

Critical Thinking Stages in Reading

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Abstract

Critical thinking is becoming the current issue of English Language Teaching (ELT) to fulfill the demand of globalized era nowadays. Teaching critical thinking to English as Foreign Language (EFL) learners is of equal important to assessing it. This paper will review the concept of critical thinking involving elements and standards of reasoning rooted from Bloom's taxonomy of cognitive domain. Besides relating critical thinking to reading skills, a series of assessment procedures will be elaborated to determine the status of a critical thinker. Some pedagogical implementation and cultural constraints are discussed comprehensively at the end part of this paper as well. Conclusion and recommendation for future research on critical thinking are proposed as a closing remark.

Keywords : critical thinking stages, reading

Critical thinking is becoming current issues in English Language Teaching (ELT) at the present time. This current issue is manifested in the 2003 National Education System Act of Indonesia stated that the quality of Indonesian human resource needs to be increased and developed continuously to fulfill the demand of the globalized era. One of the ways to improve the quality of Indonesian human resources is by equipping them with ability to think critically (National Education Department, 2009). This is also true for ELT implementation that the English as Foreign Language (EFL) learners need to be equipped with sufficient knowledge and skills on critical thinking in order to be able to supply the demand of the world market.

Regarding this issue, this paper is intended to review about the nature of critical thinking including its definition and its basic elements and standards, the

relationship between critical thinking and reading covering the incorporation of critical thinking on reading strategies as well as its assessment model. The critical thinking stages determining the thinker's status will be elaborated more at the final part of this paper. As a preliminary discussion, the nature of critical thinking involving its definition and basic elements will be reviewed.

A. THE NATURE OF CRITICAL THINKING

Critical thinking is of important issue in the twentieth century. Everybody talks about critical thinking. One can be a thinker if he/she can solve the problems wisely without quarrelling. The ability to solve the problems actively and systematically is the basic concept of critical thinking. The following part will discuss the definition, the elements and standards of reasoning as the fundamental of critical thinking.

1. Definition of Critical Thinking

Critical thinking is a way of thinking using cognitive skills, can be rooted from Bloom taxonomy or other taxonomy, involving deep analysis, synthesis and reflection, evaluation, to get as close as possible to the truth to foster understanding, decision-making and guide action (Scriven and Paul, 1987; Ellis, 2008). These skills could be achieved by cultivating self-guided, self-disciplined thinking which attempts to reason at the highest level of quality in a fair-minded way. The strength of this thinking is that it continuously attempts to improve one's thinking by systematically subjecting it to intellectual self-assessment (Elder and Paul, 2010). By realizing this self-assessment, no matter how skilled they are as thinkers, they can always improve their reasoning abilities. This

specific definition is later used as the primary concept of reviewing critical thinking theories in this paper.

In order to be a good critical thinker, one should think for a purpose, within a point of view, based on assumptions, leading to implications and consequences, using data, facts and experiences, to make inferences and judgments, based on concepts and theories to answer question or solve a problem. The following paragraphs will discuss more detailed description of these eight elements.

2. The Elements and Standards of Reasoning

Reasoning comprises eight elements. Firstly, it emphasizes on the purpose. Purpose is defined as aim, direction that determines the destiny to achieve. Paul and Elder (2007) defines purpose as a goal, objective to accomplish. It includes functions, motives and intention as well. In addition, all reasoning has to generate a purpose, goal, or end in view. Whenever one reasons, there is a purpose. The question is why is purpose important to discuss? Paul and Elder (2007) further stated that there are three primary reasons of discussing the purpose. The first is that a critical thinker should be aware of the condition that when reasoning, people may have different purposes. That is why a critical thinker should be able to identify differing or conflicting purposes that might occur in reasoning. The second is that a critical thinker should be able to identify the best purpose among the many choices. It is from this best purpose that the decision is made. The last is that a critical thinker should be able to identify non-critical thinking motives. The primary purpose in all reasoning should be to discover what is true. But often one has other motives, for example winning an argument that in fact it merely tries to

protect one's ego, which is far away from being a critical thinker. Regarding the purpose, a critical thinker needs to take time to state the purpose clearly, to distinguish the purpose from related purposes, to check periodically in order to be sure that one is still on target, and to choose significant and realistic purposes.

