opportunity to use media that can facilitate the process of understanding. In line with Untari & Saputra (2016) who argued that comics can help understand the contents of a reading with the images contained in it. So that after reading, students are able to retell the content or information contained in the comic.

The comics that were developed are based on dicovery learning. Comic stories are designed according to the discovery learning model with the following phases: (1) Stimulation. In comics, the stimulation given is Lano, who is the main character faced with something dubious. After he and his friends played, they were tired. But after drinking water, their bodies became fresh again. Lano felt confused why it could be like that. Through this stage, students are given a stimulus regarding the problems faced by Lano; (2) Statement. Lano asked Mother and received several answers. Lano chose one answer as a temporary answer, because water is an energy source. Through this stage, students are given the opportunity to choose one answer; (3) Data collection. Lano kept asking Mother to make sure the answer. Through this stage, students are given the opportunity to gather information to find the truth of the answers chosen; (4) Data Processing. All information received by Lano was processed as the formation of concepts and conclusions. Through this stage, students are given the opportunity to analyze information that has been obtained; (5) Verification. When participating in learning, Lano asked about water as an energy source to Ms. Silvi as the class teacher. Ms. Silvi explained the reason why water is an energy source. Coincidentally, on that day Ms. Silvi would discuss about water energy sources. Lano and friends were actively involved in learning. Through this stage, students are given the opportunity to prove whether the chosen answer is correct or not; and (6) Drawing conclusions. Lano and friends made conclusions at the same time. Through this stage, students are given the opportunity to draw conclusions and express them.

Discovery learning based comics can make students to have reading purposes; not just for fun because of the interesting display of comics, but also to obtain information (Nugraheni, 2017). When reading comics, student attitudes become more focused in reading (Saputro, 2016).

The things that occur when students read comics as described are according to the literacy aspects of

reading. Where PIRLS focuses on three aspects of literacy, namely the understanding process, the reading purpose and the reading attitude. Discovery learning based comics can fulfill literacy aspects to provide opportunities for students to improve reading literacy.

Good literacy can be owned if students have an interest in reading and the available media which can be used to read. Bringing up attraction is not easy, one way that can be done is to develop media in the form of cartoon-shaped images that have a story and character called comics (Sudjana & Rivai, 2013).

Students' interest in reading depends on the appearance of a reading. If a material is only presented in written form, students will feel bored quickly. The use of comics as an attractive-designed media can make students feel happy, make students not feel bored easily, and motivate students to be enthusiastic in learning (Ambaryani & Airlanda, 2017).

The success of this study is supported by a score increase from articles reading to comics reading. So, there are differences before using comics (articles reading) and after using comics (comics reading). Based on the results of the study, comics proved effective to be used to improve literacy. These results affirm the results of several studies namely Fahyuni & Fauji (2017); Pitaloka (2017); Wakhyudin & Permatasari (2017), that comics can be used as a media that makes students interested in learning and can improve literacy reading.

CONCLUSION

Research and Development carried out by the researcher produced a product that is discovery learning based comic as a media to improve literacy of elementary school students. Based on the results of the research and development, it can be concluded that: (1) Discovery learning based comic as a viable media to improve elementary school student literacy. This can be shown from the results of the media experts validation which get a percentage of 85%, material experts which get a percentage of 94%, and learning experts which get a percentage of 80%; (2) Comic based discovery learning as a practical medium to improve the literacy of elementary school students. This is indicated by the results of the student response questionnaire after reading comics with a percentage of 91%; (3) Discovery learning based comic as an effective media to improve literacy of elementary school students. This is indicated by the results of the assessment of the three aspects of literacy, namely the understanding process, the reading purpose, and the reading attitude. It can be seen that there iss an increase from articles reading that received a percentage from 78% to 88% after comics reading.

The researcher gives several suggestions, as follows: (1) Students are expected to be more interested in reading books than playing mobile phones or watching television. This is done so that students can have good literacy; (2) Teachers can use more media or even create a media that can attract students' attention, especially in terms of reading interest. In order for student literacy levels to grow more and more; (3) It is hoped that the school will be more aggressive in conducting socialization on the importance of literacy, so that students can improve

literacy both at school and at home; and (4) For further researchers, it is expected to be able to develop another innovative product that can improve student literacy.

BIBLIOGRAPHY

Ambaryani, A., & Airlanda, G. S. (2017). Pengembangan Media Komik Untuk Efektifitas Dan Meningkatkan Hasil Belajar Kognitif Materi Perubahan Lingkungan Fisik. *Jurnal Pendidikan* Surya *Edukasi*, *3*(1), 19-28.

