

Inquiry-based teaching to develop efl students' Critical thinking in reading comprehension

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ABSTRACT

The technology advancement in this era of globalization promotes the innovation and transformation in English language teaching and learning especially for EFL students. The innovations in English Language teaching and learning have fostered the variations of teaching strategy and method. One of the recent strategies proposed in pedagogical context is inquiry-based teaching strategy. Since the recent issues of active learning have been discussed in some schools of thoughts, it is closely related to the importance of critical thinking students should have. In order to achieve English language learning goals, which are to enhance the students' skills, competence, and also critical thinking, the teaching and learning process is always designed more innovatively and effectively. Nevertheless, the implementation of this strategy should be adjusted in accordance to the students' capability in learning English in class. Therefore, teachers have to understand well the characteristics of inquiry-based teaching before implementing it in class. This paper attempts to explore the use of inquiry-based teaching in promoting students' critical thinking, especially in reading comprehension. This paper discusses the issues of this strategy based on theoretical frameworks and provides the example of an activity using 5E that can be applied in class. The reading activity through inquiry-based teaching can be constructed by the teacher by considering the students' condition and environment.

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INTRODUCTION

The current language teaching cannot be separated from the development of teaching strategies in the teaching process. The teaching and learning process is designed and developed by the teacher to guide students to acquire knowledge. In the implementation in class, the teacher can choose the strategy to be used and involve the use of the technology based on the needs. Each of the language skills, for

example, has different characteristics and the teachers have to construct the teaching strategy that is appropriate in teaching language skills. Focusing on the teaching reading, it also can be used as a more interesting strategy involving technology that can engage the students in the reading activity. The teaching reading requires the students to demonstrate their understanding of the facts from their comprehension (Bloom, 1956). As the purpose of comprehending a text is to get the information and to criticize the content based on students' interpretation. By analyzing the reading text, the students will be accustomed to think critically.

In the recent curriculum, the teaching and learning process should be done interactively and also require students to be more active. One of the purposes of making students more active is to stimulate them to think critically. As stated in *Permendikbud* Number 58 Year 2014 about 2013 Curriculum, one quality of the students' way of thinking is that the students are required to process their critical thinking skills and to be interactive with the teacher, among the students, and the communities around them. When the teaching is in a conventional way, there are not many students that can be involved in class activity if the activity requires only some students. Besides, the conventional class is usually dominated by direct instruction, in which the students hardly have a chance to think critically. Since the recent issues of active learning have been discussed in some school of thoughts, it is closely related to the importance of critical thinking students should have. Johnson and Freedman 2005 (in Priyatni, 2010) explained how to improve students' critical thinking in the form of logical thinking ability by generating questions, analyzing the problems, comparing ideas, contracting, and evaluating. Therefore, the role of the teacher is important to give facilitation and assist to stimulate the students to be more critical.

In order to achieve the learning objectives that are to enhance the students' skills, competences, and also critical thinking, the teaching and learning process has to be designed more innovatively and effectively. Therefore, currently in the pedagogical field, there are various strategies developed to increase the meaning of the teaching and learning process. One of the recent strategies is inquiry-based teaching. The inquiry-based teaching is built on knowledge about the learning process that comes from the idea of research (Bransford, Brown, & Cocking, 2000). This teaching strategy can make the students involved in various activities and thinking processes that are commonly implemented by scientists to produce new concepts. According to Suhartono, et.al (2014), the Inquiry-based strategy leads students to have an independent learning that can foster their thinking skills based on their prior knowledge. The implementation of Inquiry-based teaching has an important role especially in teaching reading comprehension for EFL students. However, not many students could perform well in their reading comprehension session since they lack motivation on reading and some teachers could not fully involve students' critical thinking in reading. Therefore, the most important thing to know before implementing an Inquiry-based strategy is understand the characteristics and the process in implementing this strategy. Regarding the obstacle in empowering students' critical thinking, this paper is aimed at exploring the use of inquiry-based teaching in promoting students' critical thinking, especially in reading comprehension. Since there are some studies discussing Inquiry-based teaching, this paper focusing on the concept of Inquiry-based to be implemented in that can give broader overview for English teacher in implementing this strategy, and provides the possible activity through 5E learning that are Engagement, Exploration, Explanation, Elaboration, and Evaluation steps of inquiry-based to be conducted in EFL classroom.

