

CHAPTER IV

RESEARCH FINDING AND DISCUSSION

This chapter is divided into three sections. The first is the finding of the research. The second is the discussion. It discusses the researcher's response to the finding. The last is about the weaknesses of this research. The first section is divided into four parts. It is divided based on the research questions. The summary of the research findings based on the research questions is presented in the table below.

Table 4.1 Summary of the Research Findings

Research Question	Aspects	Indicators
1. What are the teachers' attitudes towards the implementation of scientific approach of teaching English in 2013 curriculum?	Belief	Theory a. Definition b. Activities in scientific approach Assumption a. The assumption of the effectiveness of Scientific Approach Expectation a. The expectation of the students' achievement b. The expectation of the improvement of teaching skill Value a. The importance of Scientific Approach to the students
	Emotion	Satisfaction Anxiety
	Motivation	Goal Willingness Readiness
	Performance	Teaching Approach Teaching order Interaction Material
How do the teachers implemented scientific approach in teaching English?	Observing	
	Questioning	
	Experimenting	
	Associating	
	Communicating	
What are the problems	Observing	

encountered by the teachers in implementing scientific approach?	Questioning
	Experimenting
	Associating
	Communicating
How do the teachers solve the problems encountered?	Questioning
	Experimenting
	Associating
	Communicating
	Communicating

A. Research Finding

1. Teachers' Attitude toward the Implementation of Scientific Approach

Attitude had some aspects and indicators. When we speak of someone's attitude, we are referring to the person's emotions and behaviors. Attitudes help us define how we *see* situations, as well as define how we *behave* toward the situation or object. (Pickens, 2005: 44). From the construct of the theory, the aspects of attitude are belief, emotion, motivation and performance. The data for belief, emotion, and motivation are gained through interview and questionnaire. The data for performance is gained through interview, questionnaire, and observation.

a. Teachers' Belief about Scientific Approach

1) Theory

Teachers' belief about scientific approach includes how the teacher define the scientific approach, and how their belief about teaching using Scientific Approach. The definition of Scientific Approach among the three teachers is almost the same. The teachers' definition of Scientific Approach is presented below. The result of the questionnaire also showed that all of the teachers agree that scientific approach

is a process of asking questions or problems and answering the question by analyzing it to solve the educational problems using a certain science as the basic.

Scientific approach is an approach consisting of five steps. The first step is observing. In this step, the teacher can give vocabulary or modeling. The second step is questioning. In this step, the students are expected to ask what was observed. The next steps are associating, experimenting, and communicating or networking. (T1)

Scientific Approach means that we teach our students like the way we conduct a scientific research. The first process is observation and then asking question. The next step is conducting the theoretical framework. (T2)

In curriculum 2013, the approach is SA. SA consists of five steps. The steps are observing, questioning, experimenting, associating, and communicating. (T3)

The three teachers had different belief about the sequence steps of scientific approach. The first teacher argued that the sequence of scientific approach is observing, questioning, analyzing, experimenting, and communicating. While the second teacher believed that the steps of scientific approach are observing, questioning, experimenting, associating, and communicating. The third teacher had the same belief with the second teacher that the sequence are observing, questioning, exploring, associating, and communicating. Yet, the different is only how they mention exploring and experimenting. The second teacher said experimenting, while the third teacher said exploring. However, both terms are actually the same.

a) Observing

The teachers had almost the same belief about the activities conducted in the step of observing. The first teacher believed that providing vocabulary and modeling. The second teacher believed that providing pictures and videos can be the activities in the step of observing. This teacher also believed that observing

something outside the class can also be the alternative activity. The third teacher also believed that providing picture can be the activity in observing. Moreover, she also believed that observing conversation of their friend, observing text can be the activity in observing step.

In observing, I provide vocabulary and also modeling. T1

I provide pictures and videos. Sometimes, I ask the students to observe something outside the class. T2

I ask the students not only to observe pictures, but also conversation and texts. T3

b) Questioning

The teachers had almost the same belief about questioning. The three teachers believe that questioning is difficult to implemented. Their students are reluctant to ask. For T3, since her students are PK class students, some of the students sometimes ask. All of them believe that in questioning, the teachers should guide the students so they can ask critical questions.

In the step of questioning, the students should ask about what they have observed. T1

It's still difficult for the students to ask a critical question. T2

c) Experimenting

Since I conducted the research in the academic year of 2013/2014, the third step of SA is still experimenting. In 2014, the government published the new guide and the third step is collecting data/information. The three teachers had different belief about the activity in the step of experimenting. T1 believed that in the step of experimenting, the students should create a text. T2 believed that in experimenting

the students should do such kind of practicing with their friends. T3 believed that in the step of experimenting, the students should explore more information related to the learning material.

In experimenting, the students can create a descriptive text. I give them suided questions so that the text is sequences. T1

In experimenting, the students have simulation or roleplay with their friends.. T2

In the step of exploring, the students explore more information about what are observed. T3

d) Associating

The teachers are actually upset about what kind of activities can be implemented in the step of associating. The teachers had difficulty to differentiate the step of experimenting and associating. They were upset to determine what kind of activity can be implemented. T1 believed that jumble words or jumble sentences can be applied. T2 believed that in associating the students should work with other friends. T3 believed that in associating, the students should give other examples.

Analyzing step can be done through the activities like jumble words and jumble sentences. T1

In associating, I ask the students to work with the other friends. T2

Associating means giving other examples, the examples are from the easiest to the most difficult. T3

e) Communicating

The three teachers had the same belief that in the step of communicating the students should communicate their work. Mostly, the teachers asked the students to come forward and speak about their work or the text they have created. T1 also believed that there should be a magazine or media to showed the students' written work.

For communicating, students can come forward and speak about what they have created. If there is a wall magazine, the students can showed their work there.

T1

For communicating, the students should come forward and communicate their work. T2

In communicating, the students should produce something. For speaking, the students should have a communication with their friends. T3

2) Teachers' Assumption about the Implementation of Scientific Approach

The three teachers also had a different assumption about scientific approach. There were three questions about the teachers' assumption of the scientific approach. The first is about whether SA effective for their students and the second is about whether SA is effective for all materials. T1 and T2 assumed that scientific approach was not always effective for their students. It depended on what material they teach. Yet, T2 assumed that he tried to implemented SA whenever possible. For T1, he was sometimes pessimistic if SA can be effective for their students because their students have low level of intelligence. T3 believed that scientific approach is effective for her students.

SA is sometimes effective and sometimes is not since not all materials can be taught using SA. T1

SA is actually quite good. However, not all materials can be taught using SA. Implementing SA to all materials in English subject is difficult. T2

SA is effective in my class, T3

3) Teachers' Expectation

The expectation is about whether the teacher expects that SA will improve the students' achievement or not. T1 was not sure whether SA is better than GBA or not and whether the students' achievement improved through SA or not. T2 hopes that SA can improve students' critical thinking. However, his students'

critical thinking is not improved yet. T3 believed that SA improves her students' critical thinking since the students must follow some steps in SA and it will remain for along time in the students' memories.

