The Implementation of Scientific Approach in Teaching Speaking with Appropriate Lesson Plan Based on 2013 Curriculum

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Abstract

This study focused on the implementation of scientific approach in teaching speaking with appropriate lesson plan. The steps consist in observing, questioning, associating, experimenting and communicating. This study also focused on the appropriateness of lesson plan viewed from 2013 curriculum guideline. This study used case study in qualitative descriptive. The sample in this study was three English teachers at SMP Negeri 40 Semarang. The result shows that English teachers at SMP Negeri 40 were implementing scientific approach based on 2013. The implementation was in five main steps. They were observing, questioning, associating, experimenting and communicating. All the steps had been implemented well based on 2013 curriculum. There were some problems in implementing scientific approach. The problems in implementing scientific approach in teaching speaking were in communicating step and the difficulties in time management, confidence of the students and also pronunciation. Related to the appropriateness of the lesson plan, all the principles and criteria had been fulfilled except the attention on the students’ differences and developing the culture in reading and writing. The finding can be used by as a reference in implementing scientific approach.
INTRODUCTION

Human life will be difficult without communication. As a social creature, we need other human in our life. Transferring meaning and information will be difficult without language. In the development of human life in history and area, it creates different language and culture. The problems come when people who have different language meet in one place. They need a tool of communication which is understood in order to make transferring meaning and information running well. English is the one of the languages which is chosen as an international language which is used to communicate among the people who have different countries and languages.

There are many reasons for mastering English. The reasons are because of some factors like economics, travel, information exchange, and popular culture (Harmer, 2001, p.3). In this case, it is reasonable if the students must master English well. The purpose of teaching is to absorb and develop science, technology and art, and also to increase international relationship (Harmer, 2001, p.4). Apriyanti & Mujiyanto, (2018) found that the goal of English teaching is for communication. It is supported by Yuliarti & Warsono (2016) who found that the communication ability in English is the goal in English teaching. The development of science, technology and art dominantly came from the western countries, almost of those countries use English as a national language. It will be difficult from Indonesia in developing science if the Indonesia's generations do not master English well, because the international literatures also written in English.

Indonesia is implementing 2013 curriculum based on scientific approach. Scientific approach is an approach which refers to the techniques of investigation of the phenomenon, acquiring new knowledge, or correcting and integrating previous knowledge (Kemendikbud, 2013, p.1). Scientific approach in 2013 curriculum consists in five main steps. They are observing, questioning, associating, experimenting and communicating.

Scientific approach is used in teaching and learning, included in English teaching and learning in productive and receptive skill. Speaking and writing involve producing language. Listening and reading involve producing language. Listening and reading involve processing sounds or letters and matching that information with language knowledge stored in memory (Coleman & Klapper, 2005, p.55). The skills must be taught to the students by using appropriate strategy, method and approach. In example for strategies in teaching speaking, Seritwa, Fitriati & Faridi (2018) and Budianto, Saleh & Rukmini (2018) conducted a research of using presentation strategy to improve students' speaking skill. The result showed that presentation strategy helped the students in enhancing their speaking skill.

There is relation between mastering productive skills and receptive skills. The input from the productive skill must be received comprehensively by using receptive skills. This is as a reason about the importance of mastering receptive dan productive skills. Krashen in Omaggio (1986, p.122) states that input that is comprehended is the primary source of acquisition of the grammar and vocabulary of the target language and that learners will begin to produce the language naturally. The communication and transferring meaning will be delivered if the speaker is able to speak and write in acceptable language, and the receptors have good receptive skills.

There is relation between mastering speaking skill and knowing language. Bailey and Savage (1994, p. vii) state that the ability to speak a language is similar with knowing the language itself, because speaking is the basic means of human communication. Language means communication, transferring meaning and feeling, and those are will be effective if it is transferred by speaking way rather than writing. Mastering speaking has same goal with the use of knowing language. The goal is to
communicate. Chaney as cited in Kayi (2006) stated that speaking is the process of building and sharing meaning through the use of verbal and no verbal symbol, in variety of context. Language is transferring meaning in communication. The communication and meaning will be delivered if the speaker is able to speak in acceptable language, so the listener will get the input comprehensively.

