EEJ 8 (3) (2018) 388 – 394

English Education Journal

http://journal.unnes.ac.id/sju/index.php/eej

The Implementation of Scientific Approach With Project-based learning in Teaching Recount Text

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Article Info

Article History:
Accepted: 10 June 2018
Approved 20 August 2018
Published 15 September 2018

Keywords:
Scientific Approach, project-based learning, recount text.

Abstract

Teaching process in curriculum 2013 focuses on students centered learning, it means that students are active in teaching and learning process using scientific approach. One of the methods which is suitable with scientific approach is Project- based learning. In project-based learning, students have to finish project related to the learning material so the learning process will be meaningful because the students do and apply the learning material directly in their daily life. The objective of this study was to describe the implementation of scientific approach with project-based learning in teaching recount text. This study was a descriptive qualitative method based on the classroom observation. The problem investigated was how teachers implement scientific approach with project-based learning in teaching recount text. The subjects were 3 English teachers of SMAN 4 Semarang. The result showed that there was integration of scientific approach with project-based learning in teaching recount text, which was the procedures of scientific approach were in line with project-based learning. Two of three teachers had prepared syllabus, lesson plan, learning material, and learning media which appropriate with scientific approach. However it was also found that there were teachers who still hesitated in implementing scientific approach with project –based learning. It was showed from the unclear steps of scientific approach applied by the teachers.

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p-ISSN 2087-0108
e-ISSN 2502-4566

INTRODUCTION

The implementation of curriculum 2013 is followed by the changes of approaches. Teaching process is supposed to use scientific approach. However, there are still problems in implementing the curriculum 2013. One of them is the using of conventional teaching method in most learning process in Indonesia. Conventional teaching method means teacher centered, which is only the teacher himself/herself who master the learning material so the learning material is given to the student directly. Whereas, in curriculum 2013 students must be active in learning process and teacher is only as a facilitator. That is why this needs an approach and method that stimulate student to be actively interact with their environment, use every source, and students must be able to apply knowledge they learnt in daily life. That is why collaboration between Scientific Approach and Project-based learning can improve students in learning recount text.

Scientific learning is a learning approach which adopts scientific steps in building knowledge through scientific method. In *Discovery Education* (2006), it is stated that: "The scientific method is the "tool" that scientists use tofind the answers to questions. It is the process of thinking through the possiblesolutions to a problem and testing each possibility to find the best solution". In scientific approach the learner is seen as a subject of study that needs to be actively involved in the learning process.

The 2013 curriculum emphasizes modern pedagogical dimension in learning by using a scientific approach. Scientific approach is a student centered approach in which students construct knowledge for themselves. Scientific approach consists of three domains of learning, namely attitude, skill, and knowledge.

Learning process in curriculum 2013 is done using scientific approach. Teachers should be able to apply the scientific approach in finding and engrafting concept of the topic material to students in order to make a meaningful learning process. According to Mukhni (2014), Scientific Approach steps were begun with observing. This method was done by focusing on meaningful learning. Observing is very useful to fulfill students' curious, so that learning process will be meaningful. Observing activity is explained in Permendikbud number 56 year 2014 enclosure III.

The second step is questioning. In this activity, teacher gives opportunity to students to ask what they have seen, read or listened. Teacher need to guide students to ask questions about what they have observed, about fact from concrete to abstract, concept and procedure, factual questions to hypothetic questions. From that activity, the students still need teachers' help in making questions until they can make their own questions. Those questions as the base to find further information from various sources. Questioning as stated in *Permendikbud* number 58 year 2014. In this activity students can improve creativity, curiosity and critical thinking.

While experimenting is done by digging information and collecting data from many sources. Whereas, students can read a lot of books, notice object phenomena carefully or do an experiment. In this activity students can improve their careful, honest, polite and open minded.

After students get a lot of information about concept which is being learnt, the next activity is associating. Based on *Permendikbud* number 81A year 2013, the steps of associating are started from processing information that has been collected from the result of activities or experiments or the result from observing and collecting data. This activity is done to find correlation between one information and others. This activity also leads the students to think logically and systematically about empirical facts which can be observed to get conclusion as knowledge.

The last step is communicating. After students find a conclusion individually or in group, the teacher will give opportunity to the students to communicate what they have learnt. This activity can be done by sharing

their finding in previous activity orally or in written or use other media. A research done by Pahlevi (2013) reported on a research observation of teacher's competence in implementing scientific approach in teaching descriptive writing and investigate student's response toward it. The purpose of the research was to investigate the teacher while teaching descriptive text. In his research he found that the teacher implemented five learning phase of scientific approach in two meetings and he reported that the activities in questioning and associating phase were less effective.

Meanwhile, project-based learning provides opportunities for students to learn deep content knowledge and 21st century skills. While project-based learning practices vary depend on grade level and subject area, and should be carefully planned, managed and assessed to connect rigorous academic content to 21st century skills such as collaboration, communication, and critical thinking, through student development of high quality, authentic products and presentations.

