

An Analysis of Critical Thinking from the Philosophical, Reflective, Cognitive and Cultural Perspective

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Abstract

In English as a foreign language context, to cultivate language learners' critical thinking skills has become a part of the education goal. In China, great efforts have been made in order to increase Chinese college students' critical thinking skills, but their critical thinking skills are not satisfying. As to the reasons, lack of sufficient and comprehensive understanding of critical thinking skills is supposed to be one of the reasons. Thus, this paper proposed to analyze critical thinking skills from the philosophical, reflective, cognitive, cultural perspectives hopefully to enhance understanding of critical thinking skills in Chinese EFL context.

Keywords: critical thinking, philosophical, reflective, cognitive, cultural

1. Introduction

In modern digital era, the growth of technology is likely to make greater rather than lesser demands on people's critical thinking abilities. Mass media, printed texts, films and any forms of information cannot be neutral as those carry too much baggage both from its history as through its current global dominance (Wallace, 2003, p. 47). Modern people need be equipped with critical thinking ability to critique what they see and hear in order to make a sound judgment. Critical thinking, which has been labeled as the 21st Century Skill, becomes a basic skill for a lifetime (Kay & Greenhill, 2013, p. 14).

In higher education field, learning to think has become the central purpose of high education (Johnson, Admas, Cummins, Estrada, Freeman, & Hall, 2016). In *New Medium Consortium Horizon Report: 2016 Higher Education Edition* (Johnson et al., 2016), it is noted that a primary goal of higher education is to equip students with the skills they need to be successful in the future work and to make an impact on the world, which meets the expectation of the employers as employers hope that the recent college graduates should be more prepared in such vital areas as critical thinking.

In EFL classes, the benefits of critical thinking are also widely acknowledged. Bailin (1999) claimed that critical thinking has at least three benefits: 1) it will help students make up their mind about what to believe or do; 2) fulfill standards of adequacy and accuracy appropriate to thinking; and 3) fulfill the relevant standards to some threshold level. Besides, Halvorsen (2005) pointed out that critical thinking will expand the language learners' horizon of their knowledge and provoke them to think from different perspectives, because it will promote language learners' high-level of thinking skills such as application, analysis and so on. Thus, teaching students to think critically has been widely accepted as an aim of education nearly in all disciplines.

2. Nature of Critical Thinking

2.1 Critical Thinking as a Philosophical Method

The spring up of critical thinking was rooted in the development of west philosophy since philosophy in west tradition can be viewed as a kind of critical thinking which thinks about itself and human life in a reflective way. Different historical periods, philosophers in their time stressed the importance of being critical directly or indirectly. It can be dated back as early as the 5th century B.C. when the Greek philosopher Parmenides put forward that people can not only rely on what they sense but need to use the rational thinking because Parmenides considered the senses are deceptive. That might be the original ideas recorded about being critical during the Pre-Socratics (Russel, 1967).

The most well-known critical thinking method can be traced back to Socrates, 2,500 years ago who established the importance of asking questions. He argued that people seek knowledge by questioning. People must probe profoundly into thinking before they accept ideas or beliefs, because many confused meanings, inadequate evidence, or self-contradictory beliefs often lurked beneath smooth but large empty rhetoric. This method is known as ‘Socratic Questioning’ or ‘the dialectic method’. Until now this method is still the best-known critical thinking teaching method. The matters that are suitable for treatment by the Socratic Method are those as to which people have already enough knowledge to come to a right conclusion, but have failed to make the best logical use of what people know through confusion of thought or lack of analysis. According to Socrates, wherever what is being debated is logical rather than factual, discussion became a good method of eliciting truth (Russell, 1967). Here Socrates distinguished facts from logic, which is an important movement for critical thinking theory.

In the renaissance time, many ordinary people and scholars began to think about religion, art and human nature, Francis Bacon was a famous one among them. He stressed the importance of studying the world empirically. He listed what he called the idols (false images) of the mind. He described these as things which obstructed the path to correct scientific reasoning. Bacon classified the main sources of false images in reaching beliefs. And he suggested to methodically analyzing all facts in order to study and interpret natural phenomena, and it was later known as the Empirical Method or Baconian method. This method enlightened people to rethink what they believe to be true or what they always take for granted (Russel, 1967).

