The Effect of the Use of Picture/Image as a Supporting Tool of Instructional Management of Scientific Approach on the Writing Skill Improvement

Desi Wulansari*1

1Syiah Kuala University, Banda Aceh

*Corresponding author: desiwulans29@gmail.com

Abstract

One of the efforts to solve the students’ problems in writing is to use picture media, combined with scientific approach. This research aims at finding aspects of writing that can be improved through the combination of such media and approach. In addition, the research also intends to see which aspects of writing can be the most significantly improved by means of such a combination approach. Other objective is to find if students’ response toward the use of picture of scientific approach is positive. This is a quantitative approach with experimental study of randomized pretest-posttest group design. The samples are selected by using random sampling technique. The instruments are tests and questionnaires. The data is analyzed by using t-test for test and percentage for questionnaire. The result showed that picture media combined with scientific approach can improve students’ writing skill in those five areas of writing skill (content, vocabulary, organization, language use and mechanic). Out the five areas, the ‘language use’ is the most significantly improved. Other finding showed that most students’ responses toward the use of picture media and scientific approach are positive. Thus, it can be recommended that teachers may use such a combination instructional approach in teaching writing. In conclusion, the use of picture media combined with scientific approach may be an appropriate choice for the teachers in their efforts to improve their students’ writing skill.

Key Words : Scientific Approach, Writing Skill, Picture/Image, Instructional Management

1. INTRODUCTION

As one of the four skills in English language, writing is one of the important skills to be mastered by EFL students. Writing involves transferring a message from thoughts using language in the written form. In Indonesia, writing is one of the language skills learned in school both at the level of junior and senior high schools. As one of the four language skills, writing is important aspect in learning English as a foreign language. Graham and Perin (2007) stated that writing skill has an important role in determining students’ academic success and in facing global
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challenges. He then affirms that speaking and writing are two most important basic skills of English. According to Tarigan and Guntur (2008) writing is not a natural skill since it cannot be acquired automatically.

The results of preliminary study conducted at SMKN 2 Banda Aceh (writing test given on Wednesday, February 13th 2019) showed that the average score of students’ writing skills is still below the value of minimum completeness criteria which is 75. Indeed, the highest value achieved by the student is 78, and the lowest value is 43. The average value of all students is 51, which includes aspects of content (15), organization (10), vocabulary (11), language use (13), and mechanics (2). This rubric value is adopted from Jacobs et al. (1981) in which each element has the highest value of: 30, 20, 20, 25, and 5 respectively. When it is viewed from the average value of achievement of 51 it may be concluded that the students’ writing ability of SMKN 2 Banda Aceh is relatively low which still needs to be improved.

The aforementioned five problems are briefly described below. First, the problem relates to the content element. This can be seen from the lack of supporting sentences for the main idea and the emergence of several new notions within one topic sentence. For Example: “We brought some food and drink, then I slept at night”. Another example, “I went to Lhoknga beach to play volleyball, I went to market to buy some drink”. Second, the problem relates to writing organization. This can be seen in writing an incorrect successive event. For example: “I went to Aceh Besar on 10.00 by the car in the morning, and my sister washed the car on 08.00”. The third problem deals with vocabulary. The students seem to have limited mastery of vocabulary in their possession. They tend to use of incorrect/improper diction which often bring about misunderstandings. For Example: “It was a big day for me”, and “My small brother name is Hamid”. The fourth problem concerns with Language use. This can be seen from the errors that occur in the use of tenses and preposition. For Example: “I drink coffee yesterday and I enjoy it”, “My sister go to Suzuya yesterday”, and “I often go to the beach at the summer”. The last problem is mechanic. The students still often make mistake related to spelling, punctuation and capitalization. For Example: “three months ago I went to lamno”, and “Cucumber union tomato”.

Considering that students still make many mistakes in all aspects of writing, this research ought to focus on those five elements in writing skills, namely content, organization, vocabulary, language use and mechanics. Hopefully, through the application of image media medium within the scientific approach learning process, the five issues can be improved. In terms of learning management, the SMKN English teachers state that in the initial stage (pre-instructional) they start the learning process by motivating students. Good interaction between students and teacher is well maintained. Then, in the step of teaching (instructional), no specific media for teaching writing was used. Finally, at the evaluation (assessment) step, the teacher evaluated the student learning achievement without providing feedback.

