

# USING THE MULTIMODAL LEARNING TO IMPROVE THE STUDENTS' OUTCOME IN THE EXPLANATION TEXT ABOUT THE NATURAL PHENOMENON IN XI MIA 2 GRADE SMA NEGERI 1 JAWA TIMUR

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**Abstract:** This paper provides report of research act class on the using multimodal learning to improve the students' outcome in the explanation text about the natural phenomenon in Grade XI MIA 2 SMA Negeri 1 Batu. This paper aim to described (a) the learning process and (b) the improvement of the students' outcome in explanation text about natural phenomenon which delivered through multimodal learning. The data collected through (a) observation, (b) interview, and (c) students' worksheet both of individual and group task..

The findings of this study indicated that (1) the use of multimodal learning can improve students' outcome in knowledge competency which improved the classical mean of 69 before treatment to 75 in the first cycle, and to 81 in the end of the second cycle and improving of classical completeness from 29 % before treatment , to 63 % in the first cycle, and increased to 99 % at the end of the second cycle. In the skills competence seen from the improving of the classical mean from 70 before action to 82 in the end of the second cycle, and the classical completeness from 42 % before treatment to 100 % at the end of the second cycle. (2) The use of multimodal learning is done by combining various of the explanatory text (written, oral, visual, electronic, and nonverbal) which presented through multimedia learning( text book , LCD , and an exhibition board).

**Keywords:** multimodal learning, students' outcome, explanation text.

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## 1. INTRODUCTION

Explanation text is a text genre which tries to explain the processes involved in the formation or workings of natural or non-natural/ sociocultural phenomena. The explanation sequence contains a sequenced explanation of why or how something occurs. This explanation is written in paragraphs. In the explanatory text learning in class XI MIPA, teacher placed more emphasis on text explanation of natural phenomena, according to the chosen program students. The learning outcomes of explanation text about natural phenomena which conducted in the second semester of 2015/2016, shows that learning outcomes of students are still low. It can be seen from the results of (a) the results of student learning in the knowledge competency; Highest score 80, lowest 60, average 69, and the percentage of score over minimum standard 29%; and (b) the results of learning skills competencies with highest score 80, lowest 60, average 70, the percentage of score over minimum standard 50%.

Based on the result of reflection that teachers do by interviewing several students and discuss with colleagues note that low levels of student learning outcomes due to teachers simply using of explanation text written as teaching materials. Teachers also use textbook media only. This causes less enthusiastic students in learning, causing learning outcomes of students low. Low learning outcomes of students can be seen among others from the text structure errors, inaccuracies and

incomplete data compiled text, misapplication of rules of language tests of explanation. It also can be seen from the topics selected students in preparing the of explanation text that is about the flood. It is likely influenced by explanation text themes presented in the textbooks are about flood disaster. In addition, when presenting their explanations text students are also less control of natural phenomena that was presented. Based on the results of interviews with some of the students, they admitted that they only transfer written text from written sources without really understand the process of natural phenomenon that they presented. They admitted that they only consider the structure of the text and its linguistic rules, but ignore the truth and understand its contents.

The low result of student learning outcomes in learning about natural phenomena explanation text above should not be allowed. That thought is based on the premise that, as a student of Mathematics and natural sciences, they are required to be able to understand the text explanation of natural phenomena and natural phenomena can communicate in text form with proper explanation.

Based on the description above, the researchers decided to conduct classroom action research to improve student learning outcomes in learning explanation text about natural phenomena by using multimodal learning. The act class will be achieved through learning multimodal. Multimodality describes communication practices in terms of the textual, aural, linguistic, spatial, and visual resources - or modes - used to compose messages. Where media are concerned, multimodality is the use of several modes (media) to create a single artifact. The collection of these modes, or elements, contributes to how multimodality affects different rhetorical situations, or opportunities for increasing an audience's reception of an idea or concept. Bateman (2008) says in his book *Multimodality and Genre*, "Nowadays... text is just one strand in a complex presentational form that seamlessly incorporates visual aspect 'around,' and sometimes even instead of, the text itself." [1] Multimodality has quickly become "the normal state of human communication."