Rene Descartes is usually considered the founder of modern philosophy. This honor is not only because he made great contribution to mathematics and set force his own scientific theories during his life, but also because he saw “evidence and distinction” as the primary principle of receiving knowledge and truth. His method of “general doubt” has provided skepticism with the powerful weapon of thought and has been the activator and roll booster for the development of skepticism. He always says “Can I doubt?” He made himself doubt everything that he can manage to doubt. Descartes also put forward the steps to doubt hyperbolically: first, accepting only information people know to be true; then breaking down these truths into smaller units; and solving the simple problems first; finally making complete lists of further problems. He resolved to systematically doubt that any of his beliefs were true in order to build, from the ground up, a belief system consisting of only certainly true beliefs. Indeed, Descartes’ attempt to apply the method of doubt to the existence of himself spawned the proof of his famous saying, *I think, therefore I am* (Russel, 1967).

Immanuel Kant, a great German philosopher, is considered as the founder of German idealism. In 1781, he published the great philosophical work *the Critique of Pure Reason* where Kant made two important distinctions: between a priori and a posteriori knowledge and between analytic and synthetic judgments. A posteriori knowledge is the particular knowledge people gain from experience, and a priori knowledge is the necessary and universal knowledge people have, such as people’s knowledge of mathematics. The distinction is sometimes applied to propositions and arguments and is used primarily to denote the foundations upon which a proposition is known (Russel, 1967). The analytic/synthetic distinction (also called the analytic-synthetic dichotomy) is a conceptual distinction, used primarily to distinguish propositions into two types: analytic propositions and synthetic propositions. Analytic propositions are true by virtue of their meaning, while synthetic propositions are true by how their meaning relates to the world. A posteriori/priori distinction is the knowledge about knowledge. The analytic/synthetic distinction is the thinking method about thinking and reasoning. Humans thinking activity became the object of philosophical research. So it is also a certain kind of reflective thinking or critical thinking (Russel, 1967).

To summarize, Socrates encouraged people to question what they see or hear instead of taking everything without any doubt in order to find the hidden truth and facts. Bacon preached the ordinary people to disclose the veil covering the reality disguised under false images. Descartes declared people need to doubt everything even themselves because doubt preconditions critical thinking. Kant figured out two kinds of knowledge and two ways of reasoning. The emphasis gradually moves from the outside world to the human being himself. This movement is just from God to the human beings. The development of philosophy is a process of human beings searching ways to rebel against theology and to know more about themselves and the world. During this process, critique, doubt, challenging, reasoning and questioning are inherited and developed as a philosophical spirit and method. With centuries of social development and changes, this method gradually extended into society, education, language, anthropology and nearly every aspect of social field.

2.2 Critical Thinking as a Reflective Method

The intellectual roots of critical thinking in education derive from Socrates. While John Dewey, an American

foremost philosopher, is usually considered the first person to advocate the importance of critical thinking in learning and education. In his book *How We Think* (1910), critical thinking, which he perceived as reflective thinking, noted that reflective thinking is the aim of democratic education and is of great importance to social life and development (Dewey, 1910 cited in Rodgers, 2002).

Reflection, in contrast to acceptance of conventional belief, constitutes “an active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (Dewey, 1910, p. 9 cited in Rodgers, 2002). Once reflective thinking begins, it will be a conscious and voluntary effort to come to belief on a firm basis or reasons. But in order to obtain the habits of reflection, students need careful examination between evidence and fallacies. Thus, reflection implies that something is believed in (or disbelieved in), not on its own direct account, but through something else which stands as witness, evidence, proof, voucher, warrant; that is, as ground of belief (Dewey, 1910, p. 7 cited in Rodgers, 2002).