READING COMPREHENSION FOR EFL STUDENTS

Reading belongs to the receptive skills that need to be improved for EFL students. By improving reading skill, students could develop their ability in sharing their knowledge since reading is useful to broaden their perception of things that happen around them. As Ziauddin (2004) states, reading belongs to a responsive process of thinking by involving recognition, interpretation and perception toward particular ideas. Students will obtain knowledge from what they read so that they can bring their interpretation into the learning activities. The reading activity has an important function in every field as by having a good reading skill, it can bring the students a meaningful understanding of academic, professional and recreational materials (Nesamalar, 2005). Therefore, reading is regarded as the required tools to help global communication especially for students.

The reading skill is always influenced by the students' motivation in reading. In some cases, it shows that students who have less motivation in reading could not perform well. That is why the students' motivation is the important thing to be built before they are expected to read comprehensively and critically. As stated by Khatib & Nourzadeh (2011: 260) that the communicative activities will arouse

students' excitement and encourage them to use their imaginative powers that might be useful for their communicative skills development in the future. To build this situation, the teachers are responsible to provide the appropriate facilities and also give the students treatment through the interesting strategies in teaching reading. The teacher can give the students various teaching reading experiences based on the students' needs. The reading activities can be created by the teacher appropriate with the learning objectives. It is not as simple as giving the reading material and discussing the problems or the important points on the text, but reading is considered as an activity which requires students to have interaction to obtain the knowledge. There are several things that have to be understood by students in improving the reading skills as described by Rahim (2009):

- a. Reading can broaden students' experience in many aspects of learning such as the understanding of technology, culture, and also science.
- b. Reading intends to have a deep understanding of language sounds, symbols, and meaning of new vocabularies or terms to the students.
- c. Reading activities help the students to understand the sentence structures in which they find difficult.
- d. Through reading, the students can improve their comprehension skills and the speed and accuracy skills in reading.
- e. Reading activities have various purposes that depend on the students' learning level and background of knowledge.

Students are better learning to read in a step-by-step process through pre-reading, while, and post-reading. The pre-reading is considered to be the most important as it gives preparation for the students. As described by Hadley (2001), in the practice of reading, pre-reading activity is very significant as it gives students a chance to have an activity based on their prior knowledge related to the text or information being read by the students. The students in pre-reading can predict the content of what they are going to read. By giving the chance to students to predict the content, it will motivate students to compare the prediction in their minds with the real contents of the text and also activate students' schemata. In line with Brown (2001), that the main reading activity is also very important for the students in learning. In addition, pre-reading activity is also meaningful since at this stage of reading, the students will be able to know their understanding of the text when they compare the prediction made in the pre-reading with the content being discussed in the text to generate a new understanding of the discourse. Beside the pre-reading activity, while-activity and post-reading activity are done to strengthen students' knowledge of what they read and develop their reading comprehension. Those teaching reading processes can be used on different occasions in teaching reading.

INQUIRY-BASED TEACHING STRATEGY

As one of some instructional teaching strategies, inquiry-based teaching is a strategy that involves students to explore any kind of academic contents through investigating, analyzing, and answering questions related to the reading passages. Inquiry simply means enabling reasoning, where the students make up their own concepts and insights. In inquiry-based learning, students are more involved in the whole reading and thinking processes that are used to derive the knowledge. In scientific subject, for example, some science researchers encourage teachers to change the conventional strategies in teaching reading, such as too focus on textbooks, teacher's explanations, and general facts with the inquiry-based strategy that gives some advantages such as: bring students to their interest, give the students chances to use appropriate techniques in gathering evidence of their prediction, require students to improve their problem solving and critical thinking, encourage students to conduct further study to elaborate explanations, and emphasize the importance of writing scientific explanations on the basis of evidence (secker, 2002). Besides, inquiry-based can enhance students' experience of learning, especially in the aspect of problem solving skills, skills of explaining the data clearly, critical thinking skills, and also the understanding of concepts in science (Chang, et. al, 2003).