There are six steps for project-based learning method in teaching and learning process. It starts with essential question. The question that will use a project-based learning lesson must be one that will engaged students. It is an open ended question. It means that students possibly explain and find out different information to answer the question. The next step is designing a plan for the project and determine the final outcome of the project (e.g., bulletin board display, written report, debate, brochure, wall magazine, letter, hand book, oral presentation, video, multimedia presentation, theatrical performance). After that, the students and teacher work out project detail that guide students from the opening activity, to the completion of the project. This step is designing fixed schedule.

The next is monitoring students' project progress. In this stage, students and teacher have different role, students are ready to work completing their project. The goal is to identify information that is critical for the completion of their project. While students are working on their project, teacher monitors students' activity and their project progress followed by assessing student outcome. During this stage, teacher gives students feedback on how well they understand the information and what they need to improve on. The step ended by evaluating student experience. Teacher allows students to do individual reflection, such as journaling, as well as group reflection and discussion. Teacher guides students to share their feelings and experiences, and discuss what work well and what needs change. Some advantages from project-based learning are improving students motivation, making students more active in learning activity, improving students skills in finding information from various sources, improving collaborative effect among students, and practicing students in managing the project and time.

Nurohman (2013) reported that the steps of teaching occurred in scientific method match with the steps occurred in project-based learning. So, he suggested that candidate of physic teacher should be taught using scientific method because this method lead the students to do experimenting to discover a new thing.

Based on the background above, this research is aimed to describe the teachers' competence in implementing scientific approach with project-based learning in teaching recount text. In order to achieve the objectives of this research, a number of theories and procedures are used.

METHOD

This research is a qualitative research since it is aimed at describing and explaining the teachers' competence in implementing scientific approach with project-based learning in teaching writing of recount text. According to Cresswell (2003) one of the purpose of qualitative research is to understand the participants' point of view of the events, situations, and actions that they were involved

with and of the explanation that they gave about their lives and experiences. This research utilized the case study research tradition as the framework of the qualitative research. Case study design refers to phenomena chosen by the researcher to understand in-depth without considering the number of settings, social scenes, or participants in the study. In this study, the design employed to get the depth understanding regarding teachers' competence in implementing scientific approach with project-based learning in teaching writing of recount text.

The instrument of the study employed a class observation. The supporting data would use recording and document observation. These were conducted to observe the implementation of lesson plan in teaching-learning process , and the use of media in teaching and learning process. The writer conducted class observation to all the participants of this study three times for each teacher.

This study divided the procedures of the study into two stages. They were pre-activity and primary activity. In the pre-activity, the writer gave pre-observation questionnaire to the teachers to collect the personal background of the teachers. The aim of this questioner was to know the characteristic of the teachers observed. In the second stage, the writer constructed some instruments, they were teacher's class observation checklist on pedagogic and professional competence, observation checklist on scientific approach implementation in teaching and learning process, observation checklist on project-based learning implementation in teaching and learning process, and observation check list on lesson plan development analysis of recount text. Then, the writer conducted the observation during the teaching-learning process in teaching writing of recount text and also observed the teachers' document. During the teaching-learning process the writer took field note to complete the observation. The writer also used video recording to document the teaching learning so that the writer can re-investigate the teaching learning process.

RESULTS AND DISCUSSION

Because the study focus on the implementation of scientific approach with project based learning on teaching recount text, so, the data of this study were mainly obtained through the observation on teaching-learning process on teaching writing of recount text at the tenth grade students of SMA Negeri4 Semarang. The observation showed that in learning process teachers could use many different media, such as monolog, song, pictures or text. Whatever the learning material used, observing activity would do by presenting the material to be observed in many ways. In this research, the material was presented by using tools such as laptop and LCD projector. Monolog and song were presented by playing them and students did the observing activity by listening them using or without handout. Sometimes the teacher provided the printed material based on the material, for example the teacher provided incomplete song lyric or monolog, so the students could complete the monolog or the song while listening to. If the material was in the form of picture, images or text, it was presented by showing them using LCD and the students observed it. The images used in this activities to be observed by the students and helped them to build the knowledge before they come to the core material that is recount text. While using text, the students were asked to read aloud of recount text about past experience. Some of the students read it in front of the class and after that, every student should read it in each group to get feedback from their friends.

From the explanation above, it was noticed that the students were asked to read aloud the recount texts with difference experiences. The student's handout provides to model the text without giving information about the text first. It was because the students did not know about the genre used in the text.

They were just asked to read the texts aloud in front of the class. The texts are in written form. So there is a shift from spoken text to the written text in this observing and questioning part. The teacher, then stimulate the students to make questions about what they had observed. The teacher delivered some question related to the topic represented by each picture and asked the students to respond. So there were questions and answers after the teacher showed one picture. In this activity, the students seem enthusiastic in questioning or answering questions and this made the classroom situation a little bit crowded because the teacher did not pointed one specific student to answer. It was good because scientific approach as stated in curriculum 2013 stimulate students to be active during the learning process.