I don't expect that SA will be better than GBA. I use both of them and both are good. T1

SA is expected to stimulate the students to ask. However, my students are still reluctant to ask. T2

I expect that SA will improve my students' critical thinking. T3

4) Teachers' Belief about the Importance of Scientific Approach

For the importance of scientific approach, the teachers had different belief about scientific approach. T1 believed that scientific approach is sometimes important and sometimes is not. It depends on the material. T2 believed that scientific approach is important if the teacher can implemented scientific approach well. Moreover, T2 believed that steps of scientific approach are almost the same with the steps of Genre Based Approach. T3 believed that scientific approach is important to implemented. However, she also argued that the activities of scientific approach depend on the type of the students whether they are audio, visual, or kinesthetic learners.

SA is recommended by the government. But the effectiveness and the importance Of SA still depends on the material. T1

If the teacher can implemented SA well, SA is actually important. Moreover, the steps of SA are quite the same with the steps of GBA. T2

SA is important. However, the importance still depends on the students' condition. T3

b. Teachers' Emotion toward the Implementation of Scientific Approach

1) Satisfaction

The first indicator of emotion is satisfaction. The question about satisfaction is whether the teachers feel satisfied implementing scientific approach. T1 is neither happy nor sad. He only teaches like what government recommends. He does not feel anything toward this approach. T2 felt enjoy implementing SA. He felt that scientific approach had a sequence steps so that the way he teaches is more well-organized. T3 felt encouraged when implementing scientific approach. She tried to explore more activity to be conducted in this approach. She felt that she learns a lot when teaching SA.

I neither hate nor like SA. T1

I feel enjoy implementing. T2

I feel encouraged to implemented SA as well as I can. T3

2) Anxiety

The second indicator is anxiety. The question is about whether the teachers are afraid if scientific approach is not effective to their students and if their students do not understand the material. T1 and T2 had the same feeling, while T3 had the different feeling.

T1 sometimes felt afraid if his students do not understand the material when he implemented scientific approach. If this happens, he will implemented other methods or approach which are more appropriate with the material so that his students can easily understand. T2 also felt that there are a certain materials that cannot be taught using scientific approach. Unlike T1, T2 actually is not afraid if his students do not understand the material. T3 did not have anxiety if her students get difficulty to understand scientific approach. She teaches at PK (special program class). Her students have high level of intelligence.

Sometimes I feel anxious to implemented SA. When I'm afraid that my students will not understand if I teach certain material using SA, I will impement other methods which make them understand. T1

If it is possible, I will implemented SA. If it's not, I will implemented other methods. T2

I never feel anxious to implemented SA. T3

c. Teachers' Motivation

1) Goal

The first indicator is goal. T1 and T2 had the same goal for implementing scientific approach. T3 had the different goal for implementing it. T1 and T2 implemented scientific approach because this approach is recommended by the government for the schools implementing 2013 curriculum. They implemented it because their schools implemented 2013 curriculum. T3 implemented scientific approach as she thought that this approach will improve the students' critical thinking. Through this approach, the students were expected to produce a spoken or written work.

I implemented SA because this approach is recommended in the 2013 curriculum and all lessons should be taught through this approach. T1

I implemented SA because SA is the approach in 2013 curriculum and our school implemented 2013 curriculum. T2

2) Willingness

The third indicator of motivation is willingness. The question is about whether the Teachers are eager to participate in the seminar or training of scientific approach or not. T1 participated in the training about 2013 curriculum once. T2 participated in the training of 2013 curriculum twice. T2 was also the coordinator of

2013 curriculum for junior high schools in Surakarta. T3 did not participate in ToT of the 2013 curriculum. She learnt about scientific approach at MGMP Surakarta.

I am always eager to participate in the seminar or training about curriculum 2013. T1

I am the coordinator of curriculum 2013 for junior high schools in Surakarta. Therefore, I always join the training about 2013 curriculum. T2

Although I never join ToT about curriculum 2013, but I always join in MGMP Surakarta which also discuss the SA. T3

3) Readiness

The last indicator of motivation is readiness. For readiness, the question was about whether the teachers prepare lesson plan and learning material or not. T1 prepared lesson plan based on permendikbud no. 65 year 2013 about standard process. The sequence of the lesson plan was based on that rule. T2 also prepared the lesson plan before he taught. The lesson plan he used was the compilation lesson plan he got from the training of 2013 curriculum. T3 also prepared the lesson plan and media whenever she taught.

I always prepare lesson plan and learning material. The lesson plan I prepare is based on permendikbud no.65 year 2013. T1

I prepare the lesson plan from the workshop that I participated. I also prepare learning materials such as pictures and videos. T2

I always prepare lesson plan and also the media to teach. T3

d. Teachers' Performance

1) Teaching Approach

The questions for teaching approach were whether the teachers implemented scientific approach all the time they teach or not and whether they apply all steps in scientific approach or not. T1 did not always implemented scientific approach. He only implemented scientific approach when the material was appropriate. When he

thought that scientific approach was not effective for a certain material and when he was afraid if his students do not understand the material if he implemented scientific approach, he used another approach or method which is more appropriate. The questionnaire also showed that he did not always implemented scientific approach. The result of observation also showed that T1 does not implemented scientific approach in all meetings. He sometimes applied some techniques in cooperative learning. When T2 implemented scientific approach, he tried to implemented all steps in the scientific approach although the time was not sufficient.

To me, not all of the English material can be taught using SA. English itself already had a certain approaches. Therefore, I don't always implemented SA. T1

If it is possible, I will implemented SA. However, there are certain materials that can't be taught using SA. T2

I always try to implemented SA although sometimes I skip some steps like association or directly go on to Communicating. But, I always try to start the lesson with the observing step. T3

T2 also did not always implemented scientific approach. He implemented scientific approach if it was possible. If the material cannot be taught using scientific approach, he used another method. Unlike T1, T2 was not afraid whether his students do not understand the material if he implemented scientific approach. The result of questionnaire showed that he tried to implemented scientific approach if it was possible. The result of observation showed that T2 did not implemented scientific approach in all meeting. He sometimes applied role-play, cooperative learning, and also lecturing. T2 did not apply all the steps of scientific approach when teaching. He only implemented some steps which he thought important. T3 tried to always implemented scientific approach as well as she can. She stated that

in every meeting, she used scientific approach although sometimes she left some steps. She often left step of associating, after questioning, she continued to experimenting and communicating.

2) Teaching Order

The second indicator of teaching performance is teaching order. The question was about whether the scientific approach applied is sequenced or not. All of the teachers actually did not implemented SA rigidly like what the government asked. They sometimes skipped one or two steps in SA. Associating step was often skipped by the teachers because they were upset to determine what kind of activity to be conducted. Questioning was also often skipped because this step was difficult for the Teachers.

*I don't always implemented scientific approach perfectly. Sometimes, because of the limited time, I only implemented some of the five steps of SA. T1
The SA that I apply is actually not rigidly like what government asked. I implemented it as I am able to. T2
I try to implemented SA sequenced. T3*

3) Interaction

The next indicator of teaching performance was interaction with the students. The result of interview showed that T1 always invited the students to be active in the classroom. However, he felt that on a certain time, for example in the last hour and after sport lesson, the students are tired and not focus. The observation result also showed that the teacher tried to make the students active. The result of questionnaire also showed that T1 agreed that he always invited the students to be active.

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T2 also invited the students to be active in the class. The problem that T2 got was that the characteristic of the students in each class was different. For example, the students of A class were very active, while the students of B class were less active and even passive. The result of observation showed that he always tried to make the students active. The result of questionnaire also showed that T2 agreed that he always invited the students to be active. T3 always implemented student-centered teaching method. Therefore, her students are always active at the class. She only guides the students to do some activities.