The second element is point of view. All reasoning is done from some points of view. Havert (2005) defines point of view as literally "the place" from which one views something. It includes what one is looking at and the way one is seeing it. In addition, Paul and Elder (2007) suggest that a critical thinker should understand the limitations of his point of view and to consider other related viewpoints. It is emphasized that a critical thinker should identify his/her point of view, seek other points of view and identify their strengths as well as weaknesses, and strive to be fair-minded in evaluating all points of view.

Assumptions, the third element, are described by Arons (2011) as beliefs a critical thinker should take for granted. They usually operate at the subconscious or unconscious level of thought. Assumptions should be made clear and justified by sound evidence. Besides, a critical thinker should consider how assumptions are shaping his/her point of view.

All reasoning leads somewhere or has implications and consequences. Implications and consequences, the fourth elements of reasoning are defined as claims or truths that logically follow from other claims or truths (Avery, 1999). Implications follow from thoughts, while consequences follow from actions. Implications are inherent in thoughts, whether it is seen or not. The best thinkers think through the logical implications in a situation before acting. In order to be a good thinker, it is suggested to trace the implications and consequences that

follow from reasoning, to search for negative as well as positive implications and consider all possible consequences.

All reasoning is based on data, information and evidence. Information has two primary functions, firstly it is used to restrict claims to those supported by the data and secondly, it is to search for information that opposes position as well as information that supports it. In order to be able to deliver information well, a critical thinker should make sure that all information used is clear, accurate and relevant. Besides, it should be gathered sufficiently. Nosich (2011) categorizes information into the facts, data, evidence or experience used to figure things out. It does not necessarily imply accuracy or correctness. Additionally, the information should be accurate and relevant to the questions or issue being addressed.

The sixth element is interpretation and inference. All reasoning contains inferences or interpretations used to draw conclusions and give meaning to data. Moseley(2005) defines inferences as interpretations or conclusion. Inferring is what the mind does in figuring something out. Inference should logically follow from the evidence. A critical thinker should infer no more or less than what is implied in the situation, furthermore he/she should infer only what the evidence implies, and then, he/she should check inferences for their consistency with each other and identify assumptions underlying inferences.

The next is concepts, theories and definitions. All reasoning is expressed through, and shaped by concepts and ideas. According to Corbett and Eberly (2000), concepts are ideas, theories, laws, principles or hypotheses used in thinking to make sense of things. A critical thinker should be clear about the

concepts in order to be able to explain them clearly. In addition, alternative concepts or alternative definitions of concepts should be considered and used with precision.

Finally, the last element is question at issue. Browne and Keeley (2009) stated that all reasoning is an attempt to figure something out, to settle some question, to solve some problem. The function of an issue is to raise the question which will be answered by the reasoning process. This means that the issue is always a question. When issue is identified as describing topics, this is really incorrect. To find the issue, one should figure out what question the author is trying to answer. One trick is to determine what the conclusion is, then figure out what question is being asked that the conclusion answers. Regarding the question at issue, Lupia and Popkin (2001) suggest to consider taking time clearly and precisely, expressing the question in several ways to clarify its meaning and scope, breaking the question into sub questions, and identifying if the question has one right answer, is a matter of opinion, or requires reasoning from one point of view.

To summarize, the eight elements of reasoning are the fundamental of critical thinking skills. When these elements are regularly cultivated in the students' way of thinking, it will produce thinking habit that continuously stimulates their way of more mature thinking. A study conducted by Scanlan (2006) proved the power of these eight elements of reasoning to improve the students' composition dramatically.