The same as learning science, in studying language can also use this approach to help students become more critical and independent in deriving knowledge. Inquiry-based strategy can be implemented

in a purpose of developing students' critical thinking. Trowbridge & Bybee (1990) define inquiry as a discovery process of thinking that starts with the identification of the problems, the formulation of hypothesis, the hypothesis testing, data collection, and the formulation of conclusions.

Sanjaya (2008) states that inquiry-based teaching is a strategy focusing on the process of thinking critically and logically in order to find the way of solving the problem. This strategy requires students to think actively in finding answers to questions or problems based on the case being discussed. The benefit of inquiry learning is to manage the circumstances or students' learning environment with enough guidance to find reasonable concepts and principles. This strategy cannot be applied for all types of students. The teacher should consider the students ability in doing the activity. In this teaching strategy all students will be guided to do an activity of inquiry-based (Bush, 2011). In addition, students will get the model of learning from the teacher during the activity. Therefore, it makes inquiry-based activity take more time.

The teacher is taking a part as a facilitator in the inquiry-based teaching. But, sometimes the teacher got some problems with the students. Teachers face many problems in guiding and maintaining students' interest since they engage themselves in the learning activities and give attempts to conclude the topic being discussed (Bencze, 2009). To solve that problem, teachers need to be specifically trained about the inquiry-based teaching process before applying this strategy in a class in appropriate ways. Thus, teachers will be accustomed to divide responsibilities with their students while maintaining their control in the classroom at the same time.

The teachers' role in an inquiry-based teaching is quite different from the teachers' role in the conventional teaching strategies. In inquiry-based teaching, teachers do not direct instruction to students, yet they assist students to draw their own content-related ideas or questions and guide the investigation process instead. Because of the unconventional teacher's role in an inquiry-based teaching, it sometimes leads to the misunderstanding. When teachers attempt to conduct an inquiry-based teaching, they commit to do several things which are to provide rich experiences that arose students' critical thinking and curiosity; to plan carefully-constructed questioning sequences; to manage the probability of multiple student investigations at the same time; to continuously assess the progress of each student; and to respond directly to students' emerging questions and idea discoveries. Therefore, in the implementation of inquiry-based strategy, teachers should follow some steps of inquiry-based teaching and provide interesting activities to help the students being encouraged in the teaching and learning process.

Steps of inquiry-based teaching

The implementation of inquiry-based teaching should be done step by step clearly. By following the steps of the strategy, it will ease the students to do the activities as the instruction by the teacher. According to Bybee et.al., (2006), a cycle of inquiry-based teaching involves some steps which relate with 5E: engagement, exploration, explanation, elaboration and evaluation.

1. The first step in inquiry-based teaching is engagement. In this step, the teacher or a curriculum-in-charge opens the students' knowledge priority and assists them in engaging a new concept by the role of short movements which stimulate curiosity and obtain knowledge priority. This step provides several purposes: delivering a conflict between previous learning and another scientific perspective. The other conflict will guide students to raise questions, grasp students' attention and focus.
2. The second stage is exploration. Exploration skills deliver students with a common basis of movements of the current concepts inside (i.e. misconceptions), procedures, skills and conceptual change is enabled. Students may finish the movements that assist them using prior knowledge to create new insights, discover questions and possibilities, and construct and do a preliminary analysis. During this phase, students raise questions, hypothesize, work without any input of teacher directions but it still be guided, collect evidence, record and control information, share thoughts, create evidence based on rights, depict conclusions, and operate cooperatively and collaboratively.
3. The third step is explanation. Here the students are given chance to introduce their understanding of the concept. An enlightenment from the teacher or the course may lead them toward a deeper understanding which becomes a crucial part of this stage. During this stage, students depict on experiences to offer ideas and explanations in his/her own words, manages evidence to support ideas, critically evaluate explanations, listen respectfully and critically to others, expose and assess their own perspective.
4. The next step is elaboration. Teachers give challenge and expand students' conceptual understanding and skills. By having new experiences, the students gain deeper and broader perspective, more

information, and sufficient skills. Students concern their understanding of the concept by applying additional activities to new situations, apply previous information to raise questions, offer solutions, attain decisions and conceive investigations, make reasonable conclusions from the proof and confirm for thoughtful with their colleagues.