It is compulsory for us to make the students active in the teaching and learning process. T1

I always invite the students to be active. But, because of the conditions, sometimes they are not willing to be active. T2

I always implemented student-centered method so I only guide the students and they will be active at the class. T3

4) Teaching Material

The questions about the material were whether the teachers used the book provided by the government or not, whether they provided additional material or not, and whether the material provided was appropriate for the students or not. T1 used the book provided by the government entitled “When English Rings the Bell”. He also provided some additional material because he thought that in the semester test usually the items are not suitable with the book. He also chose the material which was appropriate to his students because his students were low level students. T2 also used “When English Rings the Bell” and provided some additional materials which were appropriate to his students.

Actually, the government asked us to use the book provided entitled When English Rings the Bell and that book is the main book right now. But, because the material is too simple, I also provide some additional material. T1

I use the same book from the government. But, I also provide additional material. T2

4.2 Table of Summary of the Findings of the Teachers' Attitude

Aspects of Attitude	Indicators of Attitude's Aspects	Teacher 1	Teacher 2	Teacher 3
Belief	Theory	Well defined.	Well defined.	Well defined.
	Assumption	SA was not always effective for his students. It depends on the material.	SA was not always effective.	SA was effective for her students.
	Expectation	T1 did not expect that students' achievement through SA will be better than GBA.	T2 expected that SA can improve students' critical thinking.	T3 expected that through SA, the students' achievement will be improved.
	Importance	SA was not always important.	SA was important if the teachers can implement it well.	SA was important to implement.
Emotion	Satisfaction	T1 was neither satisfied or not.	T2 felt enjoy implementing SA.	T3 liked to implement SA.
	Anxiety	T1 was anxious if his students do not understand the material if he implemented SA.	T2 was anxious if scientific approach cannot be implemented for a certain material.	T3 did not have anxiety if her students get difficulty to understand SA.
Motivation	Goal	T1 implemented SA as the government recommend.	T2 implemented SA as the government recommend.	T3 implemented SA as she thought that it will improve students' critical thinking.
	Willingness	T1 was eager to participate in seminar or training about 2013 curriculum.	T2 was eager to participate in seminar or training about 2013 curriculum.	T3 had not joined in any seminar about 2013 curriculum yet.
	Readiness	T1 always prepared lesson plan and learning material when he implemented SA.	T2 always prepared lesson plan and learning material when he implemented SA.	T3 always prepared lesson plan and learning material when he implemented SA.
Performance	Teaching Approach	T1 did not always implement SA. He only implemented SA when the material was appropriate.	T2 also did not always implement SA. If the material cannot be taught using SA, he will use another method.	T3 tried to always implemented SA as well as she can.
	Teaching Order	T1 implemented SA not in a sequence.	T2 implemented SA not in a sequence.	T3 implemented SA not in a sequence.

	Interaction	T1 always invited the students to be active in the classroom.	T2 also invited the students to be active in the class.	T3's students were always active at the class.
	Teaching Material	T1 used the book when English rings the bell and also provided additional material.	T2 used the book when English rings the bell and also provided additional material.	T3 used the book when English rings the bell and also provided additional material.

2. The Implementation of Scientific Approach

a. Observing

In the step of observing all three teachers implemented it well. T1 provide the students a certain text, in this case, he provided descriptive text about a person. He asked the students to observe the text. In another time, he played a video about sign and asked the students to observe the video. In the step of observing, there was no problem for T1. Everything run smoothly. The school provided media such as LCD and sound system, so that the teacher can play video in the step of observing. T1 provided text more often than video. The result of interview and questionnaire showed the same finding.

T2 mostly used video as the media and material in the step of observing. Almost every meeting, he played a video for the students. The video was based on the book. The teacher chose the video based on the topic of the book. The videos that the teacher played were about public places, sign, and telling direction. For T2, there was also no problem found. The school had a complete facility. In every class, there were LCD and also sound system. The result of interview and questionnaire showed the same finding.

T3 mostly used text and picture. For descriptive text, in the first meeting, she provided text entitled “my mother”. In the second meeting, she provided pictures. There was also no problem in the step of observing for T3. The school’s facility was also complete enough. The result of interview and questionnaire showed the same finding.

b. Questioning

In the step of questioning, T1 always invited the students to ask. However, there was no student who asked something about the material provided in the step of observing. T2 also guided the students to ask. He even encouraged his students by giving good score to those who often ask. But, his students were also still shy to ask. For T3, she also invited the students to ask. There were a certain students who always actively ask. However, the other students were reluctant to ask.

c. Experimenting

In the step of experimenting, in the first observation, T1 gave the data about a person. He asked the students to create a descriptive text in pairs. Based on that data, the students were asked to create a text. The students did it in pairs. In another observation, when the topic was about notion, the teacher asked the students to do role play about notion. The students did it in pairs.

T2 in the first observation taught about public places. The experimenting activity in this meeting was conducted by playing a game about public places. In this game, the teacher showed a picture and asked the students what is the name of the picture. In the second meeting, when the topic was about telling direction, the teacher asked the students to do exercise giving direction with their friend. T3, in

the step of experimenting, invited the students to discuss the description about one of their family. They had to create a descriptive text about mother.

d. Associating

T1 conducted associating by asking the students to use different grammatical patterns to construct sentences. T2 conducted associating step by asking the students to work with other friends. T3 conducted associating step by asking the students to describe other people or other things.

e. Communicating

In the step of communicating, T1 asked the students to come forward and read the descriptive text they have created. T2 asked the students to come forward and tell the direction from one place to another place. T3 asked the students to come forward and tell spoken descriptive text about their mother. In this step, she asked all of the students to pay attention on their friend coming forward and give him or her score of his or her performance.

Table 4.3 Summary of the Finding of the Implementation of Scientific Approach

The Steps of SA	Teacher 1	Teacher 2	Teacher 3
Observing	Well implemented. T1 provides texts and videos.	Well implemented. Mostly, T2 provides videos.	Well implemented. T3 provides texts and picture.
Questioning	T1 invites the students to ask. However, it still does not work at all.	T2 invites the students to ask. However, it still does not work at all.	There are only a certain students who ask but the rest are still passive.
Experimenting	Quite good although there were some problems. This activity was done through role play and creating text.	Well implemented. This activity was done through playing games and role play.	Well implemented. This activity was done through discussion.

Associating	Not bad. T1 asks the students to construct descriptive sentences using different grammatical patterns.	Not bad. T2 asks the students to work with their friends.	Not bad. T3 asks the students to describe other things or people.
Communicating	Quite good although there were some problems. T1 asks the students to come forward and communicate their work.	Well implemented. T2 asks the student to come forward and speak.	Well implemented. T3 asks the students to come forward and communicate their work.

3. Problems of Implementing Scientific Approach

a. Observing

In the step of observing, there was no problem found in T1. The facility of the school was complete enough. In every class, there were an LCD, and also sound system. Therefore, the teacher could use the LCD and sound system to play the video. Moreover, the teacher could operate the laptop well so that he can use technology to teach. The result of interview and questionnaire also showed that T1 does not have problem in the step of observing.

