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Instructors' Beliefs on Critical Thinking and Their Classroom Practices: A Case Study

Nurul Ain Hasni¹, Nur Hani Laily Ramli², Mahfuzah Rafek³

^{1*} Academy of Language Studies, Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, Perak, Malaysia, ² Academy of Language Studies, Universiti Teknologi MARA, Selangor Branch, Dengkil Campus, Selangor, Malaysia, ³ Academy of Language Studies, Universiti Teknologi MARA, Perak Branch, Tapah Campus, Perak, Malaysia

Abstract

The ability to think critically is an essential life skill which needs to be developed in order to compete in a global environment. Current literature reveals that explicit critical instruction, and practice of critical thinking (CT) strategies helps to improve learner's performances. Hence, it is vital for instructors to have strong beliefs in critical thinking as it influences their classroom practice. The present study seeks to fill the gap between instructors' beliefs as well as practices which serves to be important in improving the educational process. The aim of this study is to investigate how instructors perceived CT as well as their classroom instruction in teaching the skills among tertiary level learners. Further, it also investigates whether the constructs (beliefs and practices) of the instructors matched with one another. The participants of this study involved instructors from Universiti Teknologi MARA (UiTM) located in Seri Iskandar Perak. Data were collected using exploratory qualitative approach and the findings were presented in a qualitative descriptive approach through interviews as well as observations.

Keywords: Beliefs, Practices, Classroom Instruction, Critical Thinking

Introduction

The importance of critical thinking skills is well informed by the society. Learners are expected to operate and contribute towards the increasingly high technology world and rich information society that need graduates who are able to critically analyse various sources, content, and quality of the information provided, as well as being able to use that information effectively. To operate within this context, it requires learners to synthesize, analyse, and organize thinking in addressing complex problems and situations (Breivik, 2005).

In the Malaysian context, learners at secondary and tertiary levels (Rosnani & Suhailah, 2003) seem to lack critical thinking skills although it is stipulated in the Malaysia National philosophy and curricula. Due to the exam-oriented culture where learners had been immersed in secondary

school, educators at tertiary level should concentrate more on developing problem-solving and critical thinking skills (News Straits Times, 2012). With the skills possessed, learners should be able to expand and improve their thinking skills as well as provide ideas and alternative solutions (Ministry of Higher Education Malaysia, 2006). Thus, institutions of higher learning play a vital role in breeding graduates with first-class mentality needed to transform Malaysia in becoming a well- developed country.

It works both ways in order for critical thinking to develop; instructors need to teach critical thinking via instruction while learners need to take responsibility for their own learning. Initial introduction to critical thinking skills are crucial for both instructors and learners as this seem to influence their beliefs on the skills which strengthen further their awareness as well as importance to master the skills (Paul & Elder, 2008). No doubt that it is crucial for learners to master the 21st century skills that allow them to take charge of their own learning, engage in an independent learning which permit them to locate, analyze, evaluate new information and apply into new context (Coughlin, 2010, p.50). Therefore, this study sought to investigate how instructors perceived CT as well as their classroom instruction in teaching the skills among tertiary level learners. Further, it also investigates whether the constructs (beliefs and practices) of the instructors matched with one another.

Literature Review

Utilizing Bloom's Taxonomy in Classroom

Most efficient and effective learning will be achieved when classroom instruction and materials are parallel to the objectives or standard (Bumen, 2007, p.442). However, Bloom's taxonomy is a tool that is useful to broaden the depth of the learner's learning (Eber & Parker, 2007) in classroom. Generally, learners perform three types of tasks in most schools (Gettinger & Lyon, 1985).The mentioned tasks involve: (a) knowledge of specific facts ;(b) comprehension of basic concepts and principles ; and (c) application of facts, concepts, and principles to novel problem-solving situations (1985, p.13).

In reality, educators have often claimed that they have implemented and used the skills within their classroom practices. However, these skills only used basic recall in assessing learner's learning, which was mere rote memory of learning. "While there is a recognized demand to have higher-order thinking practice in the classroom, there is also a recognized instructional struggle with bringing higher-order thinking to life in the classroom" (Marimuthu, Michael, Muthusamy, & Veeravagu, 2010, p. 211). Hence, Bloom's Taxonomy is a vehicle for enhancing these higher-order thinking skills for both instructors as well as learners in achieving towards effective teaching and learning.

