

**THE IMPLEMENTATION OF SCIENTIFIC APPROACH IN
TEACHING ENGLISH IN SENIOR HIGH SCHOOL
PEKANBARU**

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Abstract: *This study is aimed at investigating how the English teachers implement the Scientific Approach (SA) in teaching English in Senior High School in Pekanbaru. The research design is categorized as a qualitative research under interpretive research paradigm. There were 3 English teachers selected as the participants of this research. The instruments used in this research were an interview question (semi-structured) and classroom observation. The data were analyzed qualitatively by using Gay's theory (2000). The result of the study showed that the English teachers in Senior High School Pekanbaru encountered problems dealing with understanding the concept of SA and the implementation of the Curriculum 2013 in classroom activities. Data from semi-structured interviews indicate that participants of this research did not seem to have a clear understanding on the five stages of Scientific Approach in teaching English. However, data from the classroom observation show that some teachers have implemented some stages of the approach quite well, especially in observing, questioning, and experimenting. Finally, it is suggested for the English teachers to get more knowledge and skills in implementing the Scientific Approach as determined by the 2013 Curriculum.*

Keywords: *Curriculum, Implementation, Scientific Approach, Teaching English*

PENERAPAN PENDEKATAN ILMIAH DI PENGAJARAN BAHASA INGGRIS DI SMA PEKANBARU

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Abstract: Penelitian ini bertujuan untuk menyelidiki bagaimana guru bahasa Inggris menerapkan pendekatan ilmiah dalam pengajaran bahasa Inggris di SMA Pekanbaru. Desain penelitian ini dikategorikan sebagai penelitian kualitatif dibawah pandangan individual. Terdapat 3 guru bahasa Inggris terpilih sebagai partisipan pada penelitian ini. Instrumen yang digunakan dalam penelitian ini adalah pertanyaan wawancara (semi-wawancara) dan observasi kelas. Data dianalisa secara kualitatif dengan menggunakan rumus Gay. Hasil dari penelitian ini menunjukkan bahwa guru bahasa Inggris di SMA Pekanbaru dihadapi masalah yang berurusan dengan pemahaman konsep dan penerapan kurikulum 2013 di kelas. Data dari (semi-wawancara) menunjukkan bahwa partisipan dari penelitian ini tidak terlihat memiliki pemahaman pada lima langkah Pendekatan Ilmiah di pengajaran bahasa Inggris. Bagaimanapun, data dari observasi kelas menunjukkan bahwa beberapa guru sudah menerapkan beberapa langkah dari pendekatan cukup baik, khususnya mengamati, menanya dan mencoba. Akhirnya ini disarankan kepada guru bahasa Inggris untuk mendapat perhatian lebih di penerapan Pendekatan Ilmiah sebagaimana ditentukan oleh kurikulum 2013.

Kata Kunci: Kurikulum, Penerapan, Pendekatan Ilmiah, Pengajaran Bahasa Inggris

INTRODUCTIONS

Law Number 20 Year 2013 about National Education System mentioned that the goal of national education is for the development of students' potentials to become a human of knowledge, skillful, and creative. In achieving the educational goals, it certainly cannot be separated from the educational curriculum. The curriculum is a place that will determine the direction of education. In this context, the curriculum is defined as a series of attempts to reach educational goals.