Considering the aforementioned existing condition of the learning process, this research is trying to use image/picture media as a support of the teaching and learning process. In this case, Wright (1994) affirmed that picture can stimulate students to develop their imagination and facilitate to learn various elements of language (grammar, vocabulary, structure and pronunciation) and the four language skills (listening, speaking, reading and writing. In order to create a more
meaningful learning process, scientific approach is to be applied as it provides a positive influence on teachers and students (Wahyono, 2017).

There were several research studies related to image/picture media and scientific approach in learning process of writing skill had been conducted. First, a study by Barawati (2018) who looked at the use of scientific approach in improving students’ writing skill of the eight grade students of MTSM Susukan, Semarang. The result of the study showed that the use of scientific approach is success in improving students’ writing skill. It can be seen from the number of students who pass the passing grade in two cycles. Then, the data showed that the result of the t-test in first cycle and second cycle is higher than the t-table. Second, a study conducted by Indrilla (2018) on the effectiveness of scientific approach in teaching writing at SMP XX Yogyakarta. The result of the study showed that there are significant differences in the student achievement in writing of recount text and the use of scientific approach is more effective than that of conventional approach in teaching and learning of recount text. Third, a study conducted by Kurotun (2015) she conducted a research by focusing on the use of picture to improve students’ descriptive text. This research designed a classroom action research. The result of the study showed the students’ participant in the whole teaching and learning process got improvement in every cycle. The students produced a text easier by looking at picture. Based on the students score, their sentence pattern, vocabulary, and content aspects had improved. This media was very helpful in teaching and learning activities. The implementation of picture to teach writing skill could improve student writing ability. Fourth, a study conducted by Fitriani (2009) who looked at the effectiveness of using picture in writing descriptive text to the eight grade students of Junior High School. The result of the study showed that pictures are effective as media in improving descriptive writing skill. It can be seen from t-test calculating is higher than t-table (4.816> 2.00).

By looking at some previous research studies above, it can be concluded that there are some previous research studies that have been conducted by other researchers related to the use of image/picture and scientific approach. Meanwhile, there are any differences between this research with those previous studies, most of them have not analyzed the effect of the use of picture/image within scientific approach especially in each aspects of writing skill in one research simultaneously. They just examined the effect of picture/image within scientific approach in the separate research. Therefore, in this research the researcher was interested in conducting a research by combining the use of image/picture media with scientific approach.

2. LITERATURE REVIEW

2.1 The Meaning and Definition of Scientific Approach

Scientific approach becomes the main approach in teaching and learning process. This approach emphasizes students to find knowledge through research activities. Abidin (2014) states that scientific approach is an approach that focuses on developing students’ ability to solve problems through thinking in high-level and creative. According to Hosnan (2014) scientific approach is an approach that encourages students through learning activities that include observing, questioning, experimenting, associating, and communicating to build concepts, laws and principles. The learning process through scientific stages is the most important
consideration in learning by using a scientific approach compared to the final results.

2.2 Scientific Approach within Indonesia Curriculum

Scientific approach emphasizes students to independently learn their courses; teachers are not the main source of knowledge or information. The implementation of scientific approach in learning process is not teacher oriented, thus students are freely to share ideas based on their knowledge or their experiences since teachers only guide them during learning process (Burhanuddin, Syamaun, Erdiana (2018)).

Indonesia’s Educational curriculum has changed for several times. Ministry of Education and Culture was launched 2013 Curriculum in Indonesia education and the term of scientific approach become familiar in teaching process. According to Kemendikbud (2013) states that the 2013 curriculum can be implemented successfully by using scientific approach. One of the learning approaches suggested to be used in the instructional process is the application of scientific approach (Kemendikbud, 2013).