According to Dewey (1944), reflective thinking can be trained. He noted that people can be trained to think well, but cannot be trained to think. If people think well while learning, people will learn well. If people think poorly while learning, they will learn poorly (Paul & Elder, 2016). In *How We Think* (1910), Dewey listed five distinct steps in reflection (1) a felt difficulty; (2) its location and definition; (3) suggestion of possible solution; (4) development by reasoning of the bearings of the suggestion; (5) further observation and experiment leaning to its acceptance or rejection; that is, the conclusion of belief or disbelief (Dewey, 1910, p. 72). Later Dewey himself made some changes in his book *Democracy and Education* (1944), he wrote five slightly different steps: (1) an experience; (2) spontaneous interpretation of the experience; (3) naming the problem(s) or the question(s) that arises out of the experience; (4) generating possible explanations for the problem(s) posed; (5) ramifying the explanations into full-blown hypotheses; and experimenting or testing the selected hypothesis (Dewey, p. 851 cited in Rodgers, 2002). During the process, the individual needs to bring the four attitudes into the act of reflective thinking: whole-heartedness, directness, open-mindedness and responsibility. The awareness of these attitudes, later also called affective dimensions (Rodgers, 2002). Reflective theory paved the way to later prosperous development of critical thinking.

2.3 Critical Thinking as a Cognitive Skill

Unlike the philosophers who focus on the nature and quality of the products of critical thinking and rely on logical reasoning to reach conclusion, psychologists from the beginning of the 21st century, who were influenced by empirical research, have concentrated on the process of cognition, the components and operations, and achieved a high consensus that critical thinking is a cognitive skill. Glaser (1941) defines critical thinking as “‘being disposed’ to consider thoughts and ideas within one’s experience base supported by methods of ‘logical inquiry’ and the skill to apply those methods” (Glaser, 1941, p. 5). Critical thinking is considered to be a cognitive skill which will involve different activities in mind, such as questioning, analyzing, reasoning, evaluating, inferring and so on. The final purpose of critical thinking is to formulate a reasonable and bias-free judgment. Based on the Delphi Report, Facione (1990) defined critical thinking as “purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based.” Even the theory and philosophical concepts of critical thinking skills have been debated over the decades, the concepts of Delphi Report stand test of time (Nair, 2013).

The variety of the definition of critical thinking skills shows the complexity of critical thinking for the actual critical process is recursive and non-linear (Stephen, 2008), but it does not mean that critical thinking cannot be sensed or observed. A critical thinker had its own external features. A critical thinker is those who “*raise vital questions and problems, formulate them clearly and precisely; gather and assess relevant information, using abstract ideas to interpret it effectively; come to well-reasoned conclusions and solutions, testing them against relevant criteria and standards; think open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and communicate effectively with others in figuring out solutions to complex problems*” (Paul & Elder, 2016, p. 12).

2.4 Critical Thinking as a Cultural Practice

From the review of critical thinking as a philosophical method, it is easily noticed that critical thinking is rooted and grounded in western culture. It is assumed that an individual who grows in such a western culture will “learn through the pores” as critical thinking is a social practice (Atkinson, 1997). According to Atkinson, critical thinking is a social practice, which means that it is common and tacit for social members to think critically in order to go on smoothly in the society. Thus, students who are under such cultural background will naturally

acquire critical thinking skills or tend to critique as there will be reared and taught to follow the cultural tradition even before they go to school.

If critical thinking is a social practice, it can be inferred that critical thinking is specific to the western culture. It will marginalize other cultures. Here comes the question whether critical thinking with its western features can be applied into other cultures, such as eastern cultures. It cannot be denied that critical thinking must represent a set of social western practice and norms, for example, critical thinking values individualism; knowledge will be learnt by debate and so on. In contrast, it is widely known that eastern culture values collectivism and harmony within a group. Given the cultural differences, Atkinson stated four reasons for TESOL educators to be cautious about adopting critical thinking into their classes. They are:

- (a) Critical thinking may be more on the order of a non-overt social practice than a well-defined and teachable pedagogical set of behaviors;
- (b) critical thinking can be and has been criticized for its exclusive and reductive character;
- (c) teaching thinking to nonnative speakers may be fraught with cultural problems;
- and (d) once having been taught, thinking skills do not appear to transfer effectively beyond their narrow contexts of instruction (Atkinson, 1997, p. 71).

Here come two key questions: whether critical thinking is culturally specific to western cultures, and whether it is appropriate to teach non-western English learners critical thinking skills. To Atkinson (1997), Kutieleh and Egege (2003), critical thinking seems incompatible with other cultures. However, Atkinson's statement was criticized as "a form of cultural stereotyping" by Kubota (1999). According to Kubota, critical thinking is a universal skill that can be accessed by learners from all cultures. From Kubota's standpoints, it can be inferred that critical thinking is not only specific to the western culture but also can be taught to students from other cultures. The empirical findings also confirmed that critical thinking is not only specific to the western culture.