Azzahra, S. S. (2017). Meningkatkan Minat Guru dalam Menggunakan Media *Pembelajaran.* Retrieved Oktober 11, 2018, from Edukasi: https://www.salamahzahra.com/edukasi/read/38/meningkatkan-minat-guru-dalam%20menggunakan-media-pembelajaran

Fadilah, D. N., Rais, R., & Handayani, D. E. (2018). Pengembangan Media Taktik (Kotak Tematik) Model Number Head Together Tema Diriku Kelas 1 Sekolah Dasar. *Jurnal Handayani PGSD FIP UNIMED, 9*(1).

Fahyuni, E. F., & Fauji, I. (2017). Pengembangan Komik Akidah Akhlak Untuk Meningkatkan Minat Baca dan Prestasi Belajar Siswa di Sekolah Dasar. *Halaqa: Islamic Education Journal*, *1*(1), 17-26.

Gumelar, M. S. (2011). *Comic making.* Jakarta: PT. Indeks.

Izati, S. N., Wahyudi, W., & Sugiyarti, M. (2018). Project Based Learning Berbasis Literasi untuk Meningkatkan Hasil Belajar Tematik. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan, 3*(9), 1122-1127.

Kebudayaan, K. P. (2018). *Energi dan Perubahannya.* Jakarta: Kementrian Pendidikan dan Kebudayaan.

Mulyatiningsih, E. (2016). Pengembangan Model Pembelajaran. Diakses dari http://staff. uny. ac. id/sites/default/files/pengabdian/dra-endang-mulyatiningsih-mpd/7cpengembangan-model-pembelajaran. pdf. pada September.

Nugraheni, N. (2017). Penerapan Media Komik pada Pembelajaran Matematika di Sekolah Dasar. *Refleksi Edukatika: Jurnal Ilmiah Kependidikan, 7*(2), 111-117.

Peraturan Menteri Pendidikan dan Kebudayaan. (2015). *Permendikbud RI Nomor 23 Tahun 2015 tentang Penumbuhan Budi Pekerti.* Jakarta: Permendikbud.

Pitaloka, S. E. D. (2017). Pengembangan Media Komik Dengan Model Discovery Learning Untuk Mata Pelajaran PPKn Subtema Bumi Kelas 2. *e-Jurnal Mitra Pendidikan*, *1*(5), 485-495.

Rusman. (2017). *Belajar dan Pembelajaran Berorientasi*

Standar Proses Pendidikan. Jakarta: Kencana Prenada.

Saputro, A. D. (2016). Aplikasi Komik sebagai Media Pembelajaran. *Muaddib: Studi Kependidikan dan Keislaman, 5*(1), 1-19.

Wakhyudin, H., & Permatasari, R. R. N. (2017). Pengembangan Media Komik Misugi Anaya Pembelajaran IPA Kelas III Materi Sumber Energi dan Kegunaannya. *PSEJ (Pancasakti Science Education Journal)*, *2*(2), 98-103.

Tryanasari, D., Aprilia, S., & Cahya, W.A. (2017). Pembelajaran Literasi di SDN Rejosari 1 Kecamatan Kawedanan Kabupaten Magetan. *Premiere Educandum: Jurnal Pendidikan Dasar dan Pembelajaran, 7*(02), 173-179.

Untari, M. F. A., & Saputra, A. A. (2016). Keefektifan Media Komik Terhadap Kemampuan Membaca Pemahaman Pada *Siswa* Kelas IV SD. *Mimbar Sekolah Dasar*, *3*(1), 29-39.

Wahyudi, W., & Siswanti, M. C. (2015). Pengaruh Pendekatan Saintifik Melalui Model Discovery Learning dengan Permainan Terhadap Hasil Belajar Matematika Siswa Kelas 5 SD. *Scholaria: Jurnal Pendidikan dan Kebudayaan*, 5(3), 23-36.

Wakhyudin, H., & Permatasari, R. R. N. (2017). Pengembangan Media Komik Misugi Anaya Pembelajaran IPA Kelas III Materi Sumber Energi dan Kegunaannya. *PSEJ (Pancasakti Science Education Journal)*, *2*(2), 98-103.

Sudjana, N & Rivai, A. (2013). *Media Pengajaran*. Ceatakan ke-11. Bandung: Sinar Baru Algesindo.