2.3 Steps of Scientific Approach

2.3.1 Observing

Observing step is usually conducted in the form of reading, listening, observing and noticing (with or without tools). Through the step of observation, students discover the fact that there is a relationship between the object being analyzed and the material being delivered by the teacher. Shofwan (2016) further explained that observing is a way of using the five senses to obtain information about the characteristic of an object.

2.3.2 Questioning

Questioning step is a process of learning that focuses on question and answer activities about what students are observing. The students need to be trained to formulate and put forward and back questions related to the topic. In the questioning step, students are expected to think critically about the material that has been given previously. So, students can create high level of thinking question (Ratnaningsih, 2017). Questioning takes an important part in learning, because it builds up interaction between teacher and students. This step aims at prioritizing students to think faster and spontaneously in responding to urgent problems.

2.3.3 Data Collection/Experimenting

Experimenting step, students get into the real world or authentic learning. The students try to express the new knowledge and use their ability into the real world through some activities like role play, presentation or discussion. Then, according to Ratnaningsih (2017) experimenting is the step where the students can relate their knowledge and skill that have been learned. It aims is to develop students’ attitude, skill and knowledge.

2.3.4 Associating

Associating step is the process of analyzing the information to find the relationship among information. The students and teacher are engaged into learning activities such as analyzing and categorizing data/information to be a part of learning process. Zaim (2017) states that associating is related to the students ability to categorize or analyze the information that occurred within the group, then, the students try to find the relationship between the information so that they can make the conclusion. This step will be successful if the interaction between teachers and students is good maintenance.
2.3.5 **Communicating**

Ratnaningsih (2017) explains that in communicating step, the students demonstrate information or knowledge both written and oral communication based on what they have learned. This activity fully involves students in teaching and learning process, so they become familiar with speaking, writing or making certain work. In this process, the teacher has important role; giving feedback, suggestion or more information related to students’ work, or clarifying the result.

2.4 **Procedure Teaching of Scientific Approach**

**The opening stage.** At this stage, the teacher starts the learning process by conveying the material to be learned. The purpose of this activity is to provide a basic understanding for students, so that it creates further curiosity toward the material. **The main stage,** the teacher directs students to construct concepts, knowledge, and skill through the process of observing, questioning, data collecting/experimenting, associating and communicating. **In observing stage,** the teacher facilitates students with activities such as listening the explanations related to the material, viewing pictures, watching conversational videos and reading books. The teacher facilitates students to make observation, train students to pay attention (see, read, and hear) to the important things of an object or media (Permendikbud No 81a Th. 2013). In **the questioning stage,** the teacher facilitates the opportunity for students to ask questions about social function, text structure and language features of the material being read, heard or watched before. With teacher’s guidance, students ask questions that they do not know or want to know more about the material. The teacher needs to guide students in asking question until finally students can ask questions independently (Permendikbud No. 81a Th. 2013).

In **the experimenting stage,** the teacher facilitates students in the authentic activity. The teacher provides learning sources, worksheet, media or tool for doing experiment. The teacher facilitates students to work in a group. Students gather information by observing objects to obtain information related to social function, text structure and language feature. In **the associating stage,** the teacher facilitates students to confirm, conclude, develop and classify the information/data that have been obtained. This activity is carried out by students both individually or in a group. In **the communicating stage,** the teacher facilitates students to convey the result of work such writing or telling what have been found in several previous stages. The teacher facilitates students to convey the results both individually or in a group. Students are given the opportunity to display the work either in oral, written, or other media according to the instruction of the teacher. Finally, the teacher provides input, feedback, correction and judgments on the wrong or correct answers. Finally, in this **closing stage** the teacher conveys feedback on the learning process and results. The teacher informs the future plan for the next meeting. Students are directed to validate the findings and enrich the material that have been studied.

2.5 **Procedure of Using Image/Picture**

According to Wright (2004) as cited in Muflihatun, Usman, and Erdiana (2017) through pictures, learner can see people, place, and things from area outside of its own picture. It means by using media teaching activity more real to overcome distance between time and place. Moreover, there are six steps in applying picture media in classroom that shows the better result on students writing. First, the teacher distributes and explains the usage of picture. Second, the
teacher divides the students in some groups by asking to count 1 up to 10. The aim of grouping the students in some groups is to help the teacher control each student in doing the given task. Third, the teacher asks the students to write a short descriptive paragraph about the pictures and the teacher can give a short paragraph for students as an example. Fourth, the teacher asks the students to exchange their writing with students. So, they can read each other's work. After that, the teacher asks the students to return their work back to the owner. The last step is the teacher asks all students to submit their work (Cahyono, 2009).