Besides elements of reasoning, standards of reasoning are the self-guided, self-disciplined thinking which attempts to reason at the highest level of quality in

a fair-minded way (Elder, 2007). These standards are the other additional critical thinking skills that should be owned by critical thinkers. Critical thinkers recognize the complexities in developing as thinkers, and commit themselves to life-long practice toward self-improvement. Those nine intellectual standards are clarity, accuracy, precision, relevance, depth, breadth, logic, significance and fairness that need to be cultivated thoroughly. Different from eight elements of reasoning, these intellectual standards are to evaluate the author's thinking rather than to evaluate the quality of the author's writing. By cultivating life-long practice and self-improvement, the thinkers will always be able to improve their reasoning abilities.

To sum up regarding the theoretical and practical definition, elements and standards of reasoning, this concept needs to be cultivated in English language teaching and learning. When the thinkers are developed into critical thinkers they will realize that no matter how skilled they are as thinkers, they can always improve the reasoning abilities and commit themselves to life-long practice toward self-improvement.

B. CRITICAL THINKING IN READING

Critical thinking is commonly integrated with various disciplines such as four language skills (reading, listening, writing, speaking), mathematics, sciences and many others. Recent studies on the integration of critical thinking with language skills indicated significant increase of reading and writing skills when critical thinking skills are inclusively integrated in the teaching and learning process (Crook, 2006; Scanlan, 2006). Another study by Niewoehner and Steidle

(2008) tried to relate critical thinking with leadership lesson that finally could survive the loss of the space shuttle in Columbia. On the basis of such incorporation, the following part will elaborate some reading strategies which relate the reading skills with critical thinking skills.

1. Cognitive Domain in Reading Skills

Cognitive skills are the primary domain of reading activities. The skills of analyzing, inferring and interpreting a text activate cognitive skills which become the major elements of critical thinking. Ellis (2008) uses a model of critical thinking rooted from Bloom's taxonomy of cognitive skills including things like logic, analysis, evaluation, inference, interpretation, explanation, and synthesis. Alternatively, some other list that decomposes these into further more specific skills could also be used. For instance, analysis can be decomposed into deconstructing, contrasting, and comparing. Accordingly, whatever reading strategies applied by EFL teachers in the teaching and learning process, it will always involve critical thinking skills which later it used as the fundamental reason of assessing the EFL learners critical thinking in reading skills. Before assessing it, it better to know the relationship between critical thinking and reading skills.

2. Incorporating Critical Thinking in Reading Skills

Reading skills in ELT needs to be developed critically to fulfill the demand of globalized era. Kameo (2007) emphasized that Indonesian students need to think critically because they need to understand and evaluate what they are reading. The following part is discussing the relationship between critical

thinking and reading, critical thinking versus critical reading and critical thinking assessment in reading.

Reading skills will not be optimally comprehended without incorporating critical thinking in its process of understanding. Understanding the text type by merely reading and answering comprehension questions is not sufficient enough to stimulate EFL learners' critical thinking. By incorporating reasoning skills in the reading comprehension to some extent will help EFL learners to develop a habit of thinking critically. For instance instead of asking question about the main idea and supporting sentences, EFL teachers can incorporate elements of reasoning such as asking about the writer's purpose, the writer's main question to ask in the reading comprehension questions. The more detailed the information about types of questions, the deeper the understanding on the elements and standards of reasoning. Before touching the critical thinking assessment, it is better to know the difference between critical thinking and critical reading.

C. CRITICAL THINKING vs. CRITICAL READING

In the journey of assessing critical thinking in reading, it is necessary to distinguish between critical thinking and critical reading. The former uses the basic elements and standards of reasoning as the fundamental ways of thinking, while the latter applies critical reading strategies to develop it.

1. Differences between Critical Thinking and Critical Reading

Critical thinking is defined previously as a technique for evaluating information and ideas, for deciding what to accept and believe, whereas critical reading is a technique for discovering information and ideas

within a text (Kurland, 2000). Critical reading refers to a careful, active, reflective, analytic reading. Critical thinking involves reflecting on the validity of reading in light of the prior knowledge and understanding of the world. On the basis of this distinction, it can be inferred that critical reading is a part of critical thinking. Critical reading is reading skills that apply critical thinking in its process of understanding.