5. The last stage is called evaluation. This stage help students to gauge their understanding and abilities and gives opportunities for teachers to assess progress of the students about reaching the educational objectives. On this stage, students establish their insights of the ideas and concepts, answer open-ended questions, assess his/her own progress, raise questions and take the contribution in peer-assessment.

Through conducting those five steps in teaching reading comprehension may lead the students to think critically. The students are flexible in exploring and share their opinion of the content in a reading text. During the process of inquiry, students build up their understanding. It could not be able to catch the right answer. Instead, it helps to find out the suitable questions and issues which are given. Additionally, for the teachers, the clear guidance in conducting activities is the most important since teacher holds the roles as a guide and facilitator to make the students keep focus on the topic of reading.

INQUIRY-BASED TEACHING IN READING COMPREHENSION

The implementation of inquiry-based teaching can be used in different courses, and in English language teaching the use of inquiry-based teaching can be used for reading comprehension. In reading, students need to obtain the information that requires them to analyze what the text is about. It is suitable to use inquiry learning as it entails a classroom environment that makes students feel free to work, have a concept of learning, make implications and construct educated curiosity toward the learning process (Suhartono, et.al, 2014). It prioritizes the learning and experience which students bring to the classroom and it boosts problem solving actively, outcomes communication, and the shared interpretation of new insight from reading. In place of Kahn & O' Rourke (2004) who identified five characteristics of inquiry-based learning which are: first, a complex problem or scenario of engagement. Second, the direct line of inquiry and the methods employed by the students. Third, the students' inquiry is needed to draw on present knowledge and to pinpoint their learning needs which are required. Next, students' curiosity is stimulated by tasks. It encourages actively in exploring and seeking new evidence. Lastly, liability fgo down to the student for presenting and analyzing the evidence in the right ways and supporting their own response to the problem while they are learning.

In the implementation, teacher may explore many activities using 5E.

(Engagement, Exploration, Explanation, Elaboration and Evaluation) of inquiry- based steps with the appropriate activity. In this paper, the writers attempted to develop an activity by following the steps of inquiry-based strategy adopted from the theory of Bybee at al.

1. Engagement

In this step, a topic (in which the teacher is going to show them) that related to the text is given to the students. They can also relate the topic with their schemata or their previous knowledge based on their own experiences. It means that they can predict what they are going to discuss, what information that will be available on the text, and what they want to get by reading the text. Therefore, the goal of this step is bringing up the students' questions and also their curiosity from the topic provided by the teacher. The students' questions will indicate that they are triggered to think critically. This activity is in accordance with Ennis' statement (cited in Lai, 2011) who said that asking and answering questions for clarification also could be a parameter of a relevant critical thinking.

2. Exploration

The second step is used to give the students chance to explore their curiosity from the previous topic given by the teacher. After they have their own question related to the topic, the text will be distributed by the teacher to the students.

3. Explanation

After the students obtain the information from the text, they are allowed to give their own judgement or opinion about the text whether they want to agree or disagree with the information on the given text. Here, they must state their position to against or on behalf of the information on the text by supporting it with their related arguments.

4. Elaboration

The next step is writing down the students' opinion on a piece of paper. Here, the teacher gives the students colored-paper which are red and blue paper. The student who against the information of the text should pick the red paper and the one who in favor of the information should pick the blue paper. After they finish writing, they exhibit their work on the provided board in front of the class divided into two columns (against and for).

5. Evaluation

In this final step, the evaluation probably comes from both the students and the teacher. However, the first comes from the students themselves. They must take a look to all their friends' opinion. In addition, they are also allowed to give the comments, questions, or suggestions about their friends' opinion/work. By looking and guiding these activities from the beginning to the end, the teacher can assess the students' comprehension related to the reading activities. At the end, the teacher will only give the clarification and evaluation if there is misunderstanding or something which has to be cleared.

