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Indonesian EFL Teachers' Conceptions of Critical Thinking

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This study aims to investigate the Indonesian EFL (English as a Foreign Language) teachers' conceptions of critical thinking. 59 teachers coming from three different provinces (Jakarta, Banten, West Java) in Indonesia participated in this study by answering open-ended questionnaire. The questionnaire asked two questions. The first question asked whether the participant recognised the term 'critical thinking.' The second question asked how the participant conceptualised critical thinking. The study found that only one teacher who never heard the term critical thinking. With regard to the conceptions of critical, there were some emerging themes such as analysis, evaluation, criticism, creativity, problem solving, reflection, curiosity, and even Bloom's taxonomy. Findings of this study are similar to the critical thinking conceptions proposed by Western academics.

Keywords: critical thinking, EFL teachers' conceptions, Indonesia

Tujuan penelitian ini mengetahui konsep berpikir kritis oleh guru bahasa Inggris di tiga provinsi (Jakarta, Banten, Jawa Barat) di Indonesia. 59 guru ikut berpartisipasi dengan mengisi kwesioner terbuka. Dua pertanyaan pada kwesioner ini adalah: apakah Anda pernah mendengar istilah 'berpikir kritis' dan bagaimana anda mendefinisikan berpikir kritis. Hasil penelitian ini menunjukan hanya ada satu guru yang menyatakan belum pernah mendengar istilah berpikir kritis. Untuk pertanyaan kedua, ada beragam tema yang muncul, antara lain, analisa, evaluasi, kritik, kreatifitas, pemecahan masalah, refleksi, keingintahuan, dan bahkan taksonomi Bloom. Penemuan penelitian ini menunjukan bahwa ada kesamaan adan konsep berpikir kritis guru bahasa Inggris di Indonesia dengan konsep yang dikemukakan akademisi di negara Barat.

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INTRODUCTION

Critical thinking might be the most elusive concept (Moore, 2013). Every critical thinking book presents different conception of it. Similarly when, for instance, fifty academics are asked how they conceptualise critical thinking, there may be fifty different conceptions. Interestingly, even though it is hard to conceptualise critical thinking, academics in the Western education context know when students' works are not critical. This may be because critical thinking has been pervasively implemented in the Western education, and it has been a long-lasting part of its educational culture.

In the educational context of some non-Western countries, critical thinking has started getting serious attention. Some academics in non-Western countries have voiced the importance of teaching critical thinking or incorporating critical thinking into education (e.g. Chen, Tolmie, & Wang, 2017; Ghanizadeh, 2017; Miyazaki, 2017), and even such countries as Singapore (Lim, 2014), Malaysia (Md Zabit, 2010), Japan (Howe, 2004) and South Africa (Belluigi, 2009) have adopted critical thinking as a part of their educational objectives. While Malaysia, for example, aspires to be able to face ever-changing world by including critical thinking in soft skill courses (Md Zabit, 2010) and Singapore stipulates it as a key competency in this century (Lim, 2014), South Africa adopts critical thinking to promote responsible and critical citizens (Belluigi, 2009) since responsibility and criticality may be the most desirable values that the country needs. These various objectives can show that apart from non-Western countries' interest in adopting and implementing critical thinking, they also have their own agenda with regard to it, possibly depending on the socio-economic-political condition.

As critical thinking initially prospers in the West, the conception of it is mostly proposed by Western authors. As mentioned, the concept of critical thinking is elusive (Moore, 2013), and Western authors have also proposed various conceptions. This has been shown by the works of three leading scholars in critical thinking (Brookfield, 1987, 2012; Paul, 1990; Ruggiero, 2012). Brookfield (1987, 2012) conceptualises critical thinking as an activity to check assumptions by seeing things from various perspectives. He argues that critical thinking starts from questioning whether assumptions which affect our action and thoughts are accurate and suggests that we take different perspectives into account before doing action. Thus the action is an informed action, which means that "there is some evidence we take seriously as supporting such an action" (Brookfield, 2012, p. 13).