2.6 Instructional Management

Instructional management as a learning management strategy used by a teacher to transfer information which includes activities like planning, implementing and evaluating student activities. According to Gunawan (2017) instructional management is an activity to achieve learning objectives by involving all the resources in the education. Danarwati (2015) states that instructional management is an activity to plan teaching and learning programs, implement teaching and learning process, and assess the process and learning outcomes, and the develop classroom management. Gunawan (2017) further explains that the stages of instructional management process consisting of:

1) Stage of learning plan process:
   a) Teacher arranges a lesson plan consist of learning goals which adopt indicator from basic competency.
   b) Teacher arranges material, media, strategy, approach and learning method to achieve learning goals that should be mastered by students.
   c) Determined learning model planned in each cycle.
   d) Teacher determined the time allocation on every lecturing activity.

2) Stage of learning administration process:
   a) The learning process consists of opening stage, main stage and closing stage.
   b) Teacher forms group of learning, and every group have to do a work in group to discuss the material. Then, they have a chance to ask some questions, answer question or respond toward work result of others.
   c) Teacher provides opportunity for students to conclude their learning process by using their own languages.
   d) Teacher reinforce the class material, gives appreciation to the group work result and provides more detail explanation that has not yet been completely discussed.

3) Stage of learning evaluation process:
   a) The teacher provides reflection on the learning process that has been implemented.

The teacher conducted assessment on the student activity in learning process. The assessment is carried out by means of the observation sheet. Then, this observation sheet provides feedback for students about their development and become the basis for teacher to develop future instructional activity.

3. METHODS

This research is approached quantitatively. The model used is randomized control group pretest-posttest design, in which two (the experimental class and the control) classes are compared. Both classes are treated by means of scientific
approach. However, the experimental class is additionally treated by means of media picture. The same pre and post tests are given to both classes.

The population of this research was the second-grade students of SMKN 2 Banda Aceh. There were 13 classes for the second-grade students at SMKN 2 Banda Aceh. To limit the amount of population, 4 classes were chosen. Some of the considerations in this research were due to limited time, infrastructure and money. Therefore, the total population in this research are 112 students. Meanwhile, the technique used in this research was simple random sampling. Sampling for experimental and control class was made by selecting 12 students from each 4 classes in population. From 48 students, they are divided into two parts, as follows: 24 students were put into the experimental class and 24 students were put into the control class.

The instrument employed to collect the data in this research were a set of tests and questionnaire. Another important tool used in this experimental research a set of lesson plan, which is used for guiding and directing the teaching and learning process. In collecting the data, the researcher uses pre-test and post-test. No treatment is given before pre-test. After pre-test, the treatment is given for both groups—experimental and control classes. The treatment consists of 3 cycles or meeting time. Then, at the end of the treatment, post-test is given to both classes. The questionnaires consist of 12 questions. The questionnaire is made based on the theories of Musfiqon and Nurdyansyah (2015), Ilmiyah, Sulistyaningsih and Musyarofah (2014), Martin and Sass (2009). The questionnaires given at the end of the post-test meeting.

4. RESULT AND DISCUSSION
4.1 Results
This research was conducted from 21st January 2020 – 4th February 2020 at the second-grade students of SMKN 2 Banda Aceh. The sample in the experimental class was 24 and the control class are 24 students respectively. To analyze the score of pre-test and post-test for both the classes the scoring criteria are made based on five aspects in writing skill, namely: content, organization, vocabulary, language use and mechanics.

