

## Critical thinking (CT) skill in reading class

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### Abstract

Critical thinking (CT) skill is one of the important skills for 21<sup>st</sup> century. According to Vdovina (2013) Critical thinking is associated with thinking quality and, if sufficiently developed, provides learners with a more skilful way of communicating with other people, acquiring new knowledge, and dealing with ideas, beliefs, and attitudes. According to Fahim and Aghaalikhani (2014), by utilizing critical thinking skills, students can use the intellectual tools that critical thinking offers – concepts and principles that enable them to analyse, assess, and improve thinking. They will be able to work diligently to develop the intellectual virtues of intellectual integrity, intellectual humility, intellectual civility, intellectual empathy, intellectual sense of justice and confidence in reason. Fahim and Aghaalikhani (2014) further state that in order to maximize the teaching of critical thinking, critical thinking should be integrated in the process of English Language Teaching (ELT), specifically, in reading skill. Since the teachers are those who are responsible for making the students successful in the classroom, they need to know critical thinking skill. Therefore, this paper aims at sharing ideas about the designs of questions in enhancing critical thinking using Bloom's taxonomy and Socratic questions (Paul's taxonomy of Socratic questions).

**Keywords:** Critical thinking, English language teaching (ELT)

### INTRODUCTION

Critical thinking (CT) skill is one of the important skills for 21<sup>st</sup> century. According to Beaumont (2010), critical thinking rightly remains at the forefront of education today. This means that critical thinking is an integral part of education. Due to the importance of critical thinking, teachers and students are told of its importance and acknowledge the need for it. Schools and school

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systems demand that it can be incorporated into curricula; teachers integrate critical thinking practice into their lessons (or believe they do); and local, national, and international standardized tests and assess it. Critical thinking is a technique to reflect and evaluate what is read so it helps students make a sound judgement and shape their belief (Yousefi, Mohammadi and Mojtaba, 2016). In this context, the students are not only asked to understand but they also should be critical toward what is being read. According to Judge, Jones and Mc Creery (2009), critical thinking, is essentially a questioning toward everything. This means that we can always question everything in order to stimulate our critical thinking.

The word "critical" comes from the Greek word for "*koinein*" which means "to separate, or "to choose" (Barnet & Bedan, 2011). Critical thinking is associated with reasoning or with our capacity for rational thought. The word "rational" means using reason to solve problems (Stella, 2005). Based on the definitions mentioned above, the concept of critical thinking in this paper refers to rational thoughts that can be used to consider, analyse, evaluate, criticise and solve problems.

This paper aims at sharing ideas to broaden knowledge and insights about: design of questions in enhancing critical thinking using Bloom's taxonomy and Socratic questions (Paul's taxonomy of S Socratic questions), specifically in reading skill.

## **THE IMPORTANCE OF CRITICAL THINKING**

According to Judge, Jones and Mc Creery (2009), some of the most important skills the students will need to learn are the ability to think both critically and objectively about an issue and present a well-constructed argument. Critical and analytical thinking skills such as these will be essential to most aspects of their study, whether they are listening to lectures, contributing to seminars or reading about their subject. Rochmahwati (2015) states that one of the thinking skills is critical thinking that should be considered in designing and increasing language curriculum.

Facione (1990) in Aveyard, Sharp and Woolliams (2011) states that thinking is essential as a tool of inquiry. As such, critical thinking is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, critical thinking is a pervasive and self-rectifying human phenomenon. It is an important element of all professional fields and academic disciplines (Khunaifi, 2015).

According to Vdovina (2013), by engaging in the interactive activities while practicing both communicative skills and critical thinking, students have a better chance to improve their self-consciousness, their understanding of their abilities and of their limits and thus paving the road to self-improvement as learners, as future professional, and as individuals.

Choy and Cheach (2009) found that most of teachers had good perspectives toward the integration of teaching critical thinking in the classroom since this skill can be an intellectual stimuli to facilitate student's learning. Therefore, education for now on should pay a close attention to the development of student's critical thinking skill. One of the reasons is that critical thinking skill is one of the most life skills that should be possessed by all people in order to survive in the future life (UNESCO, 2011).

According to Fahim and Aghaalikhani (2014), by utilizing critical thinking skills, students can use the intellectual tools that critical thinking offers – concepts and principles that enable them to analyse, assess, and improve thinking. They will be able to work diligently to develop the intellectual virtues of intellectual integrity, intellectual humility, intellectual civility, intellectual empathy, intellectual sense of justice and confidence in reason.

Masduqi (2011) admits that in the context of higher education in Indonesia, especially in English department, the limited use of critical thinking skills and the lack of meaningful activities are assumed to be the reasons why students in Indonesian universities are often ineffective in exchanging ideas and writing in English critically. They tend to accept opinions, especially on the current news of politics, corruption, and education, without evaluating them appropriately. This is probably because most of them previously studied at primary and secondary schools which typically applied too teacher-centered approach.

