

# Development of Writing Learning Media Based on Visual Literacy to Improve Critical Thinking Ability of Second Grade Elementary School Students

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DOI: 10.29322/IJSRP.9.02.2019.p8639

<http://dx.doi.org/10.29322/IJSRP.9.02.2019.p8639>

**Abstract-** This research aims to develop and test the quality of learning media in the form of visual literacy-based learning media to improve students' critical thinking skills. The model of the research used is the Thiagarajan, Semmel & Semmel research and development (R & D) model. Media feasibility is based on the results of validation. The practicality of the media is based on the results of observations on the implementation of learning, student activities, and media practicality questionnaires. The effectiveness of the media was tested by nonequivalent control group design. The results of the study indicate that visual literacy-based learning media are feasible, practical, and effective. The use of this media gets a very good response from students, which is equal to 90.5%. This media has an influence on student learning outcomes. This can be seen from the results of the t-test which shows that the significance level is 0.04-0.05. So it can be concluded that writing literacy media based on visual literacy can improve critical thinking skills of second grade elementary school students.

**Index Terms-** media for writing learning, visual literacy, development, critical thinking

## I. INTRODUCTION

The teacher ideally provides a real/direct experience to students in learning. In some circumstances, the teacher cannot provide direct experience. Learning requires an object that can replace that direct experience. Not all direct experience can be given in learning. Media is needed to replace experiences that cannot be presented in learning (Mustaji, 2016). Students are required to have high competencies in order to achieve the best quality in the 21st century. Literacy is an important part of learning. According to Gipayana (2010) in a global society characterized by advances in information and communication technology as it is today, there is an escalation of the need to be literate. This is supported by the opinion of Pancarrani, Amroh & Noorfitriana (2017) which states that in the 21st century the most important needs in each individual are literacy. Literacy is only initially seen as the ability to read writing, but over the development of the era of literacy includes nonverbal skills, listening-speaking skills, visual skills, critical thinking, to the ability of technology.

Regarding writing, the results of preliminary observations conducted on August 27 and 28 in 2018 in second grade of Jemur Wonosari Elementary School I/417 Surabaya found several facts about learning to write. Learning is done with direct instructions exemplified on the board. The teacher presents the images contained in the theme book. Writing learning itself is included as a load of Indonesian language lessons and is presented along with other content in a theme. Writing learning is important for developing student literacy skills. Writing skills are still lacking, because of the lack of media that attracts students' interest in developing writing skills. Jemur Wonosari I / 417 Elementary School students did use a thematic approach so that some of the subject matter became one in a theme or sub-theme. Most students can not express ideas in writing because it is boring to do. That makes writing learning still needs to be honed with the help of more interesting learning media. The low writing ability of second grade students at Jemur Wonosari Elementary School I/417 Surabaya is of concern to the teachers. The quality of writing of second grade students at Jemur Wonosari Elementary School I/417 Surabaya reflects the students' low ability to think. The challenge of the 21st century is to print quality students manifested in critical thinking skills. The critical level in students' thinking can be seen from the writing produced. Critical thinking skills that are skills to utilize the human mind, so as to be able to provide criticism of events that occur around. One part of literacy is the ability to write skills. Writing can be said as an activity that can express feelings (expressiveness) and produce a product in the form of writing (productive). Writing skills are included in the last skill after students master the ability to listen, speak and read.