2. Pedagogical Implications and Its Constraints

Besides its potential challenge be a critical thinker, implementing critical thinking in the Indonesian classrooms undergo some cultural constraints. The implementation of Critical thinking in Indonesian context requires the full involvement of the teachers. Students could become a good critical thinker only when their teachers begin to think critically too (Kameo, 2007). Accordingly, teachers need to be equipped with critical thinking skills as well. And this needs good cooperation among the members of the school board and all people in charge in national education. The proposed implementation of critical thinking in this paper will be initially conducted in higher education in which the students have already been equipped with reading skills which involve higher order of thinking. And it is initially conducted by assessing reading skills in higher education.

D. CRITICAL THINKING ASSESSMENT IN READING

The need of assessing the EFL learners' performance is the same importance as the need of teaching them. Measuring EFL learners' critical thinking in reading is of equal important to the teaching of it. In order to gain better concept and understanding on critical thinking, a thinker's way of thinking needs to be assessed. Stonewater and Wolcott (2005) introduced a model of

assessment rubric for critical thinking (ARC), in which the eight elements and nine standards of reasoning are described on each item. This rubric describes the relationship between a cognitive development approach and critical thinking which is reflected to the Assessment Rubric for Critical Thinking (ARC). This rubric contains reflective judgment interview to gain deeper understanding on critical thinking.

The first model of ARC attempts to analyze the eight elements of reasoning incorporated in the form of question list. For example asking about the first element, establishing purpose, the model of question is like the following: *“What is the main purpose of the article?”* *“In other words, what do you think the author is trying to accomplish?”* The rubric will help EFL learners to analyze the author’s way of writing. Questions such as asking about the purpose, the assumption, the concept, the implication and point of view are elaborated in the rubric to measure the author’s way of thinking. Some researchers regarding this revealed that this kind of question could arouse the readers’ way of thinking into more critical and deep in comprehending an article.

Different from the previous paragraph, the nine standards of reasoning are elaborated in critical thinking assessment to measure the author’s way of thinking. The questions described in the test are asking about the clarity of the author in writing the text, accuracy, precision, relevance, depth, breadth, logic, significance and fairness of the author’s thinking.

Clarity is the first standard for assessing quality thinking. This standard should be asked in order to gain the clarity of the author’s thinking. The questions regarding this clarity such as *“Does the author state clearly what he or she*

means?”, “Does he or she use examples or illustrations that help clarify?”, “How do you know?”

Accuracy is the second standards focusing on the correctness of the information delivered by the author. A good thinker should not automatically believe in the information given by the author. He/she should critically think about the accuracy or correctness of the given information. The possible questions concerning this accuracy are: *“Is the information provided correct?”, “Can the information be verified and/or tested?”, “How do you know?”*

Precision, the third standard mainly concerns with the precise information delivered in the article. A standard of thinking should be precise, meaning specific and sufficient. Some questions of precision are the following: *“Is the author sufficiently specific in providing details?”, “Does he or she need to be more specific?”, “How do you know?”*

Relevance, the fourth intellectual standard mainly deals with the appropriateness of the information delivered with the purpose or question being asked. A thinker should be able to answer the following questions *“Does the author stay focused on the purpose or question he or she is trying to address?”, “Is the information presented connected to the purpose or question?”, “How do you know?”*

Depth, the fifth intellectual standard primarily concerns with the author’s deep understanding on the problems arisen in the article. The possible questions are: *“Does the author recognize the complexity of the problem or does he or she treat it superficially?”, “Are the main points of the issue addressed?”, “How do you know?”*

