



THE PORTRAIT OF SCIENTIFIC APPROACH ASSISTED BY VIDEO IN EFL READING: PARTICIPATORY ACTION RESEARCH

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Abstrak

Belajar bahasa Inggris tidak lepas dari keterampilan membaca. Teks eksplanasi merupakan salah satu jenis teks bahasa Inggris dalam keterampilan membaca. Teks ini memperkenalkan siswa pada peristiwa atau fenomena alam yang sering dipelajari oleh siswa program ilmu pengetahuan alam. Tujuan dari penelitian ini adalah untuk meningkatkan kemampuan siswa dalam membaca teks eksplanasi dengan pendekatan saintifik menggunakan video. Penelitian ini menggunakan penelitian tindakan kelas dengan tahapan siklus yang terdiri dari perencanaan, pelaksanaan, observasi, dan refleksi. Teknik pengumpulan data yang digunakan adalah observasi dengan catatan lapangan, dokumen, dan tes tertulis. Temuan menunjukkan bahwa pendekatan saintifik dengan menggunakan video meningkatkan keterampilan siswa dalam membaca teks eksplanasi. Terbukti bahwa hasil rata-rata pra siklus adalah 70 dan hasil rata-rata siklus pertama adalah 75.

Abstract

Learning English cannot be separated from reading skills. Explanatory text is one type of English text in reading skills. This text introduces students to natural events or phenomena that are often studied by students of natural science programs. The purpose of this study is to improve the students' ability to read explanatory texts with a scientific approach using video. This study used classroom action research with cycle stages consisting of planning, implementation, observation, and reflection. The data collection techniques used were observation with field notes, documents, and written tests. Findings suggest that the scientific approach using video improved the students' skills to read explanatory texts. It was proved that the average result of the pre-cycle was 70 and the average result of the first cycle was 75.

Keyword: *EFL reading; scientific approach; video*



INTRODUCTION

In relation to pedagogic competence, educators must have skills and expertise in managing learning. Identifying students, preparing, carrying out the process, conducting assessments, and assisting students in actualizing their potential are the task of educators. In the implementation of learning, especially English learning as foreign language, educators must pay attention to the selection and learning approach. The learning approach applied refers to directed discovery and problem solving. Learning approach can affect learning outcomes.

Rhosalia (2017: 64) states “Approach can be said as our starting point or point of view towards the learning process. Approach refers to a view of the occurrence of a process that is still very general in nature”. Approach is the first step in forming an idea in looking at a problem or object of study which will determine the direction of implementation of the idea to describe the treatment applied to the problem or object of study to be handled. Here Then, let me present the statement of McLelland (2006:2) states that We need to take the truth carefully about something we don't know where the truth comes from. This is done to avoid prejudice. Judgment of a thing based on a method is more reliable than what is just in one's mind (Discours de la Méthode, 1637, section I, 120).Furthermore, McLelland (2006:2) says that to reduce the level of uncertainty, we need to instill awareness in students about the importance of a method because the method can shape them to think critically. The scientific method can be done by observing, defining questions or problems, research (planning, evaluating current evidence), forming hypotheses, predictions from hypotheses (deductive reasoning), experiments (hypothesis testing), evaluation and analysis, peer review and evaluation, and publications implemented in its entirety or only in some of these ways.

The process of observing activities (identifying things you want to know), formulating questions (and formulating hypotheses), trying or collecting data (information) with various techniques, associating, analyzing, processing data (information), drawing conclusions and communicating results consisting of conclusions to acquire knowledge, skills and attitudes are characteristics of scientific



approach. This approach is very appropriate and relevant to the maturity of students' thinking age which is related to the development of students' cognitive abilities in addition to the background of students who focus on learning English for science.

Video as part of multimedia can be a tool to make the learning process more interesting. In learning English as a foreign language, a scientific approach and the use of information and communication technology (ICT) are very useful to support learning outcomes. Presenting videos consisting of images, animations, audio, text, really helps students to be able to navigate, create, communicate, and imagine in developing their potential. Understanding an English text that is preceded by watching a video related to the text will make it easier for students to understand the text.

The aim of the study was to describe the process Scientific Approach Using Videos in English Explanation Text Learning.

Scientific Approach

The scientific approach is a learning approach that uses scientific steps and rules in the learning process. Scientific steps include finding problems, formulating problems, proposing hypotheses, collecting data, analyzing data, and drawing conclusions (Daryanto, 2014: 51). The purpose of the scientific approach is to provide understanding to students so that they can know, understand, and practice what is being studied scientifically. Through observing, asking, trying, processing, presenting, concluding, and creating students can seek knowledge from various sources (Sudarwan, 2013).