T2 often used video in the step of observing. The facility of the school was also complete enough so that he can use all media in this step. No problem found in the step of observing. The result of interview and questionnaire also showed the same thing. T3 sometimes provided picture, video, and text in the step of observing. In this step, there was no problem found. The facility of the school was complete to be used in the step of observing.

b. Questioning

Based on the interview result of T1, questioning was the most difficult step in scientific approach. T1 got difficulties in the step of questioning. The students were reluctant to ask. Even for the simple one. Moreover, his students were low level students. Therefore, to ask a critical question like what is required in the 2013 curriculum was difficult for the students.

T2 also had the same problems. Questioning was difficult to implement. His students actually asked some questions. However, the question was about vocabulary. The question about vocabulary was not the critical question that was required in the 2013 curriculum. Although the students of T2 had a higher level of intelligence than the students of T1, T2 still had difficulty in the step of questioning. For T3, there were only a few students who are active at class. However, most students were not active to ask. The questions that asked by the students were also not the critical one. Since the subjects of the research were junior high school students, questioning was difficult to implement. Junior high school students could not have a high critical thinking like senior high school or college students.

c. Experimenting

In the step of experimenting, T1 got some difficulties. The difficulties were from his students. Since his school was a *sekolah plus* and the input was quite low, the students had difficulty in constructing a sentence and creating a text or paragraph. Another problem was also that the students had lack of vocabulary. Moreover, for speaking, the difficulties faced by the students were bigger. For T2,

there was only a little problem in the step of experimenting. The problem was only that the students mispronounced the words and also create some grammatical mistakes. However, this little problem was not a significant problem that offended the experimenting step. For T3, there was also a little problem in the step of experimenting. The problem for T3 was almost the same with T2. It was only about pronunciation and grammar.

d. Associating

For T1, he sometimes did not implement the step of associating. Since the students were still in the level of junior high school, they had difficulties to analyze or synthesize a text or paragraph or sentences. The interview and the document showed that T2 believed that in the step of associating, the students should work with their friends. However, T2's belief was a bit different with the theory. In the implementation, he was confused to differentiate activities in experimenting and associating. T3 sometimes did not implement associating because she had difficulty to determine the activity conducted in this step.

e. Communicating

T1 encountered some problems in the step of communicating. For speaking, the students were quite shy to come forward and speak about their work such as text and so on. For writing, the problems were that there is no wall magazine or something provided to show the students' work. T2's problem was that he only implemented communicating step for speaking. He did not ask his students for the written one. For the students of T2, there were some students who were willing to come forward and speak but there were also some who are shy to speak. T3 also got

the same problem with T2. Some of the students were active and some were passive.

Table 4.4 Summary of the Finding of the Problems in Implementing Scientific Approach

The Steps of SA	Teacher 1	Teacher 2	Teacher 3
Observing	No problem found.	No problem found.	No problem found.
Questioning	The students were all passive although the teacher guides them to ask.	Some of the students asked but the questions were about vocabulary.	Only a certain students who were active to ask. The rest are still passive.
Experimenting	The problem was that the students had lack of vocabulary, and were difficult to construct sentences. The problems got bigger when the activity is speaking.	There was only a little problem for T1. The problem was only that the students create mistakes in the pronunciation and grammar. However, the experimenting step still run well.	The same problems with T2.
Associating	T1's students had difficulty to construct sentences.	T2's belief about associating step was a bit different with the theory. He is also confused to differentiate activity in experimenting and associating.	T2 was sometimes upset to differentiate activities in experimenting and associating.
Communicating	The students were reluctant and shy to speak in front of the class. In addition, for writing, there was no media such as wall magazine to communicate the students' written work.	Some of the students were active but some were shy and reluctant to speak.	Some of the students were active but some were shy and reluctant to speak.

4. The Solution of the Problem

a. Questioning

T1 always tried to provide students guided questions so that the students will have a critical thinking and ask questions. However, the students were still reluctant to ask. T2 also encouraged his students to ask. He explained to his students that he will give a good score to those who were active to ask. Yet, his students were still silent. T3 always tried to provide interesting media to increase her students' curiosity. However, only few students were active to ask.

b. Experimenting

The big problems of experimenting were only encountered by T1. To solve this problem, T1 always checked the students' problem and asked whether they had difficulties or not. In this step, he walked around the class to check the students' work. If the students had problems or made mistakes, he directly gave the correction and explained the mistakes to the students. This solution was quite effective. His students finally understood what their mistakes. For T2 and T3, the problems were not as big as T1's. If the students mispronounced some words and created grammatical mistakes, they will directly correct and explain.

c. Associating

T1 solved the problem in the step of associating by giving them feedback about their mistakes. For T2, since the problems were actually about his belief, the problem is not solved yet. T3's problem was also unsolved. T2 and T3 had problems to differentiate activities in the steps of experimenting and associating.

d. Communicating

T1 solved the problem of communicating by calling his students' name and asking them to come forward and speak about their work. For the writing problem, he also asked his students to come forward and speak about their work. Although there was no wall magazine or something, he thought that by speaking about the work in front of the class will be the same since the goal was to communicate their work. T2 did not try to solve the problem of how to communicate the written work. In every semester, T2 always had an independent speaking test. Therefore, in every meeting, the students' speaking is assessed. Because of that reason, the students of T2 are encouraged to speak. For those who are shy, T2 call their name and invite them to come forward. T3's students are quiet active. However, to speak in front of the class, only certain students who are willing to be the volunteer. Therefore, T3 also invited the shy students to come forward.

Table 4.5 Summary of the Finding of the Solution of the Problems in Implementing Scientific Approach

The Steps of SA	Teacher 1	Teacher 2	Teacher 3
Observing	No problem found.	No problem found.	No problem found.
Questioning	Providing guided questions to improve the students' critical thinking.	Encouraging the students to ask. He will give the students who are active to ask a good score.	Providing an interesting media which can improve students' curiosity.
Experimenting	T1 walks around the class to check the students' work and asks whether they have difficulties or not. If the students' make mistakes, he directly explains	If the students mispronounce some words and create grammatical mistakes, they will directly correct and explain.	If the students mispronounce some words and create grammatical mistakes, they will directly correct and explain.

	and corrects the mistakes.		
Associating	T3 solved the problems in associating by giving the students feedback.	Unsolved.	Unsolved.
Communicating	T1 called the students' name and ask them to come forward and speak about their work. For the written work, he also asked the students to communicate it orally.	For those who were shy, T2 call their name and invite them to come forward.	T3 also invited the shy students to come forward.

B. Discussion

1. Teachers' Attitude toward the Implementation of SA

Teachers' beliefs, practices and attitudes are important for understanding and improving educational processes. They are closely linked to teachers' strategies for coping with challenges in their daily professional life and to their general well-being, and they shape students' learning environment and influence student motivation and achievement. Furthermore they can be expected to mediate the effects of job-related policies – such as changes in curricula for teachers' initial education or professional development – on student learning (TALIS, 2009:89),

T1 defines scientific approach as an approach consisting of five steps. The steps are observing, questioning, associating, experimenting, and communicating. T2 defines scientific approach as an approach that is conducted like how the scientist conducts a research. The steps are observing, asking questions, doing theoretical framework, giving hypothesis, and conducting an experiment. T3

defines scientific approach as an approach which consists of five steps. The steps are observing, questioning, exploring, associating, and communicating.