Different from Brookfield, Ruggiero (2012) conceptualises critical thinking by focusing on the characteristics of critical thinkers. He proposes at least seven characteristics of a critical thinker, as can be seen in the table 1 below:

Table 1. Ruggiero's characterisation of critical thinkers

- 1. Critical thinkers are honest with themselves, acknowledging what they don't know, recognizing their limitations, and being watchful of their own errors.
- 2. Critical thinkers regard problems and controversial issues as exciting challenges.
- 3. Critical thinkers strive for understanding, keep curiosity alive, remain patient with complexity, and are ready to invest time to overcome confusion.

- 4. Critical thinkers base judgments on evidence rather than personal preferences, deferring judgment whenever evidence is insufficient. They revise judgments when new evidence reveals error.
- 5. Critical thinkers are interested in other people's ideas and so are willing to read and listen attentively, even when they tend to disagree with the other person.
- 6. Critical thinkers recognize that extreme views (whether conservative or liberal) are seldom correct, so they avoid them, practice fair mindedness, and seek a balanced view.
- 7. Critical thinkers practice restraint, controlling their feelings rather than being controlled by them, and thinking before acting.

Source: Ruggiero (2012, p. 21-22)

On the other hand, Paul (1990) conceptualises critical thinking into two parts: weak and strong sense critical thinking. He states that while a weak sense critical thinker refers to one who seeks individual gain, a strong sense critical thinker thinks beyond his personal interest and focuses more on social responsibility. As an illustration, a weak sense critical thinker is, for example, a tricky politician who manipulates people and the media for his political interests and personal gains. According to Paul (1990), weak sense critical thinking includes action serving particular group. On the contrary, Paul (1990) comments that "if disciplined to take into account the interests of diverse persons or groups, it is fair-minded or strong sense critical thinking" (p. 51).

Regarding weak sense critical thinkers, Paul (1990) mentions some characteristics, among others, holding different intellectual standards for themselves and for their opponents, tending to see things from one perspective only, following their commitment to egocentricity and socio-centricity, not accepting the truth in other people's viewpoints and adopting monological not multilogical thinking. Monological thinking, according to Lipman (1994), is a thinking process done from a single reference. However, Paul (1990) argues that weak or strong sense critical thinking is not a static condition, meaning that a weak sense critical thinker could be a strong sense critical thinker. This occurs when one feels determined to see something beyond himself and is capable of seeing things in a wider scope.

Many studies on critical thinking in the various educational contexts have been conducted, both in Western and non-Western countries. Wu, Luo, and Liao (2017), for example, conducted a study on critical thinking in nursing education in China, investigating the relationship between critical thinking disposition and mental self-supporting ability. Another study was conducted by Ampuero, Miranda, Delgado, Goyen, and Weaver (2015) who explored the teaching of critical thinking, along with empathy, to solve environmental problems in Chile. Interestingly, this study took place at a primary school with the participants ranging from 5 to 14 years old. Apart from showing positive contribution of critical thinking and empathy in dealing with environmental issues, this study can show that critical thinking can be taught to children and suggest that critical thinking needs to be fostered since early education. In Canada, Novakovich (2016) conducted a study which aimed to foster a university students' critical thinking through blog-mediated peer feedback. This quasi-experimental study found that students' critical thinking can be fostered using a

blogging platform in which students could produce higher number of critical comments compared to those using traditional computer-assisted writing process. This study not only reveals that critical thinking can be taught but also proves that technology, when combined properly with other strategies, can be utilised as medium to promote critical thinking.

Studies regarding the conceptions of critical thinking in the Western context have been conducted (Danczak, Thompson, & Overtone, 2017; Halx & Reybold, 2006). Danczak et al (2017) investigated 470 students', 106 teaching staff's, and 43 employers' perceptions of critical thinking at the Chemistry Department, Monash University, Australia. Through openended questionnaire, they were asked to conceptualise critical thinking. According to Danczak et al (2017), students conceptualised the smallest number of critical thinking themes, followed by teaching staff and employers. The study found 21 themes with regard to critical thinking: analysis, application of knowledge, arriving at outcome, context, creative, critique, decision making, evaluate, identification of opportunities and problems, interpretation of information, lateral thinking, logical approach, objectivity, problem solving, productivity, reflection, research, systematic approach, testing, under pressure, and understanding the local context (Danczak et al, 2017).