The experimenting steps done in various ways, such as 1) teacher used a handout and textbook for students, then the students asked to collect data from the handout and also textbook; 2) students are asked to collect data by browsing them in the internet; 3) students are asked to collect data from many different sources related to the topic. From the data collected, with the teacher contribution, students were asked to construct a simple text, this meant for the preparation of the project. In some activities, the teacher gradually reduces the contribution to the text construction. Those are found in the last part of collecting Information and some of the Associating part. The teacher reduces his/her contribution by making them in a group and as a consequence, students move closer to being able to control the text independently. The students must be constructing or completing the text in group and making editing a draft in group as well. After the students finished editing the draft, they discussed it with their peer before presenting it in the form of wall magazine as the project planned before. Then it was evaluated by the teacher.

Based on the observation related to the teacher's competence in implementing scientific approach in teaching-learning process, it showed that the five steps of scientific approach applied differently among teachers. It means that the teachers conducted the steps in scientific approach depends on their understanding, because not all the teachers being observed, conducted the five steps in order. For example after the observing and questioning were conducted properly, by giving enough time to observe and stimulating students to make questions, the experimenting activity was missed, because the students were not given opportunity to explore more information about the material from many different sources, such as other books, internet, textbook, etc. In fact, the students should collect data as many as they can to support their understanding about the topic and also as the reference in making the project. The teachers only gave other example of recount in the form of monolog and texts stated in the handout. It meant that the students got the data purely from what the teacher gave to them, and it was not enough to support their project. As stated in *Permendikbud number 81 A 2013,* Scientific approach is a student centered approach. In the scientific approach students construct knowledge for themselves, however, it found that the majority power of the teachers was still exist.

Project-based learning is as a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks. It implies that Project-based learning is developed based on authentic problems occurring in real life and it needs serious preparation of tasks. Meanwhile, Stripling, et.al. (2009: 8), defines Project-based learning as the instructional strategy of empowering learners to pursue content knowledge on their own and demonstrate their new understandings through a variety of presentation modes. It means that Project-based learning requires students to work collaboratively involving discussion and presentation activities, and thus these enhance

students' communicative skills. Moreover, it is also mentioned that Project-based learning is an instructional model that involves students in investigations of compelling problems that culminate in authentic products. Similarly, it can be inferred that the final goal of project-based learning implementation is product-oriented, and the processes have also become very significant components to take into account, though. And the product which was expected in this learning process was wall magazine.

On the observation related to project-based learning, the writer noticed that the teacher conducted it well. It started with planning the project and discussed it. And then the teacher and the students decided what project would be done. Because in Senior High School students requires to create wall magazine periodically, so the teacher decided that the product of the project was creating wall magazines, moreover, there are three types of recount text, hopefully students would not find difficulties in finding and collecting data. When the students and the teacher were certain about the product, then they decided the schedule and the deadline of the project. They agreed to finish the project in two weeks. While the project was in progress, it was also monitored by the teacher, and the students were given guidance in doing and finishing the project. And the last was giving evaluation to the result of the project. Here, the students had to submit the final product for first review, make changes to the product as needed, presented the completed project to class, and submitted the final product for assessment. Basically, the steps in conducting the project-based learning run well.

From the research conducted, it could be seen that there were similarity and difference between this research and the previous research done by Pahlevi (2013). The similarity was that the teachers were still hesitated in implementing the five learning phase of scientific approach, it was just based on the teachers' understanding. The different was in experimenting activity the teachers did not give enough time to the students to explore as much as information from many different sources. On the contrary, Pahlevi (2013), found that that the activities in questioning and associating phase were less effective. Meanwhile, compared with the research done by Nurohman (2013), the writer agreed with the findings on his research. Nurohman (2013) found that the teaching occurred in scientific approach matched with the steps occurred in project-based learning. Scientific approach led the students to do experimenting to discover a new thing.

CONCLUSION

This study investigated whether the scientific approach with project-based learning could be implemented well in teaching recount text. Concerning the theories, result and discussion explored in the previous part, some conclusions can be drawn as follows:

As stated before that scientific approach consists of five phases, namely observing, questioning, experimenting, associating, and communicating. However, based on the observation, it showed that the five phases of scientific approach applied differently by the teachers. It was based on the teachers' understanding. One of the teachers who were being observed even did not give an opportunity to the student to explore more information about the material from the different sources. But the other two teachers could implement the scientific approach in teaching recount text appropriately.

In English lesson, students are expected to create something important for their daily life. Because of that, it is necessary to apply a model which suitable with scientific approach, one of them is project-based learning. Besides, scientific approach is in line with project-based learning. The steps of teaching occurred in scientific approach matches with the steps occurred in project-based learning. So, it is suitable to teach recount text using scientific approach because this method leads the students to do

experimenting to discover a new thing. Project-based learning also leads the students more active during learning activity, can interact with their environment and able to solve problem in their daily life by giving them project. On the observation related to project-based learning, the teacher had applied the steps appropriately, however, when the students were working on their project, the teachers did not monitor them. Ideally, the teachers should monitor students' project progress.

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