There are actually some definitions of SA from some experts. AIM Multimedia (1999: 11) defines SA as a step-by-step process of asking questions and coming up with answer to our questions. In scientific approach, we have to use the process to ensure that our solutions and answers are reliable. Scientific approach not only helps us to find answers to problems but also to compare and organize information in an orderly way. Putra (2013: 53) states that scientific approach is an approach in teaching and learning process between teacher (as the sender of the information) and students (as the receiver of the information) using specific method (scientific method). Iswari in Areni (2014: 1283) defines scientific approach as an approach to activities that share the goal of discovering knowledge. They explained further that in Indonesian context, it means observing, questioning, associating, experimenting, and networking.

The three teachers have almost the same definition of scientific approach. T2's definition is more detail and related to the theory. The definition explained by the three teachers is already correct based on the theory.

The first teacher argued that the sequence of scientific approach is observing, questioning, analyzing, experimenting, and communicating. While the second teacher believed that the steps of scientific approach are observing, questioning, experimenting, associating, and communicating. The third teacher had the same belief with the second teacher that the sequence are observing, questioning, exploring, associating, and communicating. Yet, the different was only how they

mentioned exploring and experimenting. The second teacher said experimenting, while the third teacher said exploring. However, both terms are actually the same.

Ministry of Education and Culture (2013: 12) elaborates the steps of scientific approach are observing, questioning, experimenting, associating, and communicating. In contrast, in another module published by Ministry of Education and Culture, the steps of scientific approach are observing, questioning, associating, experimenting, and communicating (Ministry of Education and Culture, 2013: 2-20).

Areni (2014: 1283) elaborates that scientific approach learning consists of observing, questioning, experimenting, associating, communicating, and creating. Although the teachers believe that there are five steps in scientific approach. They did not always implement all of the five steps. Usually, the teacher left the associating step. Sometimes, if the time was not sufficient, they also left the communicating step. They implemented scientific approach flexibly based on their need, students' condition and also the time.

T1 and T2 assumed that scientific approach is not always effective for their students. It depended on what material they teach. Yet, T2 assumed that he tried to implement SA whenever possible. For T1, he was sometimes pessimistic if SA can be effective for their students because their students had low level of intelligence. T3 believed that scientific approach is effective for her students.

T1 believed that scientific approach is sometimes important and sometimes is not. T2 believed that scientific approach is important if the teacher can implement scientific approach well. Moreover, T2 believed that steps of scientific approach are

almost the same with the steps of Genre Based Approach. T3 believed that scientific approach is important to implement. However, she also argued that the activities of scientific approach depend on the type of the students whether they are audio, visual, or kinesthetic learners. The importance of scientific approach also depends on the characteristic of the students.

To this belief, there are some theories explaining about the importance and the effectiveness of SA in ELT. Pratiwi (2014) states that scientific approach in its implementation should be bridged by another approach that had been used before, that is Text-Based Approach. Each stage in the approach is possibly adjusted to the stage in scientific approach in the table 4.6.

Table 4.6 The Step of SA compared to the GBA

Scientific Method	Genre-Based Approach
Observing	BKOF
Questioning	BKOF
Experimenting/Collecting Data	MOT
Associating	MOT
Communicating	MOT
Creating	JCOT & ICOT

The belief whether SA is effective for their students or not depends on the condition of the students and the level of the students. For T1, the students had low level of intelligence. Therefore, he sometimes felt that SA is not effective for his students. He was afraid if his students do not understand the material if he always implemented SA. T2's students had higher level of intelligence than T1's students. However, he implemented scientific approach only if the material is appropriate to be taught using SA. Unlike T1, T2 was not afraid if his students do not understand the material. During the implementation of scientific approach, his students did not

have difficulty to follow the steps of SA. T3 was the most optimistic teacher among the three subjects. She thought that scientific approach is effective for her students. Her students did not have difficulty to follow the steps of SA.

Nelson and Kern in Dwiyatno (2014) state that the English language teaching had raised an important question about the appropriate method used in English language teaching in different cultures and different settings. It raises questions of whether a method which is appropriate for teaching English in a certain culture and setting can be used as successfully in other cultures and settings, with different learners. This had led to the belief that different methods should be used for teaching different learners. Even when a teacher teaches learners in the same culture and setting, he/she needs to make sure that the method he/she used is appropriate to that particular type of learners as learners have different characteristics. For example, a method which is appropriate for teaching junior high school students may not be appropriate for teaching senior high school students.

T1 sometimes felt afraid if his students do not understand the material when he implemented scientific approach. If this happens, he implemented other methods or approach which were more appropriate with the material so that his students could easily understand. T2 also felt that there are a certain materials that cannot be taught using scientific approach. Unlike T1, T2 actually was not afraid if his students do not understand the material. T3 did not have anxiety if her students get difficulty to understand scientific approach. She teaches at PK (special program class). Her students had high level of intelligence.

Dwiyatno (2014) argues that it is again questionable that the use of the scientific approach as the only approach to be used will be appropriate. Indonesia had a large population. The students in different parts of Indonesia also have very different characteristics. They have different background knowledge. They have different families which may also influence their way of learning. Their learning styles are also different. These are examples of the differences in relation to the students. It is impossible that one approach to teaching can be used for teaching students with these different characteristics.

There are also differences in relation to schools. Some schools are very well facilitated while others are not. Even some schools in remote areas do not have chairs for their students to sit on. Some schools provide internet access to their students while others even do not have electricity. Will it be appropriate for teachers in these different schools to use the same approach? A certain approach may only be appropriate to be used in well facilitated schools, while other approaches may only be appropriate to be used in poorly-facilitated schools (Dwiyanto: 2014).

At this case of this research, the effectiveness of the SA depends on the students' intelligence since the three schools have the same facility and the teachers have almost the same ability to teach. The three schools I observed have the different input of the students. The students of T1 are the low level students so that they have difficulty to follow all of the instructions in the steps of SA. The students of T2 have a bit high intelligence. Therefore, their ability to follow the instructions in SA is quite good. The students of T3 have the highest intelligence among all

since her students are the students of *program khusus* (special class) which all of the students are highly ranked students. Therefore, the implementation of SA in those three schools is different. And it is quite understandable if T1 and T2 are doubt whether SA is effective or not.

It is understandable that some people doubt on the possible success of using the only approach in teaching English. Some students may be happy with the use of the scientific approach and will be able to achieve better accordingly. Some other students may think that this approach is quite difficult to follow. As a result, they will not study well and finally their achievement will be low. The same is true with the teachers. Very professional teachers may believe that this approach is very appropriate for their teaching but for many, this approach cannot be used appropriately for some reasons. Even with those professional teachers, the use of the only approach, method, strategy, and activity in teaching may make students feel bored. This is contradictory with the suggestion that the teaching learning activities should be varied in order to prevent students from being bored (Dwiyatno: 2014).

Thus, it can be inferred that using the scientific approach in English teaching may lead to the ontological challenges and, later, to the failure to achieve the aims of the curriculum. Empirically, the other voices of doubt and confusion also come from some teachers concerning with the approach implemented to this new curriculum. They found it difficult to follow the phases or logic of the scientific approach in the English teaching activity. It is not easy to translate the observation phase, for instance, when it deals with a text (Maru, 2014: 1).