Similarly, Halx and Reybold (2006) conducted a study by exploring faculty members' perspectives of critical thinking at a university in the Southwest. One of the research questions posed was how the faculty members defined critical thinking. The faculty members came from such departments as fine & performing arts, humanities and natural & social sciences. They were interviewed and asked to define what critical thinking was. This study found that, apart from the faculty members' opinion about the importance of critical thinking, there were four major themes emerging: pedagogical experimentation, the content connection, pedagogy of force and the resistance factor.

With regard to 'pedagogical experimentation,' the study found some conceptions of critical thinking pertaining to it: more, better, or faster thinking, entertaining many thoughts at once, different thinking, digging information deeper, and blending information. 'The content connection' refers to finding a relationship between content and reality and thinking critically within a certain field. While 'the resistance factor' relates to factors hindering students to think critically, 'a pedagogy force' concerns with 'forcing' students to think critically.

The studies above show the diverse conceptions of critical thinking. In Indonesia, the educational authority has incorporated critical thinking as one of educational objectives. However, the conception of critical thinking proposed in the educational context in this country is not clear. Besides, there is very little information on teachers' recognising critical thinking. Therefore, this study attempts to investigate if teachers, especially those in the field of EFL (English as a Foreign Language), recognise critical thinking and how they conceptualise it.

METHOD

Open-ended questionnaire containing two questions were given to 59 EFL teachers teaching at junior and senior secondary school. The questions were (1) Have you ever heard the term 'critical thinking?' and (2) How do you conceptualise critical thinking? The teachers were from three provinces in Indonesia: Jakarta, Banten, and West Java, and not all of them taught

in urban areas where teaching facilities were adequate. Female teachers dominated the study, reaching for almost 65 percent. The questionnaire did not ask how long the participants had taught English and their educational background. However, all of them completed undergraduate degree, a prerequisite to teach at secondary school level. The participants' responses were coded to find the emerging theme or conceptions of critical thinking, which were then compared to the critical thinking conceptions proposed by the Western academics above to find out differences and similarities.

FINDINGS AND DISCUSSION

EFL Teachers' Recognition of Critical Thinking

The findings show that one teacher never heard the term critical thinking. This is surprising since the term has been popular in education. There may be three reasons explaining this. First, during her schooling for the undergraduate degree, she never heard critical thinking as well. It could mean that critical thinking has not been widely implemented in higher institution in Indonesia. Second, there may not be the term critical thinking in the school syllabus or curriculum, which can be interpreted that critical thinking does not really touch secondary education sector. If it is the case, it should be the attention of educational authority: moving critical thinking concept from the government document to school curriculum. Third, it may be the teacher herself who lacks activities for professional development; therefore, she does not know the term.

However, when seeing the findings showing that the other 58 teachers have ever heard critical thinking, it could be interpreted that critical thinking may have been voiced by the educational authority. Furthermore, if critical thinking, for example, does not exist in the school curriculum, the teachers may know it through reading as the term has been popular.

EFL Teachers' Conceptions of Critical Thinking

The study found that the conceptions proposed by 58 teachers who have ever heard the term critical thinking and come from different provinces in Indonesia were varied. This supports the statement saying that critical thinking is an elusive concept (Moore, 2013) and that defining it is not easy. The conceptions were analysed and grouped according to their similar themes. There were 13 themes emerging as a result of analysis (the themes in this article have been translated into English). The first conception of critical thinking is that it is an activity to agree or disagree about things, as cited in the following excerpts:

Critical thinking is giving agreement about a topic proposed by other people. (partisipant #1)

Critical thinking is when as a reader we disagree about the idea in a text we are reading. (partisipant #9)

Apart from agreement and disagreement about things, some EFL teachers also conceptualised critical thinking as an activity to analyse and evaluate things, as can be seen below:

Critical thinking is the process happening when someone reads, analyses a problem, or gives opinion about something. (partisipant #3)

Critical thinking is an ability to analyse an opinion or idea using our rationality, logic, or knowledge so that we can make a decision to support and reject the opinion and idea. (partisipant #12)

Critical thinking is analysing, evaluating, and interpreting a particular problem. (partisipant #38)

Critical thinking is a complex thinking ability using analysis and evaluation. (partisipant #52)

Some other teachers conceptualised critical thinking as clear, rational and deep thinking about a problem, as can be seen in the two excerpts below:

Critical thinking is clear, deep, and rational thinking about a thing. (partisipant #4)

Critical thinking is an ability to respond to a thing logically and rationally. (partisipant #13)

An interesting finding is the conception proposed by two teachers stating that critical thinking is the attitude not to accept things as they are, as can been seen below:

Critical thinking is not directly accepting information/news but analysing its truth. (partisipant #5)

Critical thinking is not accepting information as it is, but we have to check the information. (partisipant #56)

Some teachers conceptualised critical thinking as giving criticism and thinking creatively, as can be seen in the following excerpt:

Critical thinking is giving criticism, opinion, or suggestion. (partisipant #7)

Critical thinking is how our intelligence can be creative. (partisipant #14)

A few teachers conceptualised critical thinking as an activity to find out strengths and weaknesses of things: Critical thinking is a thinking ability to find out strengths and weaknesses of things which are reflected in a written and oral form (partisipant #24). While two teachers (participants #44 and #59) associated critical thinking with thinking out of the box, some other teachers conceptualised it as reflective thinking, problem solving, decision making, inference (participant #2). There are also teachers who conceptualised critical thinking as having curiosity (participant #54) and thinking using Bloom's taxonomy (participant #37). With regard to the conception of critical thinking as thinking using Bloom's taxonomy, there are some possibilities inferred. First, some Indonesian teachers may only know Bloom taxonomy as a tool to encourage critical thinking even though the

taxonomy does not provide explicit examples regarding classroom activities promoting critical thinking skills. Second, the curriculum may only put Bloom taxonomy, so educational authority needs to give more other taxonomies or alternatives to facilitate students' critical thinking skills. Giving more alternatives can make teachers have choices and make them realize that Bloom's taxonomy is not the only taxonomy used to promote critical thinking.

The last conception of critical thinking proposed by Indonesian EFL teachers is teaching technique and method. There were four teachers conceptualising critical thinking as the teaching technique and method, as can be seen in the excerpts below:

Critical thinking is a technique in teaching which guides students to think critically in analysing a problem. (partisipant #16)

Critical thinking is a teaching method which leads students to think critically by utilising their intellectual potential. (partisipant #29)

Critical thinking is how a teacher can apply learning method which can make students more innovative and creative. (partisipant #48)

Critical thinking is a learning process in which a teacher guides students to use their own mind to solve a problem. (partisipant #58)

Conceptualising critical thinking as a teaching technique and method is not really accurate even though teachers should implement critical thinking pedagogy in the classroom. The four teachers may think that the end of teaching critical thinking is only for educational contexts such as creativity, innovation, and cognition. However, there is also an objective beyond educational setting where students are expected to become more independent in making decision and living in more pluralistic society. In fact, apart from critical thinking, independence is also one of educational objectives.

The manifold conceptions of critical thinking proposed by Indonesian EFL teachers above can be summarised in the table below:

Table 2. Conceptions of critical thinking by Indonesia EFL teachers

- 1. Giving agreement or disagreement about things
- 2. Analyzing and evaluating things
- 3. Thinking rationally, clearly and deeply
- 4. Not taking things at face value
- 5. Criticizing and giving opinion
- 6. Thinking creatively
- 7. Finding strengths and weaknesses of things
- 8. Thinking out of the box
- 9. Solving problems
- 10. Thinking using Bloom's taxonomy
- 11. Being curious
- 12. Thinking reflectively
- 13. Teaching technique

The conceptions of critical thinking proposed by Indonesian EFL teachers are not really different from those proposed by academics in the Western countries (Danczak et al, 2017; Halx & Reybold, 2006). The study by Danczak et al. (2017) reveal some critical thinking conceptions such as problem solving, analysis, critique, decision making, evaluation, and reflection. The Indonesian EFL teachers' conceptions of critical thinking are also similar. On the other hand, the study by Halx and Reybold (2006) reveals different conception, faster thinking. 'Faster thinking' is not found in this study and Danczak et al's study. Similarly, there is a conception of this study, teaching technique, which is not found in the other two studies.

The findings can show that even though it is not easy to define critical thinking and there are many conceptions of it, there are some similarities perceived by educational practitioners in this world. This shows that critical thinking exists in the minds of people regardless the races. The idea stating that non-Western students are not critical, for example, can be due to the teaching-learning processes in the classroom.