It is believed that there are five stages of learning the scientific approach. Wiyanto (2017: 219) states that observing, asking questions, collecting data/information, associating, and communicating or presenting are steps for learning a scientific approach that is carried out sequentially.

Text Types

Hosen & Kasmaini (2017) describe that there are 13 types of discourse English we often encounter which starts from narrative text, descriptive text, recount text, report text, analytical exposition text, hortatory exposition text,



procedure text, explanation text, discussion text, news item text, spoof text review text, anecdote text. Explanation text is one of 13 text types which used for learning material in the subjects of English at all levels.

Explanation text

Blake statement describes that explanatory text is used for scientific reading. Explanatory text can be interpreted as a text that contains explanations of the why and how processes of a topic that occurs with natural and social phenomena that occur in our lives every day. An explanation is written to explain how and why something in the world happens. When writing explanations we establish that the phenomenon exists and then explain why or how this came about.

Wahyuningsih (2022: 199) states that explanation texts are non-fictional texts used to explain how or why something happened. According to Pardiyono (2017:155) Explanation Text is a text that describes the process of the occurrence or formation of a natural or social phenomenon. So, the explanation text is one type of text in English learning which contains how or why something happened. One example of the explanation text is how it rains, why the sun rises to the east, and others.

This explanation text aims to provide information to the reader about a process. Gordon (1990, p. 150) in Elita (2017) states “expository text is written to inform the readers about a specific subject. Generally, expository text contains an explicit or implicit topic sentence with the main idea and the supporting ideas. Two kinds of exposition/ expository text are analytical exposition text and hortatory exposition text”.

Anderson and Anderson (1997: 2 - 3) as quoted by Septiana (2016) states “exposition text is a type that is intended to persuade readers that something should be in the case. Written works presented in the form of explanations are readings that explain the process of occurrence of a natural or social phenomenon. Examples of explanatory texts in the form of natural phenomena are the process of rain falling, flooding, and volcanic eruptions. Examples of explanatory texts in the form of social phenomena are the unequal quality of education, the lack of public awareness of the dangers of throwing garbage in rivers and so on.



Videos as Multimedia

Indahsari (2020) says that technology as media has a role to be not replaced the traditional education system that involves teachers, schools, and parents, but it supports teaching to be easier in variety tools. The purpose of media is to facilitate communication and learning (Wahono and Qodriah, 2019). Turban et al (Suyanto, 2005: 21) argue that multimedia is a mixture of at least two media. This media can include audio (sound, music), animation, video, text, graphics, and images). Arsyad (2009:170) states that multimedia is simply defined as more than one media. This media can be a mixture of text, graphics, animation, sound and video. Blackwell (1997: 1) states that multimedia is a mixture of text, graphics, art, sound, animation and video with links or tools that allow teachers or students to control, interact and communicate with computers.

One of the seven teaching facilities described by Echevarria, Vogt and Short is learning preparation where multimedia is used as a support to achieve learning objectives which include four language skills namely reading, writing, listening, and speaking (Kaura and Zahran: 2017:707). Atefeh, Sajad, and Reza (2015: 308) state that tools in the form of visuals and pictures given to students can improve understanding of reading texts and can make listening learning more integrative because the situation looks real because it is accompanied by physical movements, facial gestures from the speaker. Besides that, by showing documentary films accompanied by real and original moving images, it can deliver students' understanding of the material being studied. Multimedia can be a tool to make the learning process more interesting. In learning English as a foreign language, the scientific approach and the use of information and communication technology (ICT) are very useful in supporting learning (Rinantanti: 2017). Pradipta and Hasanah (2021) state “Lecturers can use interesting media like video that covers audio (pronunciation) and visual (picture) contents that give students model of EFL learning and prevent them from boredom”. According to Alessi and Trollip (2011) in Faridha (2019) that the power of video, as a medium that can record and capture the learning system in the classroom in teaching, really has a strong influence on teaching and learning exposure so that it can overcome boredom and laziness.



In this study, researcher used multimedia in the form of YouTube videos by showing films related to the theme, equipped with subtitles and sound. In this way, students can see real events, can see writing and hear how writing is spoken so that they are able to develop their speaking skills according to the theme being taught. Mujiyanto (2019: 137) states that learning using Youtube, students can understand a material faster than studying through books, which is allegedly able to increase student interest and motivation to learn.