Vivian (2010) examined the influence of culture on critical thinking. She investigated the differences in critical thinking skills between Asian students and New Zealand European students. It was found that European students outperformed their Asian counterparts on an objective measure of critical thinking skills, but the difference was not caused by cultural factors but language ability.

Littlewood (2000) surveyed 2,307 students from eight Asian countries and regions: China, Hong Kong, Japan, South Korea, Malaysia, Brunei, Thailand, and Vietnam to examine whether Asian English learners in their own countries are bound by their own cultures. The students were asked to completed a twelve-item questionnaire, which covered such statements as (1) in the classroom, teachers' authority cannot be questioned; (2) teachers should pass the knowledge on to the students instead of discovering knowledge themselves and (3) the teachers not the students themselves should evaluate the outcomes of their learning. The results indicated students did not want to be passively taught and they wanted to explore knowledge by themselves, which can be implied that Asian students also hope to learn actively and independently. At most cases, they sit in the classroom silently and do not voice their opinion, but it does not necessarily mean that they will accept whatever they hear (Littlewood, 2000; Stapleton, 2001).

Paton (2011) also refuted the incompatibility of critical thinking with other non-western culture. He interviewed fifty Chinese students from the three top tier Project 211 Universities and seven Indian students from one research institute in India. The students were made up of undergraduates and postgraduates with different majors. The results show that the participants have a remarkable understanding of critical thinking and they can think deeply and critically, which indicates that critical thinking is not only preserved by the western culture but is part of the framework of humanity.

Mehta and Almahroqi (2015) examined whether critical thinking can be taught in an EFL context. The empirical findings suggested that continuous oral or written practice would benefit the development of college ELT learners' critical thinking. Besides, the ability reading critically can be transferred into writing.

Rohmani and Agung (2016) made similar findings among Indonesian English learners. They examined the factors that affect the development of critical thinking of Indonesian college English learners and it was found that language proficiency is a notable factor to affect the expression of their own thoughts. With good English, they can be a good critical thinker as they can express themselves without constraints both in oral or written form.

These studies discussed above all report that even though cultural differences do exist between western and eastern contexts, these differences do not necessarily impede the application of critical thinking into other cultures. However, an appropriate teaching method needs to be taken into consideration due to cultural differences. Thus, the two key questions: whether critical thinking is culturally specific to western culture, and

whether it is appropriate to teach non-western English learners critical thinking skills are answered. Critical thinking is not culturally specific to western culture and critical thinking can be taught and cultivated among other cultures, including Asian culture. Consequently, critical thinking also can be trained and cultivated among Chinese students in an appropriate way.

3. Critical Thinking in Chinese Context

In Chinese context, researches on college students' critical thinking skills nearly started in the 1980s. However, it did not cause much attention until Huang (1998) figured out that Chinese college students were deficient in critical thinking. Then more scholars (Luo, 2000; Luo, 2000; Luo & Yang, 2001; Luo & Yang, 2002) realized the necessity and emergency of cultivating learners' critical thinking ability while learning a foreign language. So far, a series of efforts have been made to develop English learners' critical thinking competency.

As early as in 2000, Luo pointed out that critical thinking skills are the required skills for the college students to live in the 21st century. Information age and creation require the students to think in a critical way. Luo (2000) also claimed that how to assess students' critical thinking ability, how to systematically train the students to think, and how to transfer critical thinking skills into the real situation all needed more research. In 2001, Luo and Yang translated and revised CCTDI (The California Critical Thinking Disposition Inventory) into Chinese version in order to measure Chinese college students' critical thinking ability. The revised Chinese version was applied to analyze critical thinking disposition of 382 university students. It was found that the reliability and validity of the Chinese revision of CCTDI was satisfactory. After that, Luo and Yang (2002) translated and revised CCTST (California Critical Thinking Skills Test) and the reliability and validity were also found accepted. The efforts of Luo and Yang (2001, 2002) made the initial contribution to provide a method for teachers to assess college-level students' critical thinking skills.