The learning Indonesian in Curriculum 2013 used a text-based approach. Text interpreted as a way to communicate include of writing, orally, or multimodal. Text, whether it is academic, social, or for entertainment purposes, can be accessed and presented in a variety of different ways and edited by several individuals on the Internet. The spoken and written word are not obsolete, but they are no longer the only way to communicate and interpret messages (Kress, 2003) [2] Multimodal texts combine language and other communication ways such as visual, sound, or orally as presented in the film or computer presentation. Thus, the multimodal learning in learning Indonesian is a text that combined language learning and other communication way and presented in the learning which used the various of learning media (multimedia). The implementation of multimodal learning was expected to improve students' outcomes. This was consistent with the findings of Cisco's (2008) statement declaring that, "Students engaged in learning that incorporates multimodal designs, on average, outperform students who learn using traditional approaches with single modes." [3] The multimodal learning concept developed from the theory of multiple intelligences Gardner, 1985). [4]

## 2. MODEL, ANALYSIS, DESIGN, AND IMPLEMENTATION

### 2.1. Model

This study used a model of action class research (PTK), which consisted of 2 cycles. Each cycle consisted of preparation, action, observation and evaluation, and reflection. In the end of the first cycle teacher corrected the action based on the data of observation. In this study, the number of meetings each cycle was three times, included for evaluation.

### 2.2 Analysis

This study used the qualitative and comparative descriptive technique. The qualitative description was done through observation and interviews while the comparative descriptive technique was done by comparing the results of studying in pre-cycle, first cycle 1 and second cycle .

The improving of students' outcomes can be determined by comparing (a) the average of classical scores and (b) the number of students who could reach the minimum completeness criteria (KKM) that obtained in pre-cycle, cycle 1 and cycle 2 .The score of students' outcome obtained through the learning process observation and the test results of individual and group task. The implementation of using the multimodal learning in the explanation text about nature phenomenon can be described from the result of observation of the learning process and the interview.

Data in this study analyzed since the act done and developed, during the reflection until the reporting. Data analyzed by researcher with collaborator. In analyzed the data, researcher used analysis technique that includes reduction data, exposure data, and the withdrawal of conclusion.

### 2.3. Design

This study is research class action conducted by following research procedure in accordance with the principle of Kemmis and Taggart (1988) which includes planning, action, observation, reflection or evaluation. The event was held fourth iterative in the cycle.[5]

This study was planned to run in two cycles. Every the cycle done by directing changes in the trying to achieve such as increasing of students' outcome in learning explanation text about natural phenomenon.

#### 2.3.1 The First Cycle

The procedures in the first cycle action can be specified as follows.

##### a. Planning

Activities that was performed in the planning stages as follows. (a) composed schedule of the act, (b) composed the device learning include lesson plan, module, and worksheet. (c) Prepared and checked the learning media to be used among others video, LCD, sound system, and laptop. (d) make sheet of observation to observe how condition of teaching and learning class when its action done, (e) composed the questionnaire to collect the students' opinion about multimodal learning that have they followed, and (f) Prepared an assessment instrument to know students' outcome on knowledge and skill competence at each the end cycle.

##### b. Implementation

The act in the first cycle was done in five meeting (@ X 45 minutes). The learning activities which conducted can listed as follows.

**Table 1: The learning Activities**

| The order meeting | Activities  | exposition  |
|-------------------|---|---|
| 1.                | Students<br>(a) read example written explanation text, discuss structure, language feature, and its content.<br>(b) Watch the explanation text in the form of video; discuss similarities and differences between written explanation text and audiovisual explanation text.  | Multimodal learning: read, watch, speak, and talk.<br>Multimedia learning: book, video.   |
| 2.                | Student reads references and watches video about natural phenomena which provided by teacher;<br>Student arranges explanation text in groups. Student present their explanation text using LCD  | Multimodal learning: reading, speaking, and watching.<br>multimodal Media: textbook and video   |
| 3. and 4.         | In group, students:<br>(a) Discuss about natural phenomena which will written in explanation text.<br>(b) reading and watching various types of texts (written, visual, and audiovisual) from various sources (books, magazines, newspapers, internet, television) on a topic chosen;<br>(c) discuss points of information on a topic that will be written from various sources have been collected.<br>(d) Develop explanation text.<br>(e) Present the explanation text that is written using the LCD in class discussions. | Multimodal learning: reading, talking, watching, and talking.<br>Media multimodal text book and video.<br>Homework: fix the explanation text based on the discussion of class and make a two-dimensional wall magazine to publish explanation text. |