The taxonomy offers various benefits, not only to learners but most importantly to instructors. With the framework as a guide for instructors, it helps to clarify the learning objectives before instructions can take place. In the context of this research, clear objectives and appropriate instructional delivery methods and instructional strategies have to be looked into to ensure that the instructions used serve the purposes of implementing critical thinking skills via classroom practices parallel with their beliefs. What can be related to the framework is that the instructors'

beliefs on critical thinking could be interpreted with Bloom's level of thinking; hence same beliefs on the skills will influence their practice in teaching the skills. On the contrary, if the instruction reflects too low on the taxonomy, then it can be concluded that instructors does not foster higher-order thinking via their classroom instructions.

Beliefs and Epistemology of Classroom Practices

Research has shown that instructor's beliefs on teaching influence their practices, regardless of subject matter (Pajares, 1992; Ajzen, 1985; Campbell, McNamara, & Gilroy, 2004; Ernest, 1988; Kagan, 1992; Richardson, 1996). Haney, Czerbiak and Lump (1996) quoted that instructors' beliefs play a major influence in their classroom behaviour. Pajares (1992) highlighted on the issue of beliefs in his study where there exist a strong relationship between instructors' educational beliefs and their planning, instructional decisions, and classroom practices especially their classroom pedagogy.

Although much research had proved that instructors' classroom practice is influenced by their own beliefs (Crawley & Salyer. 1995), few researchers clarified how it affected instructors' practice that may change their beliefs. Others have argued that change in beliefs pave the way for practice (Shulman, 1987). This is parallel with Poulson's (2001) views where he mentioned the complexity between beliefs and practice; that it is "dialectical" rather than "unilateral". In short, practice does not always necessarily come after beliefs, but may sometime precede them, depending on situations.

However, Fang (1996) countered the positive relationship between beliefs and practices, where there is inconsistency between the two constructs due to some complexity in the classroom. This factor (i.e. curriculum) may constraint instructors from following their beliefs and provides instructions that are aligned with what they believed and perceived. Hence, instructors must first build up their knowledge and interest in order to develop a strong conceptual understanding in order for the instructions to be successfully manifested. In other words, instructors need to have a strong understanding and beliefs with regards to critical thinking, where it helps to develop one's own conceptual understanding that affect the incorporation of the skills through classroom instructions.

Methodology

Participants

The participants of this study involved two instructors from Universiti Teknologi MARA (UiTM) located in Sri Iskandar Perak. The two participants volunteered to participate in this study although the researcher approached four others participants prior to the study. The rationale of choosing the university as the main side of investigation is because it offers variety of courses and the researcher also has access to this site. Since qualitative data intents to develop an in depth exploration of a central phenomenon, the participants and the site were chosen based on 'purposeful qualitative sampling'. Theoretical sampling was carried out whereby participants selected were able to understand a concept or a theory. Hence the experienced instructors from two different fields (TESL and Graphic Design) agreed for the interview and observation.

Research Approach and Design

This study adopted a qualitative approach whereby interviews as well as observations were used to gain in depth interpretations and insights into participants responses towards using critical thinking skills as part of their teaching and learning processes. Transcribed interview data was analysed for themes and sub-themes that were matched with the elements in Bloom's taxonomy discussed. Where possible, the data was triangulated with researcher's observation of the critical thinking teachings. This is to increase the validity of the study.

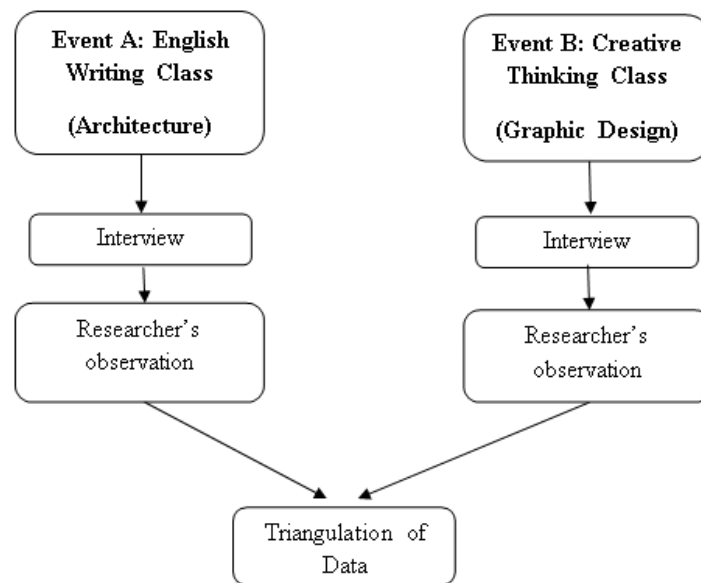


Figure 1.1 Data Collection of the Observations Process

Findings and Discussion

The first half of this section discusses the findings for research question one which focuses on the instructors' beliefs. The second half discusses the findings for research question two which focuses on how far the instructors' beliefs on critical thinking skills match or mismatch their classroom practices.