It is not always appropriate to teach English language skills with this approach (scientific approach). Based on the curriculum, the approach selected can be based on the characteristics of the students and the subject. Therefore, teachers can use different approach, for example, communicative approach for language teaching (Pratiwi, 2014).

T1 was not sure whether SA is better than GBA or not and whether the students' achievement improved through SA or not. T2 hoped that SA can improve students' critical thinking. However, his students' critical thinking was not improved yet. T3 believed that SA improves her students' critical thinking since the students must follow some steps in SA and it will remain for a long time in the students' memories.

T1 is neither happy nor sad. He only teaches like what government recommends. He does not feel anything toward this approach. T2 felt enjoy implementing SA. He felt that scientific approach had a sequence steps so that the way he teaches is more well-organized. T3 felt encouraged when implementing scientific approach. She tried to explore more activity to be conducted in this approach. She felt that she learns a lot when teaching SA.

Agustien (2014) argues that the target domains of SA are science skills whereas GBA target domains are communication skills. It is also apparent that under SA's target domains, some communication skills coincide with GBA's communication skills. This is not surprising because in modern countries, all subject matters are responsible for the development of literacy skills, but the main skills remain scientific skills. Therefore, actually the goal of language learning in

GBA and SA are slightly different. The goal of GBA is actually to enable the students to communicate. The SA's goal more emphasize on improving students critical thinking.

Among the three teachers, T1 actually understand more about SA. He defines SA well. He also understands what kind of activities can be conducted in every step. His understanding is also relevant to the theory. T2 and T3 have difficulty about determining the activities especially in the step of associating and experimenting. Even for T2, the steps in associating and experimenting are the same. However, for affective or emotion aspect, T1 reveals negative result while T2 and T3 shows the positive result. T1 does not like neither hate implementing SA. He is also anxious if his students cannot follow the steps in SA. The negative result of T1 is actually understandable. He understands well the theory of SA and the theory in ELT. He assumes that ELT actually has certain approaches or methods to apply. That is why he does not think that SA is really important for his students. In addition, he understands his students' condition. His students have low input of intelligence. That is why he is sometimes anxious that his students cannot follow every step in SA. Therefore, if he thinks SA will not be effective for his students, he will apply another method that is appropriate for his students. T2's affective or emotion aspect gains a positive result. He likes teaching using SA. He is not anxious if SA will not work for his students. But, he understands that ELT also has a certain approach to apply. Therefore, he also applies another method if he thinks SA is not appropriate for a certain material. Since his students have a high input of intelligence, he feels that SA is effective for his students. T3 also shows the positive

result for emotion aspect. She likes to implement SA. She thinks that SA is really effective for her students. Her students have the highest input of intelligence among the three schools. Therefore, the students can follow every step in SA easily. She never feels anxious that SA will not be effective for her students. All of the respondents show a positive result for the aspect of readiness. All of them prepared the material, lesson plan, and media before teaching. T1 and T2 participated in Training of Teachers about the 2013 Curriculum. Although T3 did not participate in ToT, she participated in MGMP Surakarta and had a discussion about Curriculum 2013 there. For teaching performance, all of the respondents have almost the same result. The teacher does not always implement all of the steps of SA. One or two steps are often left. T1 and T2 also do not always implement SA to teach. T3 always implement SA since she thinks that SA is effective for her students.

2. The Implementation of Scientific Approach to Teach English

The implementation of SA is actually affected by the teachers' attitude. The first teacher believed that providing vocabulary and modeling can be the activity conducted in the step of observing. In the implementation of SA, T1 mostly used text and video in the step of observing. The second teacher believed that providing pictures and videos can be the activities in the step of observing. In the implementation, T2 mostly used video. This teacher also believed that observing something outside the class can also be the alternative activity. Yet, he never conducted this activity during the observation. The third teacher also believed that providing picture can be the activity in observing. Moreover, she also believed that

observing conversation of their friend, observing text can be the activity in observing step. In the implementation, T3 often used pictures and text. They guided their students to observe the material given. Since the step of observing is not too difficult, there is no problem found.

The implementation of observing from the three teachers is appropriate with the theory from the Ministry of Education and Culture. Ministry of Education and Culture (2013: 12) elaborates that observing is designed to make the learning related to the context of real situation that students will find in their daily life. The process of observing the facts or phenomena involves listening a dialogue or monologue, reading a text, paying attention to the social function, structure, language feature, and format of a text.

The activity conducted in this step is the activity which used the five senses like seeing, hearing, watching, listening, and also reading. The thing observed is the material in the form of facts, concepts, and also procedures. The material in the form of facts is like interpersonal or transactional text, special text, functional text, and language feature in the form of text, video, or audio recording. The material in the form of concept can be the material like social function of a certain texts and also the generic structure. The alternative activity in the process of observing can be activity like watching conversation video, watching simple movie, read a story book, newspaper, magazine, brochures, leaflets, banner, and poster written in English (Ministry of Education and Culture, 2013:39).

Priyana (2014) elaborates that in the language learning process, observing means reading and/ or listening to texts. The students read and/or listen to texts in

order to list items they need to know in order to comprehend and/or produce texts or communicate ideas. At the end of this step the students have a list of items they want to know that generally include the social function of the text, text structure, grammar, and vocabulary. Areni (2014: 1283) states that in observing, students are supposed to observe something given by reading, listening, or watching.

The teachers mostly felt that questioning is difficult to implement. Their students are still in the level of junior high school. Giving a critical question is something difficult to them. Moreover, Indonesian students are reluctant to ask. They were afraid to ask and afraid if people think they are not smart if they ask questions.

Ministry of Education and Culture (2013: 7) elaborates the criteria of a good question are: brief and clear, inspiring, focus, divergent or probing, validating, increasing students' cognitive ability, stimulating interaction. The questions given by the students are usually the questions that do not reflect critical thinking. The questions are usually about vocabulary. The question about vocabulary is not the question that is appropriate with the theory of questioning from the ministry of education and culture. Ministry of Education and Culture (2013: 13) explains that questioning is done as a process to build students' knowledge in the form of concepts, principles, procedures, rules and theories, and also metacognitive. The aim of questioning is to make the students able to think critically, logically, and systematically. Questioning is conducted through discussion and group work. Questioning can be done by asking the differences between the spoken and written

text, including the use, the grammar, and also the content like main idea, explicit and implicit information, reference, etc.

Priyana (2014) elaborates that having identified items they need to know in order to be able to comprehend and/or create texts, the students ask or formulate questions based on the identified items. The questions at least cover all the achievement indicators stated in the lesson plan. In this step of learning, students are encouraged to propose temporary answers based on their knowledge and/or limited information they have. Thus, the output of this step is a list of questions and preferably also a list of temporary answers. Areni (2014: 1283) states that in questioning, the students may ask some questions based on the information they get in the observing step.

T1 implemented experimenting through asking the students to create a text and also activity like simulation. T2 conducted experimenting through simulation. T3 conducted experimenting through asking the students to create a text. Actually, based on their belief, T3 was correct that the activity in experimenting is to explore more information about the material. However, the implementation is like what explained before.

Exploring or experimenting activity is the activity to internalize knowledge and the skill learned by the students. In this process, the students try to express the newly learned knowledge and use the language ability in the real world through the activity like simulation, role play, presentation, discussion, and playing game (Ministry of Education and Culture, 2013: 39).