|    |  |   |
|----|--|---|
| 5. | <p><b>Exhibition Of Works</b></p> <p>Students exhibiting explanation text that they made in the form of an exhibition wall magazine.</p> <p>Written explanation text accompanied by photos / images, glossary, and infographics process of natural phenomena. Students may also use cameras, props, or video to reinforce the formulation of explanation text.</p> <p>Visitors to the exhibition are all citizens of the school. Alternately, each group should present their work to other groups. They also had to answer visitors' questions.</p> | <p>Multimodal learning: writing, listening, watching, and talking.</p> <p>multimodal Media: Written text, graphics and photos, and video.</p> |
|----|--|---|

Study result measurement done by assigning individual tasks to write explanation text. Individual assignments for assessment of competence is the knowledge of the students are asked to choose one text explanation that displayed and then analyze the suitability of text, structure completeness, correct rules of language usage, as well as the truth of the contents of the explanation text. For the individual task, all of the students had to write explanation text. Assessment includes (a) the accuracy of the topic, (b) the completeness of the text structure, (c) the accuracy of the use of language rules, and (d) the truth of the text.

#### c. Observation

Observations on the implementation of learning in cycle 1 and cycle performed by collaborators with the observation sheet and field notes for the findings that are not in the observation sheet. The focus of observation is how the process of implementing the actions that teachers and students learning activities during the learning process. These aspects are observed is the time of implementation, compliance activities and instructional media, language skills are taught with lesson plans, student behavior, as well as the advantages and disadvantages of learning were found.

#### d. Reflection

At the end of each meeting, teacher does reflection to find out what happened during the performed action. The thing that is done when the reflection is as follows.

- 1) To analyze the findings of the observation time of implementation of the action.
- 2) To analyze weakness and success of teachers when implementing the action.
- 3) Conduct a reflection of the learning activities of students during the learning process.
- 4) Conduct a reflection on student learning outcomes in all basic competence (KD)

Results of reflection in the form of a conclusion whether the actions in cycle 1 and 2 has succeeded in improving student learning outcomes or not. If not, then should be followed by 2 cycles of action that must be performed taking into account the results of the reflection cycle 1.

#### e. Evaluation

This activity is done through the process of collecting data, process the data and present the information so it is useful for decision-making action. Evaluation is directed to the discovery of evidence of improving student learning outcomes in learning about natural phenomena explanation text after the end of the action. Measures declared a success if it has met two criteria set, namely (a)  $\geq 85\%$  of students in the class were able to achieve a minimum completeness value set, 75; and (b) the value of the average grade of at least 75. Both these criteria apply to learning outcomes in the competence of knowledge and competence skills

#### 2.3.2 Cycle 2

Cycle II performed similarly to Cycle I that also conducted in four stages: planning activity, action, observation, reflection, and evaluation. The difference, in this second cycle researchers plan to fix the weakness and maintain excess implementation cycle I.

### 3. RESULTS AND DISCUSSION

Based on observations of the implementation of learning in cycle 1 was found that during the learning process of students were very enthusiastic in participating in learning activities. Based on the results of interviews with some of the students are found that (a) multimodal learning enables students to learn about natural phenomena explanation text either by seeing, reading, speaking, and writing; (B) the use of multimedia makes students more interested and more easily understand the material, (c) the use of various sources (books, newspapers, and the Internet) make students more interested in studying text explanation of natural phenomena, and (d) can learn many things about natural phenomena. Other findings is an increase in range of natural phenomena topics written by the students in their explanation text. Before the action, all the students seemed affected by the example of explanation text in text books so they only write the topic of flood disaster. In the first cycle, numbers of topics raised increased to five topics, which are about the rainbow, fetal development, flash floods, lightning occurrence, and process butterfly metamorphosis process. This means, from 12 groups there are some groups who write the same topic.

However they found several weaknesses, which are, (a) the activity needs more time than planned time allocation, (b) when the student have to find references from the Internet turns out that the school wifi connection was poor so that several groups had to join other groups that carry modem and (c) the time the exhibition had to be postponed because heavy rain.

These are the results of student learning in cycle 1.