RQ 1: What are the instructors' beliefs on critical thinking skills?

Research question one focused on the instructors' beliefs regarding critical thinking skills, what they perceived as well as what they understand about critical thinking. Based on the themes and sub themes emerged from the transcribed interview, data shows that both instructors believed it was important to teach critical thinking skills in classroom and indicated that they taught critical thinking skills via classroom instructions. According to the instructors, teaching critical thinking skills is crucial and necessary in ESL classroom. Both instructors, although interviewed separately, concurred that ultimately, learners need to be able to do problem-solving and become independent learning. For the ESL language instructor, critical thinking comprise "thinking out of the box" and application whereas for the graphic design instructor, it is analyzing and creativity.

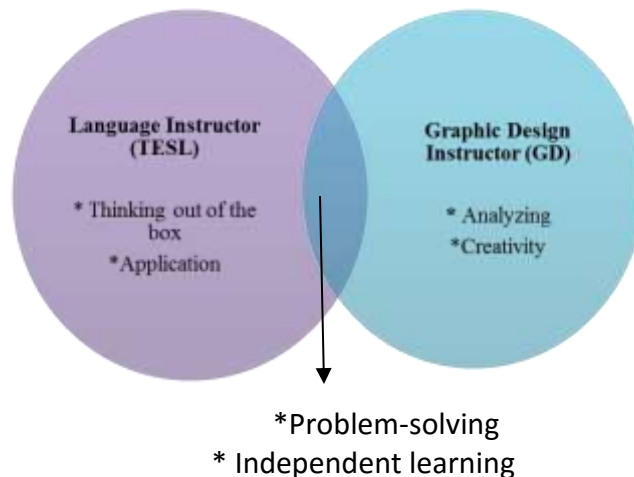


Figure 2: Instructors' Beliefs on Critical Thinking Skills

As illustrated in figure 2, the overlapped darkened area represents problem-solving as well as independent learning. Problem-solving is indirectly related to Bloom's taxonomy as it encompasses abilities such as analyzing, synthesizing, and evaluating that somehow reflect level of thinking in the taxonomy. Problem-solving is claimed to be the most effective approach that helps to enhance learner's critical thinking skills (Neo & Neo, 2001; Morales-Mann & Kaitell, 2001; Frenay et al., 2007).

Further, independent learning also allows learners to take charge of their own learning which gives opportunity for them to analyze, evaluate new information and apply them in new contexts. Independent learning allows for critical thinking to be developed (Coughlin, 2010). Hence, both instructors' beliefs on the importance of critical thinking and independent learning are said to be relevant to taxonomy of thinking presented in chapter two (p.21).

Besides the common beliefs that problem-solving and independent learning are part of critical thinking, the language instructor (ESL) reiterated thinking out of the box and application as part of critical thinking, while the graphic design instructor (GD) cited creativity and analyzing as evidence of critical thinking. The skills concept mentioned by both instructors also seems to match with Blooms' Taxonomy. Based on the previous study done by Magno (2009) and Barak et al, (2007), abilities that requires application, analysis, evaluation, and synthesis of content eventually leads to critical and creative thinking which are considered as higher-order thinking.

In support with the literature review, it is noted that beliefs may influence one's perceptions which in turn affects their behaviours as well as their practices in classroom (Pajares, 1992). Ajzen (1985) also added that having the beliefs will eventually guide their behaviour, and also influence what they practice. Few researches suggest that professional development of instructors as well as their classroom practices is influenced by their educational beliefs (Campbell et el., 2004; Pajares, 1992). This would imply that it is crucial for instructors to have strong beliefs which in turn reflect their level of understanding in regards to the content and knowledge related to

critical thinking skills that somehow influence their decision in classroom pedagogy especially in implementing the skills.