![Figure 4.1 Average Scores of the Experimental Class](image)
The purpose of the Figure 4.1 was to see the different achievement of students in writing skill of the experimental class and control class. In the experimental class, the mean and standard deviation of the pre-test was 52.12 and 8.06, while the mean and standard deviation of the post-test was 78.75 and 11.70. Meanwhile, in the control class, the mean and standard deviation of the pre-test was 49.66 and 9.38, while the mean and standard deviation of the post-test was 55.70 and 9.79. Then, it can be concluded that the result of the post-test score in experimental class was improved after getting the treatment.

**Figure 4.2** Aspects in writing skill for the experimental class.

Figure 4.2 showed each aspect in writing skill for the experimental class. Among all the aspects in writing skill language use increased considerably after the students got treatment by using picture/image within scientific approach, where the gain score for content was 6.12 point, 6.75 point for organization, 4.87 point for vocabulary, 8 point for language use, and last 1.25 point for mechanics.

**Figure 4.3** Aspects in writing skill for control class

Figure 4.3 showed each aspect in writing skill for control class. The gain score for content was 0.59 point, 0.84 for organization, 2.83 point for vocabulary, 1.46 point for language use, and last 0.46 point for mechanics. Additionally, among those five aspects in writing skill, vocabulary aspect is improved after the treatment.
On the other hand, the questionnaire consists of 12 questions given to 24 students in the experimental. The questions number 1 to 4 are about the teacher instructional management, 5 to 8 about the image/picture media in writing skill, and 9 to 12 about the scientific approach. The following figure describes the frequency of each item of questions in the questionnaire.

Figure 4.4 Students’ responses toward the use of picture/image media of the instructional management of scientific approach

Figure 4.4 showed that almost all students in the experimental class revealed their positive responses toward the use of image/picture media as supporting tool of instructional management of scientific approach. Related to questions number 1 to 4 (instructional management), it can be seen that 62.5% students’ responses agree that the teacher used group work in the classroom. For question number 2, 58.33% students strongly agree that the teacher used collaborative learning to explore questions among students in the classroom. 41.66% students strongly agree that the teacher used inquiry-based learning and 41.66% students strongly agree that the teacher used scientific approach in teaching process to encourage interaction among students.

Questions number 5 to 8 are about the use of image/picture in writing skill. It can be seen that 50% students strongly agree that learning writing skill by using picture provides students with illustration of certain objects. 50% students agree that in any imagines, the illustration/picture give students more detail information/idea. 54.16% students strongly agree that by showing picture, students are able to identify the character of any object. Last, 50% students agree that the use of picture can increase their ability to comprehend and describe certain object.

Questions number 9 to 12 are about scientific approach, where 45.83% students agree that they are more motivated in learning English by using scientific
approach and also 45.83% agree that scientific approach encouraged students to think critically. 50% students agree that this approach trains students to think logically. Last question, 45.83% students strongly agree that scientific approach made them more active and creative.

4.2 Discussion

Before conducting this research, the writer had conducted a preliminary study (writing test given on Wednesday, 13th February 2019), the result showed that the students score was still below the KKM value. The average score that the students achieved was 51 and students felt difficulty in writing a piece of paragraph. Then, based on Curriculum 2013, scientific approach becomes the main approach in all subjects at school. Additionally, to help students develop their writing skill, the teacher should use interesting media in teaching and learning process. One of the media that can be used in teaching and learning writing skill is picture/image media. This media can help students to improve their writing ability especially in developing their ideas and imagination. In line with that, Brown (2000) states that even though pictures are old fashioned but they are very helpful as media in an instruction.

After analyzing all the data from the experimental and control classes, it was found that alternative hypothesis (H_a) was accepted and null hypothesis (H_0) was rejected. It means that there is significance effect of picture/image as a supported tool of instructional management of scientific learning approach on the students’ writing skill improvement. In terms of writing aspects, the students in the experimental class got better achievement for language use aspect. This aspect improved after the treatments, then were content, organization, vocabulary and mechanics. Meanwhile, in the control class the students got better achievement on vocabulary. This aspect improved after the treatments, then were language use, mechanics, content, and organization.