Nowadays, Indonesia has been implementing the 2013 Curriculum as a revision of the previous curriculum, School-Based Curriculum (KTSP). In 2013 Curriculum, teaching learning process uses new approach that is called as Scientific Approach. The Scientific Approach adopted some principles and practices which are usually familiar in science class, like questioning, observing, associating, experimenting and networking. Therefore, it is important for teachers to have a clear understanding how it should be implemented. Because the Scientific Approach is a relatively new approach in the context of teaching English in Indonesia, it is possible that they have some obstacles in the implementation of this approach in the classroom. More specifically, many of these challenges are likely to reduce the effectiveness of the teaching of English in schools, especially in Senior High School. Although the Scientific Approach has been applied in some public schools in Indonesia, some barriers might be found in its implementation. For this reason, in this study, the researcher focused on observing how English teachers teach English in their classrooms by using the Scientific Approach. Furthermore, according to *Kemendikbud* (2013) Scientific Approach consists of five steps for all subjects. The first step is observing. In observing students are trained about seriousness, thoroughness and searching for information. Second is questioning, students are expected able to develop creativity, curiosity and the ability to formulate questions. Third is associating, competencies that developed are honest, particular, disciplined, and hard working. Fourth is experimenting, here students have to communicate with other and practice to appreciate the opinion from other friends. The last is networking, students have to develop their ability to express the idea and practice their ability to use language.

As a new approach used in teaching English, both students and teacher usually find difficulties in the implementation of this approach especially in making students interested in English lesson. As the terms Scientific Approach is new in English teaching, it is important to investigate how it is understood and implemented by teachers in the classroom.

Therefore, the writer was interested in investigating how English teachers implement the Scientific Approach in teaching English in one of public schools in Pekanbaru. The title of the research is: The Implementation of Scientific Approach in Teaching English in Senior High School in Pekanbaru.

METHODOLOGY

This research was conducted at SMA Y Pekanbaru, on July 16th, 2016. This research belongs to descriptive qualitative design. It was carried out to obtain the description of the implementation of Scientific Approach in teaching English. The

method used in this research is categorized as a qualitative method under interpretive research paradigm. This research employs the constructivist view of reality and the essence of phenomenon. As Afrianto (2015) stated that unlike the position of the positivist paradigm in which there is the belief that there is only one truth and that objective reality does exist independent of human perception, this qualitative research is based on the assumption that there is no single truth and reality, and the reality is actually constructed and dependent on human perception.

The subjects of this study were the English teacher in Senior High School Pekanbaru. They were four participants registered as English teachers in that school. But one of them cancelled the interview, because there were some privacy reasons. Therefore, only three participants of English teachers were interviewed. For confidentiality purpose, the name of the school and participants were written anonymously. Since the number of the teachers was relatively small, the subjects were taken by using total sampling technique. According to Sugiono (2007), total sampling is a technique determining of sample if all population is used as a sample. Therefore, all participants of English teachers were taken as a sample.

In this research the writer used qualitative data. This research used semi-structured interview and classroom observation. The data consist of the result of interview and the activity of teaching learning process through classroom observation by taking the video and teachers' observation checklist. The questions interviews were about the English teachers' perspectives on the implementation of the Scientific Approach in teaching English. The researcher identified the implementation of scientific approach in teaching English particularly in teaching learning process from the observation. Semi-structured interview is a verbal interchange where one person, the interviewer, attempts to elicit information from another person by asking questions. The interviews focused on qualitative research in a specific field and they are concentrated on investigating interviewees' perspectives.

In addition, during the classroom observation, the observer sat in the back of the classroom. The learning process was recorded by using a tripod and digital camera. At the same time, the researcher filled the observation sheet. The teacher's teaching practices and students' actions were recorded and observed. After the class, the researcher met with the teacher to discuss the activity in the classroom.

RESEARCH FINDINGS

This section presents findings from two methods of data collection: semi structured interview and classroom observation.

Semi Structured Interviews Data

There are four points that the researcher tried to explore through semi structure interviews, they are about teachers' understanding on the nature of Scientific Approach, their attitude on Scientific Approach, their implementation, and challenges they faced during the implementation. In addition, the researcher also explored participants' short profile to get some background information about the participants. Yet, the teachers' profile is first described in this section.

Teachers' profile

It covers the educational background and experiences of English teacher in teaching English. Most teachers have different educational backgrounds. For Teacher 1, he graduated from University of Riau for his Sarjana Degree and had for 10 years teaching experiences. For Teacher 2, she graduated from University of Riau for her Sarjana Degree and had for 12 years teaching experiences. For Teacher 3, she also graduated from University of Riau for her Sarjana Degree and had for 10 years teaching experiences. The teacher have also had some workshops and trainings about how to implement the Scientific Approach.