According to Ilyas (2016), Indonesian students cannot be blamed for their lack of critical thinking. This may happen because teachers do not teach them critical thinking. Why teachers do not teach them critical thinking may be because they were not taught how to be critical during their education. As a result, they are less creative and innovative in teaching. They tend to rely on textbook, not challenging students' curiosity.

## **THE RELATIONSHIP BETWEEN CRITICAL READING AND CRITICAL THINKING**

Kurland (2000) agrees that *critical reading* and *critical thinking* can be considered to complement each other in a way while reading, a reader uses his

*critical thinking*. Furthermore, Kurland differentiates between critical reading and critical thinking. Critical reading refers to a technique for discovering information and ideas within a text and critical thinking is a technique for evaluating information and ideas, for deciding what to accept and believe. He further argues that critical reading and critical thinking work together in harmony. In addition, Aloqaili (2012) states that comprehension itself has been seen as a critical thinking process, and one of the current issues in ELT in Indonesian EFL class is critical thinking in reading (Nimasari, 2016)

Based on the opinions above, it can be concluded that critical thinking can be taught through reading because reading contains materials which enable students to think critically toward what have been read.

### **DESIGN OF QUESTIONS IN EHNANCING CRITICAL THINKING**

Siker and Komur (2008) questions play a significant role in the development of critical thinking skills at all levels of education. Elder and Paul (2003) in Siker and Komur (2008) state that thinking is not driven by answers but by asking questions. Based on this, questions can stimulate critical thinking.

In designing questions in enhancing critical thinking, there are two approaches to be used; Revised Bloom's Taxonomy and Socratic Question.

#### **Revised Bloom's Taxonomy**

In Revised Bloom's taxonomy, there are six levels of thinking mechanism processing from the lower level to highest; remembering, understanding, applying, analysing, evaluating and creating

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Remembering

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Understanding

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Applying

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Analysing

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Evaluating

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Creating

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Remembering, understanding, and applying belong to low level thinking skill, while the other elements (analysing, evaluating and creating) belong to higher thinking. The lower level of thinking (remembering, understanding, and applying) do not require the students to think critically. On the other hand, analysing, evaluating and creating require the students to think

critically. Therefore, the questions which deal with analysing, evaluating and creating are focused here.

The following is a model of questions promoting critical thinking in the levels of analysing, evaluating and creating.

### **Questions for Analysing**

What is the function of ...?

What's fact? Opinion?

What assumptions ...?

What statement is relevant?

What motive is there?

What conclusions?

What does the author believe?

What does the author assume?

State the point of view of ...

What ideas apply?

What ideas justify the conclusion?

What's the relationship between?

The least essential statements are...

What's the main idea? Theme?

What literary form is used?

What persuasive technique is used?

Determine the point of view, bias, values, or intent underlying presented material.

Which events could not have happened?

If ... happened, what might the ending have been?

How is ... similar to ...?

What do you see as other possible outcomes?

Why did ... changes occur?

Can you explain what must have happened when ...?

What were some of the motives behind ...?

What was the turning point?

What are some of the problems of ...?

### **Questions for Evaluating**

Can you distinguish between ...?

What fallacies, consistencies, inconsistencies appear?

Which is more important, moral, better, logical, valid, and appropriate?

Find the errors.  
Is there a better solution to...?  
Judge the value of ...  
What do you think about ...?  
Can you defend your position about ...?  
Do you think ... is a good or bad thing?  
How would you have handled ...?  
What changes to ... would you recommend?  
Do you believe ...?  
How would you feel if ...?  
How effective are ...?  
What are the consequences of ...?  
What influence will ... have on our lives?  
What are the pros and cons of ...?  
Why is ... of value?  
What are the alternatives?  
Who will gain and who will lose?

### **Questions for Creating**

Can you design a ... to ...?  
Can you see a possible solution to ...?  
If you had access to all resources, how would you deal with ...?  
Why don't you devise your own way to ...?  
What would happen if?  
How many ways can you ...?  
Can you create new and unusual uses for ...?  
Can you develop a proposal which would ...?  
How would you test ...?  
Propose an alternative.  
How else would you ...?

Adapted from Cheltenham, Vic.: Hawker Brownlow. 2000; Tarlington, Denise.  
"Bloom's Revised Taxonomy." 8, 2006;  
[http://eprentice.sdsu.edu/J03OJ/miles/Bloomtaxonomy\(revised\)1.htm](http://eprentice.sdsu.edu/J03OJ/miles/Bloomtaxonomy(revised)1.htm).