In this research, scientific approach was used as an approach in teaching and learning process in writing skills the support of pictures/image media. In the learning process that has been done by using scientific approach it was known that, at the observing step, the image/picture media was very helpful for the teacher in delivering the material for students so that students can immediately see the object being studied. In observing the object, the teacher provided an observation sheet for students as a guide for them to do the observation. In questioning step, the use of image/picture media helps teacher in increasing students’ confidence in asking and answering questions. In the experimenting step, image/picture media was very helpful for teachers in facilitating students to conduct experiments. The teacher displayed two pictures related to the material, and asked students to compare the two images related to the text social function, text structure and language use. Students collected more data by looking and rereading pictures or texts. In associating stage, the teacher gives the opportunity for students to analyze the data from the previous step, then, the students share their possible answer in pair/group. Then in the communicating stage, students are given the opportunity to deliver the results of work that has been done, this stage was very helpful for students in developing communication skills. This activity fully involves students in teaching and learning process, so that they become familiar with speaking, writing or doing certain work.

Based on the explanation above, the researcher concluded that the used of image/picture media with scientific approach in teaching writing skill can help
students to improve their ability, especially related to the five aspects in writing skill. This also supported by Harmer (2004) support the idea that the use of picture in learning language components (especially those related to grammar and vocabulary) can facilitate learners to grasp ideas and information. In line with picture/image media, scientific approach also helps students to be more active involved in every in learning process. This also supported by Indrillia (2018) who found that in scientific approach, students as a subject that be fully involved in the learning process and the teacher becomes as a facilitator who supervises students in the learning process. Musfiqon and Nurdyansyah (2015) believed that using this approach can encourage students to be more active in building knowledge and skills.

The result of the questionnaire showed that the students had positive responses toward the use of image/picture media. Questionnaire number 1 to 4 are about the teacher instructional management in teaching and learning process. The result showed that, in the stage of administration process the teacher used group work, collaborative learning and scientific approach. In the steps of scientific approach, associating and communicating steps, the teacher formed group work in order to give chance for students to discuss and respond to the other group work. Then, in the questioning step, the teacher used collaborative learning to give chance for students to asking and answering the questions with their friend.

The second part related to the use of picture in teaching writing skill. Most of students' responses strongly agree, and agree. The result showed that in the stage of learning process plan, the teacher used a media, and observation sheet for students. Then, in the observing and experimenting steps, the teacher showed the picture/image and gave observation sheet to guide students in doing the observation. By showing the image/picture media, students can identify the character of the object. Furthermore, in the stage of evaluation, the teacher assessed the students work by means of observation sheet and the result showed that image/picture media was effective in improving students in grabbing any idea better.

Questionnaire number 9 to 12 deal with the scientific approach. Most of the students chose the option strongly agree, and agree. It can be concluded that the learning process by using scientific approach made them become more active and creative.

5. CONCLUSION AND SUGGESTIONS

There are two main issues that can be concluded related to the implementation of image/picture as a supporting tool of instructional management of scientific approach on the writing skill improvement.

Firstly, the use of image/picture through the instructional management of scientific approach significantly improves the students' writing skill. The improvement can be seen from the mean score of pre-test and post-test score, where the mean score of pre-test was 52.15 and mean score for post-test was 78.75. In terms of writing skill aspects, all those aspects in writing skill are improved. The aspects that improve considerably after the treatments by using image/picture with scientific approach is the aspect of language use. For the other aspects, like organization, content, vocabulary, and mechanics are also improved, but not as high as the language use. Meanwhile for the control class, the mean score of pre-test was 49.66 and mean score for post-test was 55.7. The aspects that improve considerably
was vocabulary. Then, based on the hypothesis result showed that alternative hypothesis (H_a) is accepted and null hypothesis (H_0) is rejected. It means that there is significance effect of picture/image as a supporting tool of instructional management of scientific learning approach on students’ writing skill.

Secondly, most of the students showed positive responses related to the use of picture/image as a supporting tool of instructional management of scientific learning approach on students’ writing skill. The result of the questionnaire showed that the use of image/picture media in writing skill makes students easier to understand, recognize and explain the character displayed in the picture. The students should be involved more actively in the learning process. The class atmosphere, using scientific approach, allowed students to do various activities such as observing, questioning, experimenting, associating and communicating.

6. REFERENCES