The next step is collecting data/information to answer their formulated questions. Students collect data/information relevant to the questions using one or more techniques such as observation (e.g. watching videos), interviewing resource persons, and reading books. By the end of this step the students will have enough data/information to answer their questions (Priyana, 2014: 290). In experimenting, students are supposed to do various learning activities, read other sources, or do interview to get relevant information to their previous questions (Areni: 2014: 1283).

T1 believed that jumble words or jumble paragraph can be an activity in the step of associating. To implement associating, T1 asked his students to compare “he had a dark skin” and “his skin is dark”. T2 believed that in associating, the students should work with their friends. The lesson plan also showed that in every meeting the step of associating is conducted by asking the students to work in group or in pairs. Therefore, in the implementation, associating was conducted by the students of T2 through work in pair. T3 believed that associating is conducted through searching for other examples from the simple one to the most complex one. In the implementation, this activity was conducted by the students through describing other persons or other things. However, T2 and T3 were a bit confused to differentiate the activities in the experimenting and associating.

Related to this, Priyana (2014:292) explains that in this step students analyze data/information to answer their questions and draw conclusions. With or without teacher’s support students sort out, classify, and identify patterns to answer their questions. At his step the students produce answers to their questions. Ministry of

Education and Culture (2013:13) states that associating is done to build students critical thinking and scientific attitude. This process can be designed by group work so that the students are asked to analyze a text, identify, categorize, conclude, compare the expression, text structure, and language feature, discuss the discourse, and also get feedback from the teacher.

Communicating was quite well implemented. All of the teachers ask their students to come forward and communicate their works in front of the class. Although some of the students are shy, this activity still run well. For the written one, most of the teachers do not provide the media for the students to communicate the works. However, the written works were communicated through speaking in front of the class.

Related to the step of communicating, Ministry of Education and Culture (2013: 39) elaborates that communicating is aimed to develop ability to express or present all the knowledge and skill learned or not, spoken or written. In this activity, not only knowledge and skill will be presented but also the problems and success in the learning process. This activity describes completely students' ability of attitude, knowledge, and skill. The activity that can be conducted in communicating process are presenting the material in front of the class, writing a report, publish their writing wall magazine or social media.

In communicating, students are supposed to deliver their answer or conclusion based on their analysis, either in written, orally, or with any other media, to their teacher and friends (Areni 2014: 1282). All of the teachers believed that in the step of communicating, the students should communicate their work to

their friends. In this step, T1 asked the students to come forward and read the descriptive text they have created. T2 asked the students to come forward and tell the direction from one place to another place. T3 asked the students to come forward and tell spoken descriptive text about their mother. In this step, she asked all of the students to pay attention on their friend coming forward and give him or her score of his or her performance.

After answering questions (drawing conclusions) based on the (analysis of) data they gather, students communicate their answers or conclusions to the class in writing and/or orally. Their answers (conclusions) represent the knowledge they 'construct' or learn. At the end of this step the students are expected to have learned the necessary knowledge (especially about the social function of the text, structure of the text, grammar, and vocabulary) in order to comprehend and create texts. (Priyana, 2014: 291)

T1 actually is able to implement SA quite well. He understands the theory of SA and ELT. Although he often left one or two steps when he teaches, the steps he teaches are appropriate with the theory. Besides the problems they encountered, T2 and T3 also implement SA well. The implementation of SA among the three teachers actually does not reveal a significant difference. For T1 and T2, questioning does not work at all. For T3, there are a certain students who are active to ask but the rest are also reluctant to ask. The main difference is not in the way of teaching but in the students' condition. The implementation of SA in T3's class can run smoothly because the students have high level of intelligence. For T1, implementing SA to his students is more difficult than to T2 and T3's students.

However, T1 make a good effort to make his students understand. He guides his students so that they can follow the steps in SA. Therefore, although T1's students have a low level of intelligence, with his guidance, SA still can be implemented although it is not as well as in T2 and T3's class. T2 and T3's students can follow the steps in SA.

3. The Problems Encountered in Implementing SA and the Solution

Questioning is the main problem that the teachers encounter. All of the teachers have almost the same problems in this step. The junior high school students do not have a high critical thinking. To raise a question that is appropriate to scientific approach of the curriculum 2013 is difficult for the junior high school students. Moreover, the students of T1 have a low input. Therefore, it is harder for him to implemented questioning step.

However, the teachers have been attempting to guide the students to ask. T1 provided students guided questions. Hopefully, the students will raise some questions. In fact, the students are still quiet and reluctant to ask. T2 encourages his students to ask by giving a high score to those who are active to ask. However, the questions asked by the students are still only about the vocabulary. For T3, a certain students are active to ask but the rest are still quiet. To solve this problem, T3 always prepares interesting media so that the students will be curious and give some questions. There is actually a theory to conduct an effective questioning step by Yadi (2014). Yadi (2014: 76) elaborates that to create an effective questioning step, the activities that should be conducted by the teachers are:

commit to user

- a. Explaining the rules for the students about the materials of the questions that they can raise. The rules, for example, are like the relevance of the questions with the objectives of the study. Moreover, the questions should be complex. The questions may not need yes or no answers but it needs logical reasoning, references, and discussion.
- b. Accommodating all of the students' question whether it is relevant with the rules or not.
- c. Selecting the relevant questions from the students.
- d. Determining the appropriate questions which are possible to discuss within group or class. Therefore, the students do not only ask but also attempt to search for the answer of the questions through the next steps of SA.

Yadi (2014: 77) also explains that the process of accommodating the students to ask, perhaps, will be difficult because the students are not accustomed to ask. Even to have one or two questions from the students is difficult. The students mostly feel shy, afraid, confused, and also they think that there is no problems to ask. Some of the solutions that the teachers can do are:

- a. Asking the students to write the questions. This activity enables the students to think deeply and ask the questions clearly and correctly. This activity also accommodates the students who are shy to ask directly.
- b. Helping the students by explaining some of the problems about the object they have observed.
- c. Providing some keywords that can be used by the students to formulate some questions.

However, the three teachers do not implement the activities of questioning above. To solve the problems, the teachers use their own way and their own activity. They choose the activity that they think will be effective for their students. For the experimenting, T1 got some difficulties. The difficulties are from his students. Since his school is a *sekolah plus* and the input is quite low, the students have difficulty in constructing a sentence and creating a text or paragraph. Another problem is also that the students have lack of vocabulary. Moreover, for speaking, the difficulties faced by the students are bigger. For T2, there is only a little problem in the step of experimenting. The problem is only that the students mispronounce the words and also create some grammatical mistakes. However, this little problem is not a significant problem that offends the experimenting step. For T3, there is also a little problem in the step of experimenting. The problem for T3 is almost the same with T3. It is only about pronunciation and grammar.

To solve the problem in experimenting, T1 walk around the class and check the students' work. If they make mistakes, he will directly correct it and explain the mistakes. If only certain students make the mistakes, he will explain it at the table of the students. If most of the students make the same mistakes or errors, he will explain it in front of the class. This activity is quite effective because through this kind of activity, the students will know what their mistakes are and how the correct ones are. Even for T1's students, having activity like simulation or presentation is difficult for them. Their pronunciation is not so good. They also have a low fluency.