CONCLUSIONS

Even though critical thinking has been popular, conceptualising it is not easy and the conception of it is diverse. Studies in the Western countries, in which critical thinking has been considered as a part of culture, show manifold conceptions. Every academic proposes different opinion, showing that critical thinking can be seen from various perspectives. This study, similarly, shows similar results. The conceptions of critical thinking proposed by Indonesian EFL teachers are diverse. However, when key points of all conceptions are analysed. There are some similarities between the conceptions found in this study and those found in the Western setting.

This study unfortunately only taps the conceptions of critical thinking among Indonesian EFL teachers, not asking them how they give activities which they think can encourage critical thinking skills. Further studies need to touch classroom activities and the conceptions of critical thinking from teachers teaching other school subjects. Besides, the conception and application from higher institution needs to be explored.

REFERENCES

- Ampuero, D., Miranda, C. E., Delgado, L. E., Goyen, S., & Weaver, S. (2015). Empathy and critical thinking: Primary students solving local environmental problems through outdoor learning. *Journal of Adventure Education and Outdoor Learning*, 15(1), 64-78.
- Belluigi, D. Z. (2009). Exploring the discourses around "creativity" and "critical thinking" in a South African creative arts curriculum. *Studies in Higher Education*, *34*(6), 699-717.
- Brookfield, S. D. (1987). Developing critical thinkers: Challenging adults to explore alternative ways of thinking and acting. Berkshire, United Kingdom: Open University Press.
- Brookfield, S. D. (2012). Teaching for critical thinking: Tools and techniques to help students question their assumptions. San Francisco, CA: Jossey-Bass.
- Chen, P., Tolmie, A. K., Wang, H. (2017). Growing the critical thinking of schoolchildren in Taiwan using the Analects of Confucius. *International Journal of Educational Research*, 84, 43-54.

- Danczak, S. M., Thompson, C. D., Overton, T. L. (2017). 'What does the term Critical Thinking mean to you?' A qualitative analysis of chemistry undergraduate, teaching staff and employers' views of critical thinking. *Chemistry Education Research and Practice*, 18, 420-432.
- Ghanizadeh, A. (2017). The interplay between reflective thinking, critical thinking, self-monitoring, and academic achievement in higher education. Higher Education, 74(1), 101-114.
- Halx, M. D., & Reybold, L. E. (2006). A pedagogy of force: Faculty perspectives of critical thinking capacity in undergraduate students. *The Journal of General Education*, 54(4), 293-315.
- Howe, E. R. (2004). Canadian and Japanese teachers' conceptions of critical thinking: A comparative study. *Teachers and Teaching: Theory and Practice*, 10(5), 505-525.
- Lim, L. (2014). Critical thinking and the anti-liberal state: the politics of pedagogic recontextualization in Singapore. *Discourse: Studies in the Cultural Politics of Education*, 35(5), 692-704.
- Lipman, M. Thinking in education. Cambridge: Cambridge University Press, 1994.
- Md Zabit, M. N. (2010). Problem-based learning on students' critical thinking skills in teaching business education in Malaysia: A literature review. *American Journal of Business Education*, 3(6), 19-32.
- Miyazaki, T. (2017). Developing critical education thought in community development: The Freirean approach in Japan. *Asia Pacific Education Review*, 18(2), 227-234.
- Moore, T. (2013). Critical thinking: Seven definitions in search of a concept. *Studies in Higher Education*, 38(4), 506–522.
- Novakovich, J. (2016). Fostering critical thinking and reflection through blog-mediated peer feedback. *Journal of Computer Assisted Language Learning*, 32, 16-30.
- Paul, R. (1990). Critical thinking: What every person needs to survive in a rapidly changing world. Rohnert Park, CA: Sonoma State University.
- Ruggiero, V. R. (2012). Beyond feelings: A guide to critical thinking (9th ed.). New York: McGraw-Hill.
- Wu, D., Luo, Y., & Liao, X. (2017). Correlation between critical thinking disposition and mental self-supporting ability in nursing undergraduates: A cross-sectional descriptive study. *The Journal of Nursing Research*, 25(1), 68-75.