Teachers' concept on Scientific Approach

In this part, the researcher asked questions to research participants to investigate how the English teachers understand about Scientific Approach in 2013 Curriculum. After interviewing them, the writer found that there were different perspectives about the Scientific Approach. For Teacher 1, he mentioned that Scientific Approach is *teaching English by English*. That means he simply defines Scientific Approach when the teacher use English during teaching and learning process in the classroom. As he mentioned below:

“Scientific Approach mean that ee when we teaching English, we teach English with English ya, we teach English with English that ee SA, according to my opinion”. - Participant 1

He also reported that he did not use Scientific Approach in teaching English, but he focused that used English during teaching and learning process.

It was different from Teacher 2 that mentioned Scientific Approach is an approach when a teacher needs to stress on attitude. This means that the teacher perceives about three aspects (attitude, knowledge, and psychomotor). Those three aspects are the assessment of Scientific Approach. As reported below:

“Scientific Approach is a science to stress on the attitude, and then ee about knowledge and what we called ee psychomotor. Scientific Approach is a stress on attitude”. – Participant 2

Furthermore, Teacher 3 mentioned that the Scientific Approach is giving the students time to find out the ability to understand the materials. She means that in implementing the Scientific Approach, a teacher should give the brainstorming before teaching and learning process. In other words, she emphasised on giving stimulation to the students before doing the materials.

Therefore, based on the description above, it can be interpreted that all participants got confused in understanding about the basic concept of Scientific Approach. They have their own interpretation with Scientific Approach.

Teachers' attitude on Scientific Approach

The next question asked during the interview was about teachers' attitude on the Scientific Approach. It related to how they perceived and how they felt about the Scientific Approach.

Although their understandings on the Scientific Approach were not clear, most of teachers reported that Scientific Approach is interesting and really helpful for them. In general, participants mentioned that they were interested in the Scientific Approach for their teaching. Teacher 1 in particular mentioned that he was very interested in combining the Scientific Approach with other approach, like Communicative Approach. Next, Teacher 3 mentioned that it was really helpful for teacher, especially for her. As she mentioned below:

“Actually it's really helpful. Helpful for teachers, right. Eeee yaaa but it will be different to another teacher”. – Participant 3

It can be further interpreted that the Scientific Approach is a good approach for them, but the situation did not support this approach as well.

“The approach is very good I think. But, the situation ee is not support this approach I think. I think the approach is very good” – Participant 1

Teachers' implementation

In this part, the researcher provided questions related how the teacher implemented the Scientific Approach in teaching English. Teacher 1, for example, he focused on Communicative activities in teaching English. He argued that in using the Scientific Approach, there should be no mix language during teaching the students. In other words, teachers must totally use English as the language of instruction in the class.

“I thought, communicative approach. so when me teaching English, we use English that mean Scientific Approach, why? when me teach Eng, they use Indo ya, when we use English ya mean that eee we train to the student to understand about English” – Participant 1

It seems that Teacher 1 wanted to make the students understand about English well. Therefore, he used English all the time in implementing the Scientific Approach. He focused to the students in achieving the target to improve the students' speaking ability.

Unlike Teacher 1 who focused on developing speaking ability, it was found that Teacher 2 focused on reading comprehension in implementing the Scientific Approach.

“Different maybe study about grammar. We cannot eee speak English. But today ee I think it stress on reading, because the curriculum need the students eeee are able to know about the text ya”. – Participant 2

This might be happened because the teacher got difficulty to guide the students to speak up in English due to students' lack of speaking skills. Therefore, she decided to focus on reading comprehension.