**Table 1: Results of Knowledge Competence Learning in Cycle 1**

| No. | Description               | Annotation        |
|-----|---------------------------|-------------------|
| 1   | Number of failed students | 14 students (37%) |
| 2   | Number of passed students | 20 students (63%) |
| 3   | Highest score             | 90                |
| 4   | Lowest score              | 65                |
| 5   | Class average score       | 75                |
| 6   | Passed percentage         | 63%               |

**Table 2: Result of Skill Competence Learning in Cycle 1**

| No. | Description               | Annotation        |
|-----|---------------------------|-------------------|
| 1   | Number of failed students | 12 students (32%) |
| 2   | Number of passed students | 26 students (68%) |
| 3   | Highest score             | 90                |
| 4   | Lowest score              | 65                |
| 5   | Class average score       | 75                |
| 6   | Passed percentage         | 68%               |
| 7   | Number of topics          | 5                 |

Based on the two tables above, it can be seen that the action in cycle 1 has not meet the criteria of success of the action, when seen from the number of students who passed. It can be seen from the number of students who passed only 63% of knowledge competencies and competency skills of only 68%. However, one cycle action has achieved success indicator when viewed from the value of the average grade for the knowledge competency skills already reached the established criteria, which is 75.

Based on the findings, the researchers decided to take action cycle 2 with improvement, include (a) a more effective use of time, (b) replace the video text explanation to expand students' insight about natural phenomena, (c) assigning each group to bring a modem to anticipate poor internet connection, and (d) use the best explanatory text display students' work during the previous cycle as one of the models explanatory text to motivate students.

Based on observation (both with observation sheets and field notes), and interviews with some of the students can be concluded that the conduct of the second cycle of action is able to increase the enthusiasm and activity of students in explanation text about natural phenomena. explanation text Learning of natural phenomena has been carried out in accordance with the RPP, use time effectively, integrate multimodal explanatory text using multimedia which is by

presenting the text which read, heard, seen both in the form of written, visual, and audiovisual. Explanation text can be seen when the teacher presents modeling as well as on the students' work on display. The use of audiovisual explanatory text found in video downloaded from the internet teachers then presented on stage modeling. Audiovisual explanation text found on videos downloaded from the Internet and used for reference to compose the text. visual explanation Text can be seen from the pictures, photos and into graphics about natural phenomena provided by the teacher at the modeling stage and students' work.

There are 12 topics written by the students in the explanatory text. It means that, all the groups write a different topic. The topics raised was the occurrence of rainbow, lightning, frog metamorphoses, spider webs makings, acid rain, frost, Earth, solar eclipses, lunar eclipses, auroras, the growth of the fetus, and tsunamis. In the end of Cycle 2 students exhibited their explanation text of natural phenomena and all of them should read the texts of other groups to give evaluation of other groups and written report of their evaluation. At the end of the second cycle action is also known that the study on the knowledge and skills competency has achieved success criteria predefined actions. This can be seen in the tables below.

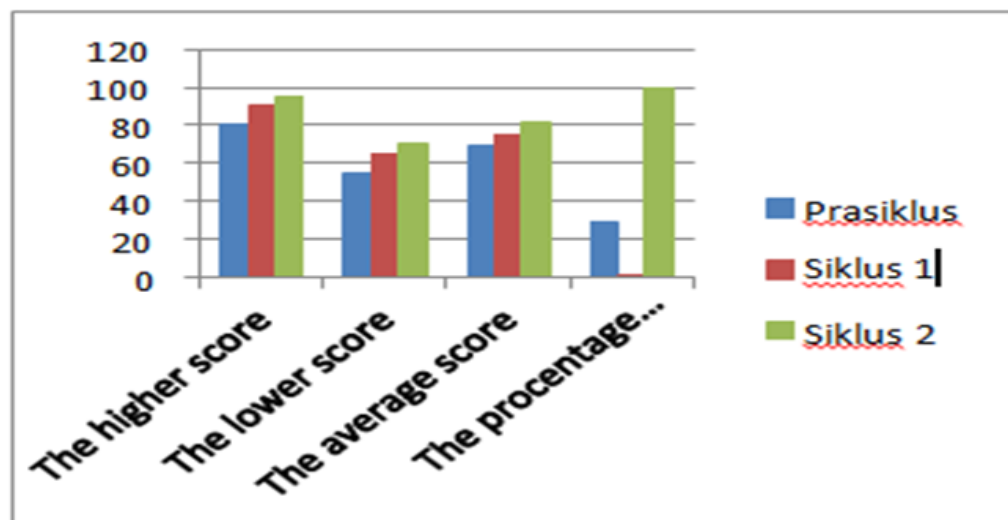
**Table 3: Result of Knowledge Competence Learning in Cycle 2**