Media that attracts students is usually rarely encountered by students, thus inviting curiosity and focus of attention. Print-based visual media are still so boring for students because students are too often faced with various kinds of visual media. Writing learning media need to be developed so that it is not only printed. The visual literacy-based learning media in question is based on visual literacy and using software namely Prezi. Prezi is an application for presentations that use the internet. Prezi is used to pour various ideas creatively in a virtual canvas. This application has advantages because there are ZUI (Zooming User Interface) to

display larger or smaller presentation shows. Media for writing literacy based on visual literacy using the Prezi application. The media is designed to be several interesting slides and has several animated images. The way to compose sentences based on images is also in the part of one of the slides displayed. Multimedia nuanced media has also been developed by several people. The results of the study written also show a marked improvement in writing skills and criticality in thinking. The results of the study by Ulfa & Soenarto (2017) state that the media (video and images) have a significant effect in improving the writing skills of elementary school students in class V. The study was conducted at Elementary School of Kasihan Bantul Yogyakarta. The results of the study of Sari & Sugiyarto (2015) also stated that students' ability to think critically could increase with the application of multimedia.

The formulation of the problem in this study is (1) What is the process of developing writing learning media to improve critical thinking skills of second grade elementary school students? (2) What is the quality of the product of the development of writing learning media to improve the critical thinking skills of second grade elementary school students? In accordance with the formulation of the problem, this study aims to describe the process of developing writing learning media to improve the critical thinking skills of second grade elementary school students, describing the quality of product development in writing learning media to improve critical thinking skills of second grade elementary school students.

In this study, the researcher presented a relevant literature review. Tatat Hartati also developed multimedia for literacy development in remote elementary schools. The study was conducted in 2016 too. The study shows the results that in West Java the remote part of the teachers needed training related to good knowledge of literacy methods and materials based on PAIKEM and the use of computers for learning media. The same year, namely 2017, Dian Mariya Ulfa and Sunaryo Soenarto conducted research. Research shows the results that video media have a significant influence on writing skills. Image media also have a significant influence on writing skills. Restining Anditasari, Martutik and Kusubakti You also conduct research research on educational media-based development in 2018. The results of the study show that four aspects are presented, namely (1) media content; (2) media language; (3) systematic presentation of media; (4) the appearance of the media is categorized as feasible to be implemented in learning to write description text.

## II. METHOD

This research is a development research because it produces a product that is media writing to improve critical thinking skills in second grade elementary school Indonesian subjects. The development of writing learning media uses a development model from Thiagarajan, Semmel & Semmel. According to Thiagarajan, Semmel & Semmel (1974) the development model has four stages called the 4-D model (Four-D Model). Stages of 4-D models include defining, designing, developing and disseminating. The 4-D model was chosen because it has stages that are simple, coherent, clear, and in accordance with the needs in developing media in writing learning.

Based on the steps of the 4-D development model, the defining stage has various steps which include initial analysis, students, assignments, concepts, and formulation of learning objectives. The activities carried out at the design stage are designing writing learning media based on visual literacy. This stage has three aspects, namely the design of the media, the design of the application of the media, and the design of expert validation. Validation will be carried out by several experts in the fields of media, language and material / content. The stages in producing media development products are carried out at the development stage. There are two activities in media development namely (1) expert appraisal assessment and then revision; (2) conduct developmental testing. Media products that have been revised and piloted are then distributed to other schools. Media products are packaged in CD format.

After going through expert validation, individual trials were carried out by involving three second grade elementary school students. In individual trials, each student filled out a questionnaire to assess the practicality of the media. The results of individual trials will be used as guidelines to make improvements to the product. Then a small group trial was conducted. Small group trials involved twelve second grade elementary school students. In a small group trial, each student filled out a media practicality questionnaire. The results of this trial are used as a guide to make improvements to the product and then conduct field trials. This field trial involved two classes in Jemur Wonosari Elementary School I/417 Surabaya.

The instruments of data collection used in this study were observation sheets, questionnaires, and test results. The feasibility analysis of writing media based on visual literacy is done by a validation sheet that uses a linkert scale. The results of the validation were assessed and the results were classified into categories of interpretation. Analysis of practicality of writing media based on visual literacy using observation sheets for the implementation of student learning and activities, as well as media practicality questionnaires. The results of the observation sheet are then mixed and the results are classified into categories of interpretation. Furthermore, analysis of media effectiveness can be seen from student learning outcomes tests. Tests of learning outcomes describe students' critical thinking skills.