Overall, this study shows that both instructors do have their own interpretation as well as beliefs in regards to critical thinking skills. Further, both had indicated general concept of critical thinking that is acceptable and relevant to their field of scope. Most importantly, all mentioned beliefs were parallel with Bloom's taxonomy level of thinking which indicates that their understanding on critical thinking skills serves the real meaning of being critical. This shows that regardless of what field or course subject they belong to, it should not be a barrier especially for instructors for not having strong beliefs on critical thinking since it can be applied to various subjects and field. However, differences of beliefs could be highlighted pertaining to how different individuals from different fields perceive critical thinking that might influence their practices in teaching the skills.

RQ 2: How far do instructors' beliefs on critical thinking skills match their classroom practices?

Research question one earlier revealed that both instructors had indicated their own beliefs in regards to critical thinking and believed it was important to teach the skills via classroom instructions. Prior to the evidence of this statement, data collected from the observation of their lessons concurred that their beliefs actually manifested in their classroom practices as per table 1:

Table 1: Instructors' Beliefs and Classroom Practices

Language Instructor Dayana (TESL)	Graphic design Instructor Amir (GD)
<ul style="list-style-type: none"> • Beliefs <ul style="list-style-type: none"> • Thinking out of the box • Application • Independent • Problem solving 	<ul style="list-style-type: none"> • Beliefs <ul style="list-style-type: none"> • Analyzing • Creativity • Independent • Problem solving
<ul style="list-style-type: none"> • Practice <ul style="list-style-type: none"> • <i>Analyze</i> • Provide your own <i>justification</i> • <i>Discuss and make use of the materials and come out with your own references</i> 	<ul style="list-style-type: none"> • Practice <ul style="list-style-type: none"> • Build using your <i>creativity</i> • <i>Come out</i> with your own advertisement • Provide your own <i>justification</i> • <i>Find reliable sources.</i>

The excerpts from the interview (beliefs) and activities (practice) conducted during the observation reflect how instructors manifested critical thinking skills through classroom instructions. It could be synthesized from both their classroom practices that what they believed about critical thinking skills seem to match with what they practised. Most importantly, both beliefs and practices were parallel with Bloom's level of thinking creating the real meaning of being critical and reflect the practice of exploiting the skills through instructions. This supports the notion that instructors' classroom practices are influenced by their beliefs (Vaske, 2001;

Pajares, 1992). Finding of this study, parallel with previous research found that instructors' beliefs have a powerful impact on the practice of teaching via classroom instructions (Ernest, 1988). Moreover, beliefs may prevail over instructors' education in influencing what they do in classroom (Kagan, 1992; Richardson, 1996). Crawley and Salyer, (1995) pointed out that beliefs could also affect instructors' instructional practices.

Hence, it could be concluded that both instructors' critical thinking instructions reflect higher-order thinking that mostly require learners to use their thinking and use whatever they have learnt and applied to new context. These involve approaches to problems, identifying solutions and making judgments. However, graphic design instructor (GD) had more explicit fostering of critical thinking where learners appeared to be reaping and engaged with the skills more in depth compared to English writing class. This is because of the nature of the field, graphic design (GD) which requires critical thinking skills in the course subject. Although the nature of the course seems to be one of the influential factors in fostering the skills, yet it cannot be denied that critical thinking skills are possible to be applied at all level of education, subject and disciplines (Nelson, 1994; Siegal, 1987).

Overall, the findings of the study strongly shows the connection between beliefs and practices on critical thinking whereby it could be synthesized from both classroom practices that what they believed about critical thinking skills seem to match with what they practised. Although both had indicated general concept of critical thinking, yet it still matched with Bloom's taxonomy which indicates the real meaning of being critical that is believed to influence their classroom practices. This study had strongly shows the connection between beliefs and practices.

Conclusion and Recommendation

It seems to be clear that the development of the mind cannot be left ignored. In order to be critical, ones must develop skills such as asking questions, interact with vast array of information in relevant to solve problems, making assumptions, be more independent in thought and more perseverance in becoming fair-minded thinkers. Developing critical thinking is an important task that requires constant efforts in facilitating the skills among learners.

Due to that, instructors must have comprehensive knowledge on how such skills and traits are best cultivated in instruction. Majority of instructors may say they value teaching for critical thinking, yet they faced hardship and struggle to successfully infuse the skills within their classroom instructions. One thing that has become the barrier is that we do not know about the obstacles faced by most instructors in understanding and implementing critical thinking and what are the possible ways in overcoming the issues (Paul et al., 1997; Cordingley et al., 2005). Due to that, we must discover appropriate strategies and develop frameworks that best help instructors in embracing the challenge and difficulties in achieving towards effective teaching pedagogy. Critical thinking should be at the heart of all educational research and reform as it will contribute towards youths who think about their thinking in becoming future leaders. This study has provided initial insights for future research to be developed.