While Teachers 1 and 2 were quite clear with their focus on using the Scientific Approach, it was found that Teacher 3 did not clearly mention specific focus on her teaching during the implementation of the Scientific Approach. She only mentioned that she did not really care with the approaches. What she concerned was only how she could achieve her goal of teaching. Unfortunately, she did not explore what she meant by her goal of teaching.

Unlike Teacher 1 has implemented the Scientific Approach in teaching English for ten years. It was found that Teacher 1 has implemented when he teaches English at this school. He believed that has implemented this approach since longtime ago. Although, Teacher 3 has mentioned before that Scientific Approach has implemented for three years by all teachers. This is an interesting finding in which there is a slight inconsistency between Teacher 3 and Teacher 1, when all teachers did not equal to implement this approach. However, the Scientific Approach has implemented since three years ago.

“During I teach Eng so of course I use SA I think, eee about ten years” -
Participant 1

Therefore, it can be concluded that most of teacher did not realize about the Scientific Approach in teaching learning English. The teacher only focused on their own rules. It is an interesting finding to know how the English teachers understand and implement the Scientific Approach.

Challenges

In this section, the researcher asked the participants about challenges they faced during teaching and learning process under Scientific Approach. It was found that the challenges range from their difficulties to make students communicate in English, problems with assessment, and the use of teaching media.

Teacher 1, for instance, stated that he got difficulty to teach the students to communicate in English. This happened because he had to deal with a large quantity of students in his class (43 students). Furthermore, he also got difficulty to teach English, because the students lack of English.

“I think we cannot use method or communicative approach one hundred percent ya, because ya 40 students, so many students or more than 40 students ya” -
Participant 1

In the case of Teacher 2, she got difficulty to make an assessment of the Scientific Approach. This might happen because the teacher lack training experiences about Scientific Approach.

Furthermore Teacher 3 mentioned that she got difficulty to teach English in two different classes (science class and social class). She argued that these two classes have

different kinds of languages. It is not the same when she teaches in science class compared to social class.

“I just think about the goal. Because you see that ya for the science maybe I mostly use English, but for the social ya I have to see my students need”. –

Participant 3

Classroom Observation Data

After the result of interview, the observation sheet was constructed based on seven stages of teaching suggested by the Scientific Approach. In conducting the observation, each participants were evaluated based on these stages, if they follow the stages or not. The observation was not only done through direct observation in the classroom but also through video recording. In analysing the participants’ performance, the researcher looked at both observation check list and the video recording.

From the observation that had been conducted, the writer found the results of classroom observation in teaching English are shown in the following table:

NO	Stages	Teacher 1	Teacher 2	Teacher 3
1	Pre activity	<ul style="list-style-type: none"> ✓ Teacher greetings to students and students praying together ✓ Teacher checking students’ attendance ✓ Teacher asking news before going to the lesson 	<ul style="list-style-type: none"> ✓ Teacher greetings to students and students praying together ✓ Teacher checking students’ attendance ✓ Teacher asking news before going to the lesson 	<ul style="list-style-type: none"> ✓ Teacher greetings to students and students praying together ✓ Teacher checking students’ attendance ✓ Teacher asking news before going to the lesson ✓ Teacher reviewing the lesson toward the students ✓ Teacher giving the new topic, new book and new situation in classroom ✓ Teacher giving

				learning motivation to the students
2	Observing	<ul style="list-style-type: none"> ✓ Teacher observed the students by using the text book in learning activity 	<ul style="list-style-type: none"> ✓ Teacher observed how the students' reaction during learning activity 	<ul style="list-style-type: none"> ✓ Teacher explained the topic to the students on whiteboard
3	Questioning	<ul style="list-style-type: none"> ✓ Teacher giving some questions to the students' opinion about the lesson ✓ Students active to respond teacher's question 	<ul style="list-style-type: none"> ✓ Students asking teacher about the lesson (making dialogue) ✓ Students try to respond the teacher ✓ Teacher as a controller 	<ul style="list-style-type: none"> ✓ Teacher giving some questions to the students ✓ Teacher stimulating the students to ask and answer the questions
4	Associating	<ul style="list-style-type: none"> ✓ Teacher guided the students to speak up, critical thinking about the material. (agree and disagree lesson) 	<ul style="list-style-type: none"> ✓ No activity 	<ul style="list-style-type: none"> ✓ No activity
5	Experimenting	<ul style="list-style-type: none"> ✓ Teacher divided students into the groups ✓ Teacher asking 	<ul style="list-style-type: none"> ✓ Teacher asking students in making dialogue. (expressing offering 	<ul style="list-style-type: none"> ✓ Teacher giving the students exercise to the students by textbook ✓ Some of