METHODS

This research used classroom action researched adopted from the model developed by Kemmis and Taggart which includes planning, acting, observing, and reflecting

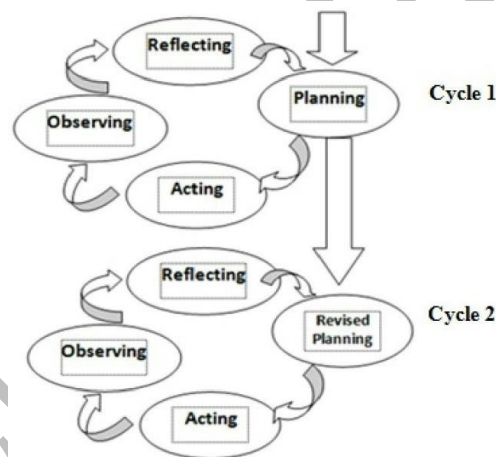


Fig. 1. The steps of Classroom Action Research

Planning

In planning, researcher designed learning activities with a scientific approach which included observing, asking questions, collecting information, associating, and communicating. Activities in the scientific approach were supported by videos from YouTube related to English reading texts. To support the learning interaction process in the classroom, the researcher prepared tools in the form of LCD projectors, laptops. Besides that, the use of gadgets or smartphones was also prepared by researcher as teachers and students as research subjects. The collection of films in the form of you



tube was in accordance with the reading theme. The research instrument that prepared was a check list of observations, documentation in the form of notes, pictures.

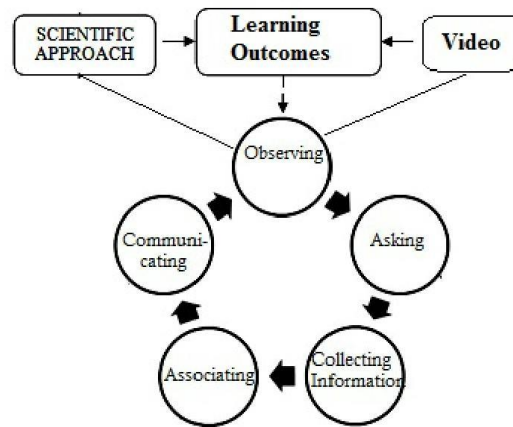


Fig. 2. Scientific approach using youtube videos design

Acting

The research activities at this stage of acting included conveying learning objectives, dividing students into several study groups, conveying learning themes, carrying out learning using a scientific approach with YouTube videos related to explanatory text material. Students observed events in the video, conducted asking activities, collected information from video shows and from other sources, communicated them by discussing with their respective groups, presenting the results that have been agreed upon by the group in class.

Observing

At the observation stage, the researcher made observations during the learning process in the classroom. The researcher collected various events using field notes when students were carrying out activities by applying the applied strategies.

Reflecting

At the reflection stage, the researcher provides feedback about successfulness on the learning process. In addition, the researchers also noted the advantages and disadvantages in the process and learning outcomes in the classroom.

Participants

The subjects of this study were 38 students of the Science Study Program at the Tarbiyah Faculty and Teacher Training at UIN KHAS Jember. Determination of the



subject of this research was using purposive sampling. Researcher used data collection techniques that included observations, documents, and test.

Data Collection

Research data were obtained from observations, documents, and written tests. Observations used field notes as Mu'alimin (2014) states that the use of this diary is to record important activities or events in learning, photos of learning activities which also became documentation data. The test was used to obtain data on improving students' English exposition text learning. The test results were obtained from the pre-test and the test in cycle 1.

Data Analysis

To analyze the data in this research, descriptive qualitative and quantitative analysis were used. Qualitative analysis was used to describe activities during the learning process with a scientific approach which includes observing, asking questions, collecting information, associating, and communicating. Meanwhile quantitative analysis was used to analyze the test results..

FINDING AND DISCUSSION

The results section is where you report the result of your study based upon the methodology that you applied to gather information. The results section should simply state the findings of the research arranged in a logical sequence without bias or interpretation. A section describing results is particularly necessary if your paper includes data generated from your own research. The result of the research can be applied and supported by including table, graph and figure. [Times New Roman 12 fonts, 1, 5 spaced on quarto or A4-size paper]

Scientific Approach Activities

The learning activities in this study are in accordance with the character of the scientific approach, namely observing, asking questions, collecting information, associating, and communicating.



Observing

The initial activity carried out in the observation was to provide a link to a YouTube video about the process of rain occurring through each student's gadget. Then the students played and watched (observed) the film several times with their groups. After that, students were given a text about the process of rain. In this activity, students carry out reading activities. Students carried out text reading activities (observing facts, observing concepts, observing processes, and observing procedures) which were equipped with pictures about the process of rain occurring based on two different sources.