Ministry of Education and Culture (2013: 39) states that exploring or experimenting activity is the activity to internalize knowledge and the skill learned by the students. In this process, the students try to express the newly learned knowledge and use the language ability in the real world through the activity like simulation, role play, presentation, discussion, and playing game.

For T1, he sometimes did not implement the step of associating. Since the students are still in the level of junior high school, they have difficulties to analyze or synthesize a text or paragraph or sentences. The interview and the document showed that T2 believed that in the step of associating, the students should work with their friends. However, T2's belief is a bit different with the theory. T2 also have difficulty to differentiate activity in experimenting and associating. T3 also sometimes does not implemented associating because she is a bit upset to differentiate the activity conducted in associating and experimenting. T1 tried to solve the problems in associating by providing feedback to the students. However, it is still difficult for his students to do activity like analyzing the sentences. For T2 and T3, since they themselves are upset to determine the activity in associating, the problems are not solved yet.

This is actually relevant to what Areni (2014: 1285) states. She argues that the teachers have difficulty in distinguishing the steps of scientific approach, especially in experimenting and associating. They also get confused about the order of scientific approach steps and whether they have to include all of them in one meeting or not

Ministry of Education and Culture (2013:13) states that associating is done to build students critical thinking and scientific attitude. This process can be designed by group work so that the students are asked to analyze a text, identify, categorize, conclude, compare the expression, text structure, and language feature, discuss the discourse, and also get feedback from the teacher. The problem is that junior high school students also get difficulty to analyze a text, identify, categorize, conclude, compare the expression, text structure, language feature, and also discuss the discourse. For the junior high school students, associating activity should be simpler. T1 in the interview stated that the activity that can be done in the associating is jumble words, jumble sentences, and jumble paragraphs. This activity can be the alternative activity for junior high school students since it is more fun and not too difficult.

For communicating, T1 had some problems. The students were reluctant to come forward and communicate their work to their friends. They are too shy to speak, especially in front of the class. If experimenting is difficult enough for them, communicating is more difficult for them. T2's problem is that he only implemented communicating step for speaking. He did not ask his students for the written one. For the students of T2, there are some students who are willing to come forward and speak but there are also some who are shy to speak. T3 also gets the same problem with T2. Some of the students are active and some are passive. Related to this, Areni (2014: 1282) explains that in communicating, students are supposed to deliver their answer or conclusion based on their analysis, either in written, orally, or with any other media, to their teacher and friends.

T1 solves the problem of communicating by calling his students' name and asking them to come forward and speak about their work. For the writing problem, he also asked his students to come forward and speak about their work. Although there is no wall magazine or something, he thought that by speaking about the work in front of the class will be the same since the goal is to communicate their work. T2 did not try to solve the problem of how to communicate the written work. In every semester, T2 always have an independent speaking test. Therefore, in every meeting, the students' speaking is assessed. Because of that reason, the students of T2 are encouraged to speak. For those who are shy, T2 call their name and invite them to come forward. T3's students are quiet active. However, to speak in front of the class, only certain students who are willing to be the volunteer. Therefore, T3 also invited the shy students to come forward. In relevance to this, Yadi (2014: 80) elaborates that communicating means conveying the result of the work in the previous activity to other people spoken or written. The activities conducted in the step of communicating can be:

- a. Peer presentation
- b. Conveying the result of work or the result of discussion within the group.
- c. Presenting the result of the work in front of the class using a certain media.

Therefore, actually to solve the problems of shy students, the teacher actually can conduct a peer or group presentation to minimize the students' anxiety. In the experimenting step, the teachers actually had conducted peer and group discussion. They can conduct similar activity in communicating step.

Questioning was the problems that is encountered by the three teachers. For T1 and T2's students, questioning did not work at all. For T3's students, there were a certain students who were active to ask but the rest were also passive. To solve the problems, T1 provided students guided questions. Hopefully, the students will raise some questions. In fact, the students were still quiet and reluctant to ask. T2 encouraged his students to ask by giving a high score to those who were active to ask. However, the questions asked by the students were still only about the vocabulary. For T3, a certain students were active to ask but the rest are still quiet. To solve this problem, T3 always prepared interesting media so that the students will be curious and give some questions.

T1 had a problem in experimenting because his students had difficulty to construct a sentence and creating a text or paragraph. Another problem was also that the students have lack of vocabulary. Moreover, for speaking, the difficulties faced by the students were bigger. To solve the problem in experimenting, T1 walked around the class and check the students' work. If they make mistakes, he will directly correct it and explain the mistakes. If only certain students make the mistakes, he will explain it at the table of the students. If most of the students make the same mistakes or errors, he will explain it in front of the class. T2 and T3 do not have a significant problem in experimenting. For T2, there is only a little problem in the step of experimenting. The problem is only that the students mispronounce the words and also create some grammatical mistakes. However, this little problem is not a significant problem that offends the experimenting step. For T3, there is

also a little problem in the step of experimenting. The problem for T3 is almost the same with T2. It is only about pronunciation and grammar.

T1's problem of associating is that his students have difficulty to analyze or synthesize sentences or paragraphs. His understanding about associating step is actually appropriate with the theory. However, associating is also often left by T1. For T2, the problem is about his belief. The activity conducted in associating is the same with the experimenting. For T3, the problem is that she cannot determine what kind of activities can be conducted in this step. For the three teachers, the problems in associating are unsolved.

For communicating, T1 has some problems. The students are reluctant to come forward and communicate their work to their friends. They are too shy to speak, especially in front of the class. T2's problem is that he only implement communicating step for speaking. He did not ask his students for the written one. For the students of T2, there are some students who are willing to come forward and speak but there are also some who are shy to speak. T3 also gets the same problem with T2. Some of the students are active and some are passive. T1 solves the problem of communicating by calling his students' name and asking them to come forward and speak about their work. For the writing problem, he also asks his students to come forward and speak about their work. Although there is no wall magazine or something, he thinks that by speaking about the work in front of the class will be the same since the goal is to communicate their work. T2 did not try to solve the problem of how to communicate the written work. In every semester, T2 always have an independent speaking test. Therefore, in every meeting, the

students' speaking is assessed. Because of that reason, the students of T2 are encouraged to speak. For those who are shy, T2 call their name and invite them to come forward. T3's students are quiet active. However, to speak in front of the class, only certain students who are willing to be the volunteer. Therefore, T3 also invites the shy students to come forward.

C. Research Weaknesses

The study explores Teachers' attitudes toward the implementation of scientific approach to teach English. There are some weaknesses of this research. First, the subject of this research is very limited. The research was conducted in the academic year of 2013/2014. At that time, there were only 6 junior high schools in Surakarta implementing 2013 curriculum. Because some schools are not willing to be observed, the subjects chosen were only three Teachers from three schools. Second, the observation time is also limited. The schools observed had some agendas and the Teachers also provided a limited time to conduct the observation. Therefore, the data gained from the observation might be limited.

Third, the research focused on three Teachers in three schools. Since the research type of this research is case study, the findings cannot be generalized, so the different Teachers may give a different finding. Forth, implementing SA in ELT is a new thing. Therefore, the theories about SA in ELT are quite limited. Moreover, the theories published by the government are inconsistent. The steps of scientific approach often changes during a year and half of the implementation time. Despite the weaknesses, the researcher believed that the conclusion made in

this research are credible and reflect the Teachers' attitudes toward the implementation of scientific approach to teach English since the data gained from the participants are factual.