### **Socratic Questions (Paul's Taxonomy of Socratic Questions)**

In order to enhance critical thinking, Socratic questions can be also used. Socratic questions included questions about clarification, assumption, reason and evidence, viewpoints/ perspectives, implication, consequences and

alternatives, about question, prediction, agreement/disagreement, summary and conclusion (Ilyas, 2016).

The following is a reading text which contains Socratic questions.

### **The Importance of Rainforests**

Rainforests are one of the most complicated environments on Earth. They are recognised worldwide as containing the richest source of plants and animals and are believed to contain nearly three-quarters of all the varieties of life on Earth. This is remarkable because rainforests cover only about six per cent of the Earth's land surface.

Rainforest are the oldest major ecosystem, having survived climate changes for more than one million years. They provide habitats for more species of plants, animals, insects and birds than any other environment found on our planet. Scientists estimate that between 60 and 90 per cent of all species of life are to be found in rain forests. Unfortunately, the widespread destruction of many of the world's rainforests has caused a significant decline in the number of plant and animal species on Earth.

Rainforests influence both our local and global climates. For example, between 50 and 80 per cent of the moisture in the air above rainforests comes from the rainforest's trees. If large areas of these lush rainforests are cleared, the average rainfall in the area will drop. Eventually, the area's climate will get hotter and drier. This process could convert rainforests into a sparse grassland or desert.

Rainforests are also able to absorb over 90 per cent of the rainfall in their leaves and mosses. By doing this, they are able to slow down water run-off by gradually releasing the water over time into streams and rivers. This helps to control soil erosion and flooding.

Rainforests are vital to the Earth in helping to recycle carbon and oxygen. Carbon dioxide (CO<sub>2</sub>) is the gas put into the air globally by humans, mainly by the burning of fossil fuels (for example in cars and factories). Rainforests are able to remove carbon dioxide from the air and return oxygen in its place. This is why our global rainforests are often called the Earth's 'lungs'.

Rainforests are major producers of the Earth's oxygen. In fact, scientists believe that nearly 50 per cent of the Earth's oxygen is produced by rainforest in the Amazon region alone. Nearly 40 per cent of the world's carbon is contained in the trees of the rainforests. As rainforests are cut down and burned, carbon dioxide is released into the Earth's atmosphere. Eventually, as this gas builds up the atmosphere, leading to what scientists call the enhanced greenhouse effect.

To sum up, the role of the rainforest is essential for human life. It creates equilibrium in our environment and its resources are significant for human beings' survival.

### Some examples of questions promoting critical thinking

1. Questions about clarification: *What does the writer mean by "equilibrium" in the last paragraph? What does "Rainforests are the oldest major ecosystem" mean? What does "a significant decline" mean?*
2. Questions about assumption: *What does the writer assume that "Rainforests are one of the most complicated environments on Earth"? What does the writer assume by saying that "Rainforests are called the Earth's lung"? What do you assume based on the information of paragraph two?*
3. Questions about reason and evidence: *What evidence did the writer give to support his or her opinion that "Rainforests influence both our local and global climates," on paragraph three? Is the evidence provided strong enough to support his/her opinion? What evidence do you think the writer still need to include in the text? Do you believe in what the writer has written in the text? Why?*
4. Questions about viewpoints/perspectives: *What is your opinion about rainforests? Why is it important to keep the existence of rainforests? What are some ways to keep rainforests from declining? What information would you add if you were the text writer? Why? In general, what do you think of this text?*
5. Questions about implication, consequences and alternatives: *What are the consequences if rainforests keep declining? What does the writer imply from paragraph 5? What are the impacts of greenhouse effects? What does the text imply?*
6. Questions about question: *What questions are you going to ask to the text writer about rainforests? What questions in number 3 above ask you to do?*
7. Questions about prediction: *Can you predict what will happen if people do not preserve rainforests seriously? What will happen to rainforests in Indonesia 20 years from now?*
8. Questions about agreement/disagreement: *Do you agree/disagree with the writer? Why? Do you agree with the statement saying that rainforests influence both our local and global climates? Why? Is there information from the text that you disagree? Why?*
9. Questions about summary and conclusion: *Does the text provide a summary? Why/Why not? Can you summarize the text? What do you conclude from the text? Can you make a conclusion in one sentence stating the importance of rainforests?*  
(Adapted from Ilyas, 2016)

## CONCLUSION

Critical thinking can be integrated in reading class. There are two ways of enhancing critical thinking using Bloom's taxonomy and Socratic questions (Paul's taxonomy of Socratic questions). In terms of Bloom's taxonomy, the questions can be addressed to the levels of analysing, evaluating and creating. In terms of Socratic questions, the questions can be addressed to ask about clarification, assumption, reason and evidence, viewpoints/ perspectives, implication, consequences and alternatives, about question, prediction, agreement/disagreement, summary and conclusion.

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