Implementing scientific approach will challenge the teacher to use scientific approach in teaching language. It will have some problems in implementing scientific approach in productive and receptive skill in English Wati, Bharati & Hartono (2016) found that the problem during the implementation is about the difficulties to use target language fully during teaching learning activity. Ekawati (2017) found that the problems in implementing scientific approach in teaching speaking were the class is too big, lack of vocabularies, and pronunciations.

In curriculum 2013, there is guidelines in arranging and developing a lesson plan. The lesson plan in 2013 curriculum is not only about opening, core activity and closing, but also has criterias and principles in developing opening, core activity and closing. The criterias and principles must be followed by the teachers in order to make an effective and efficient the process of teaching and learning and also in achieving the goal of teaching. By following the principles in arranging lesson plan, the teaching and learning will accordance with the curriculum itself.

Based on the explanation above, the researcher thinks that learners need an approach which is not only facilitates students in developing students’ productive in speaking skills, but also by using appropriate lesson plan based on 2013 curriculum. The novelty of this study with previous studies is not only in the implementing of scientific approach, but also in investigating the lesson plan in teaching speaking based on 2013 curriculum.

METHOD

This study used qualitative case study research design. It is implemented because this study has an objective to investigate the implementation of scientific approach in teaching speaking with appropriate lesson plan. According to Cresswell (2003) one of the purposes 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 study developed a study in scientific approach based on 2013 curriculum in teaching speaking. The scientific approach consists in five main steps. They are observing, questioning, associating, experimenting and communicating. This study investigates the appropriateness of teachers’ lesson plan in teaching speaking with the guidelines in designing lesson plan based on 2013 curriculum.

The subject of the study was three English teachers at SMP Negeri 40 Semarang. This study used observation, questionnaire and interview to help the writer in collecting data for this research. After the data were obtained, the data were analyzed. There were some steps of data analysis First step was categorizing the finding in the observation, interview and questionnaire from the teachers and students. The second step was categorizing the data for the implementation in each step in scientific approach in teaching speaking. The third step was comparing the appropriateness of the lesson plan with lesson plan guidelines. Afterward, analyzed the finding and interpret the data. The last step was making conclusion.

RESULTS AND DISCUSSION

The study was conducted to find out the ability of the teachers in implementing scientific approach which consisted in five in teaching speaking based on curriculum 2013. The five steps are observing, questioning, associating and communicating. The research was conducted on 19th August-22nd August 2019 located at SMP
Negeri 40 Semarang. The data were collected by using observation, interview and questionnaire. In this study the finding will be explained in some points based on the research questions. The first point is about the implementation of five steps of scientific approach based on the 2013 curriculum. The second point is about the problem in implementing scientific approach in the real context of teaching and learning, especially in teaching speaking based on curriculum 2013. In this part also will be explained about the achievement the goal of teaching by using scientific approach in the class compared with the criteria of the goal achievement in the 2013 curriculum.

Observing Step in Teaching Speaking by the Teachers Based on 2013 Curriculum

In education, curriculum is one of aspects in determining the successful of teaching and learning. Without curriculum, the goal of learning, the process of teaching and learning and also the kind of assessment will not have a clear concept. As an impact, the goal of education is difficult to be achieved. Based on the reason about the importance of curriculum, the teachers must implement curriculum based on the principles, rule and paradigm of curriculum itself.

Now, 2013 curriculum is available in Indonesia. In its implementation, 2013 curriculum is based on scientific approach which is consisted in 5 steps, observing, questioning, associating, experimenting and communicating. Practically, the English teachers at SMP Negeri 40 Semarang implemented similar activity in observing steps in teaching speaking.