Breadth, the sixth intellectual standard of reasoning is talking about the width of the information delivered by the author. It deals with the extent to which the author described the information in the written expression. Some examples of the questions are the following: *“Does the author look at the issue from more than one perspective?”*, *“Should he or she consider author point of view(s)?”*, *“Does he or she need to look at the issue in other ways?”*, *“How do you know?”*

Logic, the seventh standard deals primarily with logical thought of the author. Some questions related to logic are the following: *“Do the conclusions follow from the evidence presented?”*, *“Are there any problems with the reasoning where something does not seem to make sense?”*, *“How do you know?”*

Significance, the eighth intellectual standard is about the important aspects in the author’s writing. A thinker should be able to identify whether there is significant aspect of the author’s writing. Some questions related to significance are the following: *“Is what the article says significant?”*, or *“Is the subject dealt with in trivial manner?”*, *“Is this the most important aspect of the problem to consider?”*, *“How do you know?”*

Fairness, the ninth intellectual standard deals with morality. The examples of the questions such as the following: *“Is the subject dealt with in a fair manner?”*, *“Does the author consider view points that he or she may not agree with?”*, *“If so, how does he or she respond to them?”*, *“How do you know?”*

To summarize, when intellectual standards of reasoning are asked continuously to the students in analyzing a particular text, their intellectual standards will grow more effectively to gain better critical thinking skills.

E. CRITICAL THINKING STAGES

Critical thinking undergoes a series of process in the form of critical thinking stages. These stages consist of six levels which determine the status of the thinker from unreflective thinker to accomplished thinker (Elder and Paul, 2007). The characteristics of stage one are unawareness of thinking, fail to recognize thinking involving eight elements of reasoning, and unaware of nine appropriate standards of reasoning. The thinker in this category is considered unreflective thinker.

Stage two is initially aware of thinking, develop initial awareness of thinking involving eight elements and nine standards of reasoning, and have very limited skills in thinking. The thinker in this category is called a challenged thinker.

Stage three has characteristics such as having explicit commands of thinking across multiple domains of lives, having basic problems in thinking and making initial attempts to better understand and improve it. He/she also can modify thinking, but have limited insight into deeper levels, and he/she lack of systematic plan for improving thinking. The thinker in this stage is a beginning thinker.

Stage four already has habit to develop thinking, and he/she not only able to recognize problems exist in thinking but also able to recognize the need to attack problems globally and systematically. The thinker is actively analyzing thinking in a number of domains, having limited insights into deeper level of thought, having enough skill to critique own plan for systematic practice, and to

construct a realistic critiques of their powers of thought. Thinker in this phase is called practicing thinker.

Stage five could establish good habit of thought, not only actively analyze thinking in all significant domains and lives but also have significant insight into problems at deeper level of thought. The thinker is able to recognize the egocentric and sociocentric thought in one's thinking, as well as actively and successfully engaged in systematic monitoring of eight elements of reasoning. He/she is knowledgeable to assess thinking for reasoning. Thinker in this stage is categorized as advanced thinker.

The final stage, stage six not only has systematically taken charge of thinking but also continually monitoring revising and re-thinking strategies for continual improvement. This thinker could deeply internalize the basic skills of thought, have conscious realization, and have high level of control over the egocentric nature. Thinker in this highest phase is called accomplished thinker.

In conclusion, critical thinking stages could be used for self-assessment, in which a critical thinker wants to know the progress of understanding an article. By knowing the status, at least a critical thinker could be aware of his competence in thinking critically. To sharpen one's way of thinking critically, he/she should always be aware of being a good critical thinker.

CONCLUSION

As a part of cognitive and reading skills, critical thinking skills could be assessed using assessment rubric for critical thinking. From the result of the assessment whether a thinker is in the level of advanced, proficient, progressing or beginning, the critical thinking stages could be revealed by knowing the status of

a thinker whether he is in the lowest level of thinking critically, unreflective thinker, challenged thinker, beginning thinker, practicing, advanced or accomplished thinker. To sum up, this topic could be elaborated into potential research in the future.

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