### III. RESULT AND DISCUSSION

The results of expert validation for the media development process are obtained from the validator sheet. Validated components are material, language, and media. The results of the validation sheet from the validator are as follows:

**Tabel 1.** Validation Results

Validation Sheets	Percentage	Categories
Writing media (media expert)	92,65%	Worth using without revision
Writing media (language expert)	97,06%	Worth using without revision
Writing media (material expert)	87,05%	Worth using without revision

Source: processed secondary data of researchers, 2018

From the results of the validation sheet, it was stated that valid visual literacy based writing media was used in learning. While the results of the questionnaire practicality response of writing media based on visual literacy are as follows.

**Tabel 2.** Questionnaire Results

Trials	The Number of Students	Score Obtained	%	Interpretation
Individual Trial	3	71	84,52	Very good with revisions
Small Group Trial	12	326	97,02	Very good

Source: processed secondary data of researchers, 2018

The results of the student response questionnaire stated that writing media based on visual literacy was practically in accordance with the percentage of individual trials and small group trials. The practicality of the media can also be seen from the results of the learning implementation observation sheet and student activity observation sheets. The results of the percentage of learning implementation are as follows.

**Tabel 3.** Results of Learning Implementation Observation

Observer		Number	Percentage	Information
O1	O1			
27	31	58	90,62	Very good

Source: processed secondary data of researchers, 2018

Based on the above data, it can be concluded that the implementation of learning using visual literacy based media is very good. Furthermore, student activities during learning can be seen as follows.

**Tabel 4.** Results of Student Activity Observation

Observer		Number	Persentase	Keterangan
O1	O1			
20	22	42	87,5	Sangat baik

Source: processed secondary data of researchers, 2018

In accordance with the table above, it can be concluded that the activities of students during the implementation of learning using visual literacy-based learning media in the category are very good.

The effectiveness of visual literacy based media is known through the results of student learning tests. Student learning outcomes are intended to measure the critical thinking skills of class II students. The level of understanding of students before and after using media is measured by the technique of t test data analysis of two free samples. The significance level of the difference in the results of the pretest and posttest was 0.05. Media-based visual literacy learning writing is said to be effective for improving critical thinking skills if  $\leq 0,05$  significance level. The t-test formula for two free samples is as follows.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Based on the results of the calculation, after calculating the pretest and posttest average the significance level was  $0.048 \leq 0.05$ . This can be interpreted that, it can be concluded that  $H_0$  is rejected and  $H_a$  is accepted. Thus it can be concluded that there is a significant difference between student learning outcomes during the pretest and posttest.

#### IV. CONCLUSION AND SUGGESTION

Based on the results of the research and discussion of the results of the study, it can be concluded that the process and quality of the development of visual learning media based on visual literacy are good. The process of developing the media runs smoothly with the results of the validator showing a feasible category. Quality of media development from expert media validation, media practicality and media effectiveness in learning. The practicality of the media can be seen from the results of questionnaires for students who reached 84.52% for individuals and 97.02% for small groups. Effective writing learning media is used to improve critical thinking skills of grade II elementary school students. This is based on the results of the t-test, where the significance level is  $0.04 \leq 0.05$ . Based on this,  $H_0$  is rejected and  $H_a$  is accepted. So it can be concluded that learning uses effective visual literacy-based learning media to improve students' critical thinking skills.

Suggestions in the development of writing learning media products based on visual literacy are the dissemination carried out only to the teacher working group, which is expected to be widely disseminated. In addition, training for teachers in using this media needs to be done so that its use does not experience obstacles.

#### ACKNOWLEDGMENT

We are especially grateful to the Surabaya city government, Surabaya State University postgraduate lecturer, Jemur Wonosari I/417 Surabaya elementary school students, and all those who directly and indirectly helped us in this research.

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