		students in each groups to share their ideas about the lesson.	something)	students write the exercise on whiteboard
6	Networking	✓ Teacher asking the students to share their ideas individually in front of the class	✓ Students fast respond to express the dialogue in front of the class with her/his friends	✓ No activity
7	Closing	✓ Giving homework to the students ✓ No conclusion in the end of meeting	✓ No conclusion in the end of meeting	✓ Giving homework to the students ✓ Giving conclusion in the meeting

As seen in table above, generally speaking all teachers have tried to implement the five stages of Scientific Approach (*observing, questioning, associating, experimenting, and networking*). The three participants did three stages (observing, questioning and experimenting) quite well. But, associating and networking stages were not really seen to be implemented in the observed class.

From all of the findings, it can be concluded that all teachers did not really implement all stages of the Scientific Approach as mandated by the curriculum. This might be happened because the teachers used their own approach to teach the students in the classroom. Furthermore, all teachers just think about the goal of teaching. They did not focus on the approach, even though the school has claimed that they implemented the Scientific Approach.

DISCUSSION

The results of interview data and observation data indicate that there were some differences between the teachers' perspectives on the Scientific Approach with what they have implemented in the classroom. Regarding their understanding on the concept of Scientific Approach, for example, most participants did not really provide a clear definition of what the Scientific Approach is. One teacher even simply answered it that

the Scientific Approach is when an English teacher teaches the students by using English. He never mentioned about the five stages. However, after the observation, it was found that teachers have implemented some parts of the five learning stages of the Scientific Approach (observing, questioning, collecting information/exploring, associating, and communicating stage). Although the implementation of the Scientific Approach in teaching English is not always fully implemented, but some teachers have implemented some stages of the approach quite well, especially observing, questioning, and experimenting.

CONCLUSIONS AND RECOMMENDATIONS

Finally, it can be concluded from the findings that the Scientific Approach has been perceived positively among the English teachers in SMA Y. One teacher shows positive attitude on the new approach, other said that it is an interesting approach, and the other stated that this is a helpful approach for teaching English. Regarding the implementation, it was found that the implementation of curriculum 2013 has not shown the optimal consequences. The English teachers in SMA Y encountered problems dealing with understanding the concept and the implementation of the Curriculum 2013 in classroom activities. Data from semi-structured interviews indicate that participants of this research did not seem to have a clear understanding on the five stages of scientific approach in teaching English.

After looking at the results of the research, the writer would like to offer some suggestions. A number of recommendations should be added to suggest some of the subject. Firstly, Teaching English by using the Scientific Approach as determined by the 2013 curriculum should get more attention by English teachers at school. The empirical data shown that there is insufficient successful classroom on teaching English by using the Scientific Approach. The teachers as the main factor of the policy reform must improve their conceptual and procedural knowledge within the policy and content specific, pedagogic, personal, and social competence and performance. Secondly, The government and policy makers in all levels should have anticipated the policy implementation with a minimal constraint mechanism. A subject specific (such as English) in strictly controllable in-service trainings for all school teachers should be conducted on periodical basis. Thirdly, The School Supervisors and Headmasters should work together to find the problems or constraints in implementation, analyze the problems, and find the best solution through regular and sustained supervisory programs for teachers at schools. All constraints must be eliminated or at least reduced to achieve the targets of implementation.

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