In scientific approach, Observing step has a main goal. According to Hosnan (2014, p.39), observing step as a way to get fact in objective data in order to be analyzed based on the level of students’ understanding. Based on the theory, the observing step by T1, T2 and T3 had been fulfilled in observing step. Based on the previous explanation, T1, T2 and T3 gave text to be observed by the students. This activity stimulate the sense of the students to get factual data about the material, in this teaching learning about the implementation of prohibition and obligation in the real context. In this activity, the students were also able to observe the expression in prohibiton and obligation. The text also suitable with the level of the students’ understanding. They were able in observing, understanding, and finding the expression in prohibition and obligation.

Drilling in observing step performed by T1, T2 and T3 actually as a supporting activity, because it was a speaking class. Although it was done orally, we had to back with the meaning of observing step itself. Observing step was about the using of senses in identifying something. Pronouncing and driling were also an activity which used senses organ.

In summarize, the activities performed by T3 in observing step were not different with T1 and T2. The activities were about displaying and observing the text, finding the expression of obligation and prohibition and the last was drilling. The differences were only on the kind of text by T1, dialogues by T1 and T2 and vocabulary enrichment by T1. Based on those data and finding, the researcher assumed that the goal of observing steps by T1, T2 and T3 had been achieved based on the theory and factual data.

Questioning Step in Teaching Speaking by Teachers Based on 2013 Curriculum

Questioning step in scientific approach actually as a way in improving the activeness and gaining more information of the students in teaching and learning. According to Permendikbud Number 81a (2013), questioning is activities to giving question about the information which is not understood by the students from the object that is observed to get more information about the object itself. Based on this theory, T1, T2 and T3 had completed questioning step based on scientific approach.

In the context of achieving goals in observing step, Hosnan (2014, p.36) stated that there are some goals in observing step.
Table 1. The goals achieveent of questioning step by T1, T2, and T3

<table>
<thead>
<tr>
<th>NO</th>
<th>The Goals of Questioning Step</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>T1</td>
</tr>
<tr>
<td>1</td>
<td>To grow the students’ curiosity, interest, and students’ attention about the topic of teaching.</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>To make students more active in teaching learning process</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>To diagnose the students’ difficulties</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>To increase students’ speaking ability, giving question giving answer logically and systematically.</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>To increase students’ participation in discussion and to develop students’ thinking ability</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>To grow students’ openness about receiving opinion and to develop students’ social tolerance</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>To became student used to thinking spontaneously to face the problem which came suddenly</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>To guide students’ politeness in speaking</td>
<td>-</td>
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</tbody>
</table>

In the growing the students’ curiosity, interest, and students’ attention about the topic of teaching, T1 and T2 had fulfilled this point. The students of T1 and T2 were more active in this step. The students were directly asked the questions. It showed that the students were curious because they were interested giving questions which came from their observing step. In this case, the students in the class of T3 were need more stimulation for giving questions. It indicated that the students had low confidence and they were low in curiosity.

Related to increase the activeness of the students in teaching speaking, the students in the class of T1, T2 and T3 were more active during implementing this step. The students in T1 were more active than another class. T1 gave chance to ask questions and also answering the questions. In the class of T2, the students were active in giving questions but they did not give a chance to answer the questions, the questions were answered directly by the teacher. In the class of T3, the students need more stimulation for giving the questions and active in the class.

In identifying the difficulty of the students, the students in the class of T1, T2 and T3 basically in the vocabulary mastery. All the questions were about the meaning of the words. The solution from T1 to minimize this problem was by using “Kamus Kecil”, the students wrote new word in their book. The solutions by T2 and T3 were by using drilling several times on the new words following the meaning. Unfortunately, the difficulty of the students in T3 class was more complex. The less activeness of the students in giving question indicated that the students were had low confidence and motivation. The solutions from T3 was more active in students teacher communications.