In EFL field, Wen made pioneer efforts to construct the instruments to particularly assess Chinese college-level English learners' critical thinking skills and their critical thinking affection. In 2009, Wen constructed the theoretical framework to assess Chinese college students' critical thinking ability. In 2010, she conducted the pilot study to measure Chinese college students' critical thinking skills and tested the reliability and validity of the measurement. Later, Wen et al. (2011) studied the reliability of the measurement of critical thinking disposition. In 2014, Wen et al. reported how they developed a set of parallel tests to measure Chinese college English majors' critical thinking skills for a longitude study. Wen's efforts provided college teachers tools to measure students' both critical thinking skills and dispositions and also promote the practice of instructing critical thinking skills in foreign language classes. With more and more spring up of language instruction labeled by critical thinking, Wen et al. (2015) figured out that for successful cultivation of college English learners' critical thinking ability, two issues need to be carefully dealt with: (1) the relationship of critical thinking development and foreign language learning and (2) the approaches to integrating critical thinking and foreign language learning. For example, in foreign language classes, should the priority be given to language learning or critical thinking cultivation? Should the cultivation of critical thinking be listed as the explicit learning objective in foreign language classes? In 2017, Zhang and Wen tried to build the critical thinking disposition inventory for Master English majors. In 2018, Wen proposed six key competencies for college language courses, namely *Language Competency*, *Learning Competency*, *Critical Thinking Competency*, *Cultural Competency* and *Creative Competency*. Language Competency is the foundation of other five competencies. Here, it is also found that critical thinking competency has been documented together with other competencies as the key competency of foreign language learners.

Besides Wen's efforts, Sun (2011a, 2011b, 2013) published a series of papers to discuss cultivation of critical thinking skills among Chinese college English learners. He pointed out that cultivation of critical thinking skills among college English learners are required and necessary for successful English language learning. He emphasized roles of cultural factors to the development of critical thinking skills and disposition. He also suggested reforming the evaluation methods to promote college English learners to think critically. In terms of the approach how to integrate critical thinking skills into foreign language classes, Sun (2019) proposed the following eight principles for integrating critical thinking into language classes, namely *Targeting*, *Evaluating*, *Routinizing*, *Reflecting*, *Inquiring*, *Fulfilling*, *Integrating*, and *Content*, with its abbreviation of TERRIFIC. Accordingly, critical thinking should be taught and evaluated just as other routine language learning aims in language classes. Critical thinking should be trained through reflection and inquiring in order to fulfill self development. Critical thinking training should be combined with language training and be based on content.

Another concern about the relatively low quality of Chinese English learners' critical thinking comes from the relationship between critical thinking and disciplinary knowledge (Qu, 2015; Qu & Chen, 2018). He stated that

the deficiency of foreign language learners' critical thinking is caused by lack of systematic disciplinary training. According to Qu (2015, 2018), the lack of critical thinking roots in lack of systematic knowledge. Fragmentary knowledge leads to incoherent reasoning and logical judgment. Consequently, Qu (2015, 2019) suggested to develop college students' critical thinking ability with the foundation of systematic knowledge.

From the studies above, it is seen that the necessity of developing critical thinking in foreign language classes is widely accepted but the approaches need more research. However, whether it is a language issue, a cultural issue, a cognitive issue, or a disciplinary one remains unclear. In the author's eyes, the uncertainty of the nature of is grounded on lack of clear understanding the nature of critical thinking.

When critical thinking is treated as a philosophical practice, it can be used in every discipline to train them understand the knowledge in a systematical way. When critical thinking is treated as a cognitive practice, it implies that instruction of critical thinking can be taught sequentially in different education periods. When it is treated as a cultural practice, it provides another perspective to look into students thinking in language classes.

4. Conclusion

Despite tremendous practice of critical thinking skills in Chinese college foreign language classes, how to understand and cultivate critical thinking skills is not quite clear in most cases for the language teachers who expertise in langue teaching. This paper reviewed the notions of critical thinking from the aspects of philosophy, reflection, cognition and culture hopefully with the aim to provide fundamental understanding of critical thinking skills, which implies that cultivation of critical thinking is complex and it involves cultural, philosophical, and cognitive aspects. Then to understand critical thinking skills from different aspects will give insight into teachers' practice to cultivate students' critical thinking skills.

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