By doing this kind of activities through inquiry-based teaching, the teaching and learning process will give more contribution in developing their critical thinking especially in reading comprehension. Moreover, the reading class environment also will be variative and enjoyable. Besides, the students' centered also will be more effective to be conducted.

STUDENTS' CRITICAL THINKING THROUGH INQUIRY-BASED TEACHING

In the reading process, students need to sharpen their critical thinking in order to give them learning experience which is more challenging and interesting. The collaboration activities can help students to explore the concept in reading comprehension critically. The discussion using literature so far has brought the critical thinking which is considered as a useful trigger for students in developing their thoughts. The teacher's ability in stimulating students is needed in the using of strategy that requires students to think critically. Therefore, as Millers (2003: 313) said, there is an urgent need to train teachers in providing literature in teaching process so that they can naturally obtain a positive and encouraging atmosphere for students in order that students can analyze and develop their critical thinking in the learning process. Tung & Chang (2009: 291) affirmed that "Literature reading is a complex process that requires readers to recall, retrieve and reflect on their previous experiences or memories to construct the meaning of the text. Students' activities in reading, include checking the text, the author's purpose and style, and students' interpretations of certain readings." This means that teachers should prepare activities that cover the purpose of reading comprehension.

Critical thinking has to be trained by the students from the level of beginners. Priyatni (2010) determined that through critical thinking, someone can think divergently, develop problem-solving skills and the ability to think through issues related to causality, opinions, evidence, possibilities, and debates. In order to develop and strengthen students' critical thinking skills, as described in the reading text of critical literacy approach; key methods and strategies, models and methods of key methods in guidance are required. Therefore, some inquiry-based strategies involve critical thinking components, which are necessary when reading texts critically. The role of inquiry-based teaching in reading is to stimulate students' ability to think critically so that they can freely share opinions among friends in class.

The usage of inquiry-based teaching in the purpose of broaden students' knowledge by exploring what they get from the reading passage and delivering it based on their critical insight is applicable for the students in the intermediate or even advance level. It is also useful for them to learn to assess their own ability in reading comprehension. Here the teacher gives experiences to students with communicative reading activity that makes them feel powerful in learning rather than comprehending the text through the conventional ones. The students' critical thinking will be appearing as there are interactions among students in transferring their ideas. The process of think critically by doing step by step of inquiry activities is considered to be helpful to fulfill the education need which is to produce the more critical human being for the better advancement.

CONCLUSION AND SUGGESTION

Based on the theories in the discussion above, the teaching reading cannot only provide the students a conventional strategy that is focusing on the result of the students' reading comprehension. It should be more challenging by involving the students to comprehend the text with some steps of inquiry learning. The inquiry-based is a method of learning through questioning and experimenting, emphasizing students' response ability, authenticity and intellectual input. This strategy helps activate students' prior knowledge before presenting all the materials provided by the teacher. Similarly, it can be simplified to asking, reasoning, and finding out public answers to the question, and then evaluating the previous inquiry process. The inquiry-based teaching strategy is believed that it can stimulate the students to think critically in comprehending reading text since the students have experience in the whole process of obtaining the knowledge by following 5E steps namely engagement, exploration, explanation, elaboration, and evaluation. This process of learning is independently done by students. Although this strategy is considered to be useful for students, however, inquiry-based teaching also has some weaknesses in its application. In social systems that are largely controlled by teachers, this process can be highly structured. This highly structured social system is not suitable for the characteristics of junior high school students, who have begun the formal commissioning phase of cognitive development. Besides, this strategy cannot be applied to all English materials. The complicated materials considered to be difficult for students to be learned through inquiry-based strategy. It is because inquiry-based teaching needs much time in the implementation, while complicated materials also considered as time consuming. So, this strategy is not effective to be used in teaching complicated materials. This condition might become the teacher's consideration in implementing this strategy. Therefore, teachers should pay more attention to the students' conditions and the materials before implementing inquiry-based teaching strategy.

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