In improving speaking skill, the questioning step performed by T1, T2 and T3 had already completed this goal. The students were able to give questions and in the class of T1, the students were able to answer the questions. Related in improving participation of the students in speaking class, only happened the students in the class of T1 and T2, they were independently gave questions and participations without more stimulation from the teacher. While the students of T3, the participations were like forced and it didn’t come from the curiosity of the students. In receiving opinion, only T1 who achieved this goal. The student received the opinion from their friends who answered their questions. While in other classes, the students automatically received the answer and opinion because the teacher directly answered the questions.
To sum up, questioning step performed by T1, T2 and T3 used same activity. The activity only stimulate to the students for giving questions about the text and material about obligation and prohibition. The difference was only on the responses of the teacher in answering students' questions. T1 gave a chance for the students to answer the questions. T2 answer the questions but using analogy and synonym. So, mutual interaction was happened between T2 and the students. The last, T3 answering the question directly about the meaning of the words. T3 also did'n give chance for the students in answering the questions. T3 also gave more stimulate to the students for giving the questions.

**Experimenting Step in Teaching Speaking by Teachers Based on 2013 Curriculum**

Experimenting step in scientific approach is a way in collecting and developing informations. According to Permendikbud No. 81A, experimenting step in scientific approach has some aims. The aims of experimenting is developing the characters of careful, honest, respect, increasing the ability in collecting informations in various ways. This step also as a practical activity based on the theory that had already learnt. In the end, the students will have more understanding deeply not only in the theory, but also about the application of the theory in the real context in the students' life.

Based on the aims in experimenting step above, the implementation of experimenting step by T1, T2 and T3 had positif impact in teaching speaking. Group discussion in this step were able to improve the activeness of the students. The interaction and discussion among the students helped them in improving their understanding the material deeply. This activity also helped the students in developing creativity, critical thinking, and ability in asking the opinion. So, indirectly also improving the students' speaking skill. In this step, T1 also asked the students to find the social functions of the expressions in obligation and prohibition. So that, the students were able to understand when and where used the expression in the real context of communication.

The problems during the implementation of experimenting step were in the time allocation. Dividing the group and discussion needed much time. Another problem in implementing this step was in the activeness of the students. Based on the observations, there were some students who less active during the discussion. There were also students who did activities out of the discussion. So, the teacher need more active in controlling the students and asked them to be focus in their discussion.

**Associating Step in Teaching Speaking by the Teachers Based on 2013 Curriculum**

In associating step, the students develop information by using comparing the result of experimenting step, correlating with the real context, or developing knowledge by using another sources. Hopefully, the students are able to increase their understanding by using their own thinking. According to *Konsep Pendekatan Scientific Approach* (Kemendikbud, 2014, P.3) there are 2 types of associating step in scientific approach, there are inductive and deductive associating.

![Inductive and deductive associating](image_url)
situation, but also should have influence in improving students' speaking skill.

In associating step, the T1 used inductive reasoning. It was happened because the teacher designed the worksheet in giving some expressions in obligation and prohibition specifically. Then, the students should associate the using of those expression in the various situations. Associating step performed by T2 was in group discussion. The teacher gave worksheet contain uncomplete dialogue, the students should complete the dialogue by using the expressions in obligation and prohibition. In association in group discussion, the students were able in comparing and completing in various different ideas. In this activity, the students were able to use their critical thinking in associating and completing the dialogue by using appropriate expressions. In this step the teacher used deductive associating. The different activity was performed by Teacher 3 (T3). T3 was only presenting video in expressing obligation and prohibition. Then the students were instructed to identify the expressions in obligation and prohibition which used in the video. The effect in teaching speaking, this activity gave more understanding of the students in the material because the teacher used the real example in video about the application of obligation and prohibition. In this step, the teacher used deductive associating.