| No. | Description               | Annotation        |
|-----|---------------------------|-------------------|
| 1   | Number of failed students | 1 orang (0.03%)   |
| 2   | Number of passed students | 34 orang (99.07%) |
| 3   | Highest score             | 95                |
| 4   | Lowest score              | 70                |
| 5   | Class average score       | 81                |

**Table 4: Result of Skill Competence Learning in Cycle 2**

| No. | Description               | Annotation         |
|-----|---------------------------|--------------------|
| 1   | Number of failed students | 0 student (0%)     |
| 2   | Number of passed students | 38 students (100%) |
| 3   | Highest score             | 95                 |
| 4   | Lowest score              | 75                 |
| 5   | Class average             | 82                 |
| 6   | Number of written topics  | 12                 |

Based on the two tables above can be seen that the action on the first cycle has not met the criteria of success seen from number of students who passed average grade. Students are able to passed minimum grade as many as 37 people (99.07%) and the skill competencies as many as 38 people (100%). While the average value of the class on the competence of knowledge is 81 dan on skill competencies was 82. In short, success in improving student learning outcomes in learning explanatory text with multimodal learning can be seen in graphics below.



**Figure 1: Comparison of Learning Outcomes in Knowledge Competence**

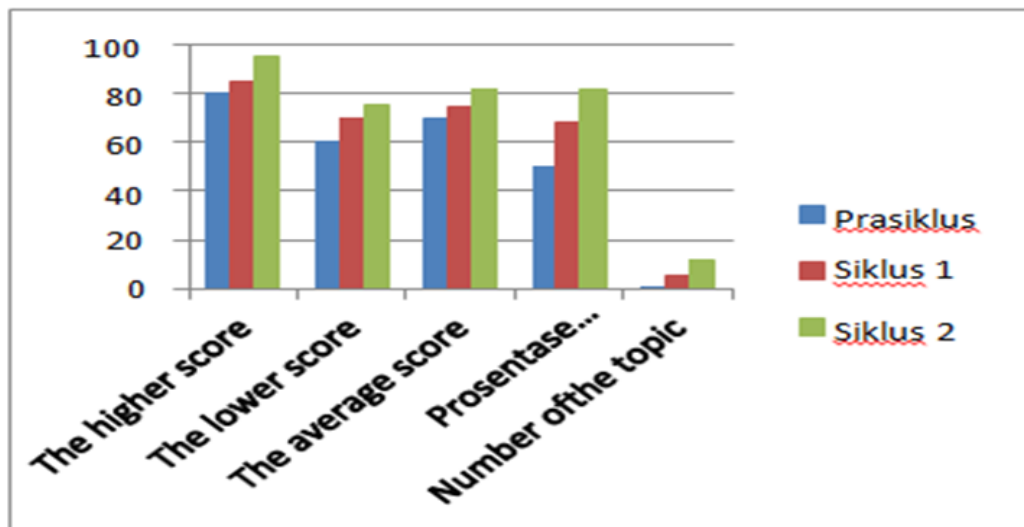


Figure 2: Comparison of Learning Outcomes in Skills Competency from Pre-Cycle, Cycle 1 and Cycle 2

Based on the above table it can be seen that the increase in students' outcomes in explanation text learning, either in knowledge or skill can be seen from the increase in the highest grade, lowest grade, class average grade, and the percentage of classical completeness. Especially for competence skills can also be seen from the increasing variety of topics written, exhibited, and read by students.

#### 4. CONCLUSION

Based on the analysis of the process and results of actions wherewith do, it can be deduced as follows. a. The use of multimodal learning in the learning of explanatory text and incorporating various language skills (watching, hearing, speaking, and writing) with the use of multimedia (written, visual, audiovisual) by utilizing

a variety of learning resources.

b. The use of multimodal learning in the learning of the explanation text about the natural phenomenon could improve students' outcomes in the competence of knowledge and skills.

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