Fig. 3. Observing activity

Before the learning process started, the researcher divided the 38 students into 7 groups. Four groups consisted of 5 students and the other three groups consisted of 6 students. At the observing stage, students made observations on videos with the theme of the process of rain. At this stage, students recorded the process of the occurrence of rain from the beginning to the end. This observation process was carried out together with members in their respective groups. After that, the students observed the reading text related to the process of the occurrence of rain accompanied by pictures. Each group observed two learning resources, the first from the video and the second from the reading text, both of which had the same theme. From these activities, students discuss observations by exchanging observations. The notes in the observations made by students have similarities. The dissimilarity occurred at the level of understanding the terms. Some students were not familiar with special terms about the theme being studied, for example the word "evaporate, condensation" and so on. The emergence of special terms led to discussions with questions and answers both between students and with lecturer.



Asking

This activity gave students the opportunity to ask about difficulties by using the question words "what, how, why". At this stage, it trained students in practicing questioning skills, thinking, courage, providing opportunities for other students to do the same. Students asked for additional explanations for information obtained from the observing process, sought additional explanations themselves based on information from observing activities, asked for clarification about unknown phenomena through observing objects, conducted questions and answers according to topics with other groups or with the lecturer.



Fig. 4. Asking activity

Asking activities to do not only train students' asking skills, but students are also expected to practice their skills in answering questions. In this activity, each group made a question addressed to the other group. The group that created the question provided the answer to the question. Some of the questions contained in the field notes during the teaching and learning process were: 1) how many stages in the rain process? 2) What is "evaporation"? 3) What water transmigration meaning? 4) What is the meaning condensation? 5) What cause water change into liquid droplets? 6) What can move the clouds to another place?

From all these questions it can be understood even though some sentences are grammatically incorrect. The correct sentence in number 1 is "how many stages are in the rain process?" Sentence number 2 is correct both in meaning and grammatically. The meaning of sentence number 3 can be understood but grammatically incorrect. The correct sentence is "what does water transmigration mean?" Or "what is meant by water transmigration?" The correct sentence in number 4 is "what is the meaning of



condensation?" Or "what is meant by condensation?" Or "what does condensation mean?" At this questioning stage, students are able to make questions. In this stage, students unconsciously train themselves to think critically. So that at the stage of asking students, they have critical thinking skills.

Collecting Information

In this step, students collected information, sorted, selected and determined answers to both from the text and from questions posed by students in the class. To get a variety of information, students obtained from the text they had studied and from the films they had seen. They also searched it from various sources through gadgets.



Fig. 5. Collecting Information

At this stage, students collect all information that is neatly arranged from various groups from the observation and questioning stage. At the stage of collecting this information, the researcher assumed that students were able to collect various information related to the material. Each group gave questions to the other groups to be answered. Some groups had the same questions as other groups so that students could find answers easily. At this stage there is a relationship between one student and another student. Students learned how to communicate with their fellow groups and other groups and were able to work collaboratively. Therefore, it can be concluded that students have a variety of information and have the ability to be thorough, honest, and communicate with friends. Permendikbud (2013) states that collecting information trains students to develop conscientiousness, honesty, courtesy, respect for the opinions of others, communication skills, apply the ability to collect information through various ways, develop study habits and lifelong learning.



Associating

In the associating step, students processed the information that had been collected, analyzed the data in the form of making categories, connected to related phenomena or information and then draw conclusions from the patterns found.

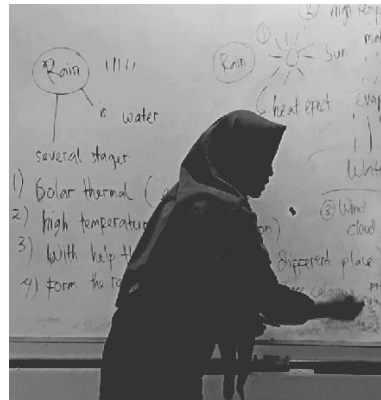


Fig. 6. Associating Activity

Permendikbud (2013) states that associating activities is processing information trains students to develop honest, thorough, disciplined, rule-abiding, hard work, ability to apply procedures and inductive and deductive thinking skills in concluding. Associating activities include a) Collecting information and then processing it with a work group, b) categorizing questions according to the order in the video or text, c) By categorizing questions according to the order, students can find the process of phenomena that occur.

Communicating

In the communicating stage, students conveyed the results of observations and conclusions based on the results of the analysis by oral and written. This activity also included writing or telling what was found from the previous stage. Some other activities were presenting reports covering the process, results, and conclusions verbally; compiling a written report; and collect reports.