Communicating Step in Teaching Speaking by Teachers Based on 2013 Curriculum

The last main step in scientific approach based 2013 curriculum is communicating. In this step, the students present the result of their understanding in the associating and communicating step. This step also able to measure the ability of the students in mastering the material. In the communicating step, the teacher is a facilitator. Communicating step also as a way in improving the students' skill in practicing theory and developing the students' confidence in expressing ideas. In communicating step, T1, T2 and T3 did this step in group.

Talking about the effect in teaching speaking, based on the interview to the T1, T2 and T2, they were agree that communicating step had more effect in teaching speaking. It was reasonable because in communicating, the students were able to expressing the ideas, presenting the discussion results, and practicing the theory which directly increasing the students’ speaking skill. In the class of T1, T2 and T3, creating and performing the dialogue based on the theory was not only as a process of presenting the result of the discussions, but also as a way in measuring the students' understanding and also improving the students' speaking skill.

The Problems in Implementing Scientific Approach in Teaching Speaking

Nothing is perfect in this world. It is also for implementing scientific approach. The problem can be from the teachers or students. The complexity of the step, students’ character, limited time allocation and also the teachers' knowledge about scientific approach itself were also some factors in causing problem during implementing scientific approach. The differences of the students’ character are also a challenge for the teachers. We have to admit
that it will be difficult in designing a teaching model, method and approach to cover all the students' differences. At least, an improvisation action is needed to minimize the risks as a problem in implementing scientific approach, especially in teaching speaking.

Based on the observation, the problem also comes from the using target language during the teaching learning. The teachers used English and Bahasa in teaching speaking. It is in line with Wati, Bharati & Hartono (2016) who found that the problem during the implementation of scientific approach is about the difficulties to use target language fully during teaching learning activity. The teachers assumed that if they used full English, the students would be difficult in understanding material.

The problem was also in managing time. The teachers said that it was difficult in managing time in implementing scientific approach in teaching speaking, especially in communicating step. It was happened because mostly, communicating step was in presenting the result in experimenting step. The limited time was used during this process. The solution by using group presentation was a great deal. All the students were still able to present their result and ideas without losing the essence of communicating step itself.

In implementing scientific approach in teaching speaking, the students were enthusiast in following the processes in teaching and learning. In order to measure the satisfaction of the students in implementing scientific approach, questionnaire was distributed. Based on the analysis, the level of satisfaction about the implementing scientific approach was 91%. Less than 15% in each step who gave unsatisfied respond. Most of the unsatisfied students giving respond about the capability of the teacher in delivering material. By achieving almost more than 90% in each indicator, it indicated that students followed each step in scientific approach without any significant problem. It was supported by the result of observation. The students were enthusiast in following teaching and learning processes by using scientific approach. The speaking classes were more interactive. It was also supported by using multimedia and technology.

Related to the problems of the students in teaching speaking, the researcher also distributed questionnaire in order to know the students' problem in teaching speaking. The sample was 130 students. Based on the sample, 92% students still had difficulty in speaking skill. The result of the questionnaire also showed that only 35% students had confidence in speaking English.

**The Appropriateness of Lesson Plan in Teaching Speaking Based on 2013 Curriculum**

The last finding is about the appropriateness of the teachers' lesson plan in teaching speaking based on 2013 curriculum. The principles of lesson plan in 2013 curriculum had aim to arrange a lesson plan systematically. It is important because lesson plan is like a bunch of steps in achieving the goal of teaching. So, the processes of teaching will be more efficient in achieving the goal. Lesson plan also helps the teachers in specifying the goal, steps, material and time allocations based on the syllabus.

There are some principles in developing lesson plan based on 2013 curriculum that will be compared with the lesson plan by English teachers at SMP Negeri 40 Semarang. There were 3 lesson plans in teaching speaking by 3 English teachers. The analysis was not only on the appropriateness of lesson plan with the principles in lesson plan guidelines, but also in the components of lesson plan based on 2013 curriculum.

In the appropriateness of the teachers' lesson plans in teaching speaking with the principles of lesson plan development based on 2013 curriculum, almost all the principles in drafting lesson plan based on 2013 curriculum had been fulfilled. Related to the principle in paying attention to individual differences of the students, there were no teachers who designed the lesson plan which had attention to this point. All steps in those lesson plans didn't have activity and step which focused on the individual differences of the students. In other word, all the activities and step in the lesson
plans were for all the students without differentiate the students’ differences. In fact, the lesson plan should be arranged by paying attention to gender differences, initial abilities, intellectual level, interests, learning motivation, talents, potential, social abilities, emotions, learning styles, special needs, learning speed, cultural background, norms, values, and / or the environment of students.

In encouraging the active participation of the students, lesson plans by T1, T2, and T3 had completed the criteria. The steps in scientific approach directly developed the activeness of the students. Observing, questioning, associating, experimenting and communicating demanded the activeness of the students. By practicing those steps, the activeness of the students in teaching and learning developed automatically. Related to teaching speaking, this principle was in line with the goal of teaching speaking. The activeness of the students in questioning and communicating were able to increase the speaking skill of the students.

In developing a culture of reading and writing, the lesson plan by T1, T2 and T3 did not contain the criteria. In the criteria of developing a culture in reading and writing, the learning process is designed to develop a fondness for reading, a variety of reading comprehension, and expression in various forms of writing. In fact, in the lesson plans which arranged by T1, T2 and T3 didn’t have activity in stimulating the reading culture. The teachers didn’t facilitate other sources in teaching learning process. So, the students only focused on the material in power point. The teachers didn’t give a chance for students to find in other sources.

In the principle of providing feedback and follow up, the lesson plan contains a program in giving positive feedback, strengthening, enrichment, and remedies. Based on the analysis, the lesson plans by T1, T2 and T3 had fulfilled this point. In the end of teaching and learning processes, all the lesson plans had feedback in the form of written and spoken test and also remedial. Related to teaching speaking, this point was as a test for the students’ understanding about the material. The feedback also helped the students to measure their speaking skill in theory and practice.

The step in teaching and learning also should be integrated in one step to another. It is about linkages and cohesiveness. The cohesiveness is not only on the step, but also in the activity in each step. Based on the analysis, the lesson plan by T2 didn’t fulfill the criteria. It was happened because the activity in experimenting, associating and communicating step used similar activities, it was about completing dialogue. So, it was only like using similar activity for different steps.

In using information and communication technology, T1, T2 and T3 used Projector and power point slides in teaching and learning process. In this case, T3 also used video as an additional media in teaching speaking. By using technology, the process of delivering material would be easier. The students were enthusiastic in teaching and learning. The using of slides in power point was more efficient. So, the principle about using technology in teaching and learning, especially in teaching speaking had been completed by T1, T2, and T3.

CONCLUSION

After conducting the research about the implantation of scientific approach in teaching speaking with the appropriate lesson plan based on 2013 curriculum which performed by 3 English teachers at SMP Negeri 40 Semarang, the conclusions are drawn based on the analysis in chapter IV. First, the English teachers at SMP Negeri 40 were implementing scientific approach based on 2013. The implementation was in five main steps, observing, questioning, associating, experimenting and communicating. Second, there are some problems in implementing scientific approach. All the teachers were deals that the problem was in communicating step and the difficulties in time management. The problem in teaching speaking was about the confidence of the students and also pronunciation. Third, related to the appropriateness of the lesson plan, all the
principles and criteria had been fulfilled except the attention on the students’ differences and developing the culture in reading and writing.

Hopefully, this research gives positive effect in English teaching and learning. This research is not perfect. Assessment in teaching speaking based on 2013 curriculum is not discussed in this research. The researcher hopes that other researchers interested in conducting study about assessment in teaching speaking based on 2013 curriculum.

REFERENCES