Fig. 7. Communicating Activity

Communicating is the final stage of a series of five stages in scientific approach-based learning. This stage provides opportunities for students to communicate by conveying the results of activities ranging from observations (observations) on videos, texts and internet browsing results, asking questions (making possible questions that appear according to the text, collecting information (collecting various data ranging from observations to asking questions), and associating (processing data to find conclusions). According to Permendikbud (2013), communicating trains students to develop honest, thorough, tolerant, systematic thinking skills, express opinions briefly and clearly, and develop good and correct language skills. The results of this activity included conveying the results of observations to the associating process, namely making conclusions. Then the compiled conclusions were conveyed either orally, in writing, or other media. Then students presented the results of the conclusions in the form of pictures or others. In this activity, students presented the results of the discussion of reading text material in oral and written systematically according to the data obtained through text and video. The result of the implementation can be seen on the Table 1.

The students' score improvement of pre cycle and cycle 1

	Pre cycle	%	Cycle 1	%
The number Students who scored 61-69	11	29	0	0
The number Students who scored 70-75	26	68	19	50
The number Students who scored ≥ 76	1	3	19	50
Total of number Students	38	100	38	100
Total score	2672		2863	
Mean score	70		75	



The results of students' ability to understand explanatory texts before applying a scientific approach using YouTube videos are as follows. There were 11 students or 29% who got a score of less than 70, there were 26 students or 68% who got a score of 70-75, and there was 1 student or 3% who got a score above 75.

The results of students' ability to understand explanatory texts after applying a scientific approach using YouTube videos are as follows. There was not student or 0% who got a score of less than 70, there were 19 students or 50% who got a score of 70-75, and there were 19 students or 50% who got a score above 75.

The total score of pre cycle was 2672 and mean score or average was 70. Meanwhile, the total score of cycle 1 was 2863 and mean score or average was 75. By looking at the score, total score, and average in pre-cycle and cycle 1, students' ability to understand explanatory texts increased. The score of pre cycle and cycle 1 can be illustrated on the Figure 8.

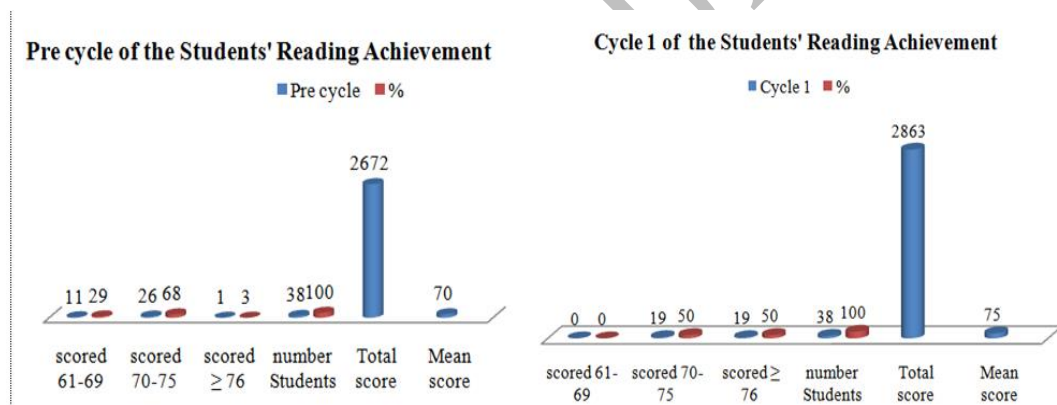


Fig. 8. The score of Pre cycle and Cycle 1

Figure 8 illustrates the decline in scores in the range between 61-69 where there are 11 students with initial grades in the pre-cycle and in cycle 1 there are no more students who get grades in that value range. Students who scored between 70-75 experienced a decrease from 26 students to 19 students. The number of significant increases occurred in students who scored above 75 where in the pre-cycle there were 1 student and in the first cycle there were 19 students. So, it can be concluded that the use of a scientific approach by using video can improve students' ability to understand the reading of explanatory texts.



CONCLUSION

The results of this study indicated that the scientific approach using video in learning English explanatory text improves the students' reading skills by combining English text material related to the science theme by applying the steps of observing, asking questions, gathering information, associating and communicating sequentially. By showing YouTube videos related to the text being taught as a support to improve reading skills, student learning outcomes in reading skills showed an increase. It was proved that the average pre-test score before using the scientific approach using YouTube was 70. Meanwhile, the average post-test score after using the scientific approach using YouTube was 75.

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