Corresponding Author

Nurul Ain Hasni, Academy of Language Studies, Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, Perak, Malaysia, nurul719@perak.uitm.edu.my

References

- Ajzen, I. (1985). From intentions to actions: a theory of planned behaviour. In J. Kuhl & Beckman, J.(Eds.), *Action control: from cognition to behaviour* (pp.11-39).
- Bers, T. (2005). Assessing critical thinking in community colleges. *New Directions for Community Colleges*, 130.
- Beyer, B. (2001). Teaching thinking skills- Defining the problem. In B. Beyer (Ed.) *Developing Minds* (pp. 35-40).
- Bloom, B. S. (1956). *Taxonomy of educational objectives: the classification of educational goals, handbook I: the Cognitive Domain*. New York, NY: Longman.
- Breivik, P. S. (2005). 21st Century learning and information literacy. *Change*, March/April, 21-29.
- Browne, M. N., & Freeman, K. (2000). Distinguishing features of critical thinking classrooms. *Teaching in Higher Education*, 5(3), 301-309.
- Bumen, N. T. (2007). Effects of the original versus revised bloom's taxonomy on lesson planning skills: a Turkish study among pre-service teachers. *Review of Education*, 53, 439-455.
- Campbell, A., McNamara, O., Gilroy, P., (2004). *Practitioner Research and Professional Development in Education*. Paul Chapman, London.
- Collins, K. M., & Onwuegbuzie, A. J. (2000). Relationship between critical thinking and performance in research methodology courses. Paper presented at the Annual Conference of the Mid-South Educational Research Association, Bowling Green, KY.
- Cordingley, P., Bell, M., Thomason, S., & Firth, A. (2005). The impact of collaborative continuing professional development (CPD) on classroom teaching and learning. EPPI Centre, London.
- Coughlin, E. (2010). High schools at a crossroads. *Educational Leadership*, 67(7), 48.
- Crawley, F., & Salyer, B., (1995). Origins of life science teachers' beliefs underlying curriculum reform in Texas. *Science Education* 79, 611-635.
- Cresswell, J. W. (2005). *Educational research: Planning, conducting and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Merrill Prentice Hall.
- Cronin, J. (1991). Science teacher beliefs and their influence on curriculum implementation: Two case studies. *Journal of Research in Science Teaching*, 28 (3), 235-250.
- Eber, P. A., & Parker, T. S. (2007). Assessing student learning: applying Bloom's Taxonomy. *Human Service Education*, 27(1), 45-53.
- Ernest, P. (1988). *The Impact of Beliefs on the Teaching of Mathematics*. Paper was presented as at 6th International Congress of Mathematical Education, Budapest, August.
- Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research*, 38(1), 47-64.
- Frenay, M., Galand, B., Milgrom, E., & Raucant, B. (2007). Project and problem based learning in the first two years of the engineering curriculum at UCLouvain. In A. Kolmos & E. DeGraff (Eds). *Management of Change: Implementation of Problem-Based and Project-Based Learning in Engineering*. Rotterdam: Sense Publisher, pp. 93-108.
- Freseman, R. D. (1990). Improving higher order thinking of middle school geography

- students by teaching skills directly. Fort Lauderdale, FL: Nova University.
- Haney, J., Czerniak, C., & Lumpe, A. (1996). Teacher beliefs and intentions regarding implementation of science education reform strands. *Journal of Research in Science Teaching*, 33(9), 971-993.
- Herrnstein, R. J., Nickerson, R. S., Sanchez, M., & Swets, J. A. (1986). Teaching thinking skills. Magno, C. (2010). The role of metacognitive skills in critical thinking. *Metacognition and learning*, 5, 137-156.
- Kagan, D. (1992). Implications of research on teacher belief. *Educational Psychologist*, 27(1), 65-90.
- Malaysian Ministry of Higher Education. National Higher Education Action Plan. (2007 – 2010). Putra Jaya: Malaysian Ministry of Higher Education, 2007.
- Marimuthu, R., Michael, A. S., Muthusamy, C., & Veeravagu, J. (2010). Using Bloom's Taxonomy to gauge students' reading comprehension performance. *Canadian Social Science*, 6(3), 205-212.
- McCollister, K., & Sayler, M. (2010). Lift the ceiling: increase rigor with critical thinking skills. *Gifted Child Today*, 33(1), 41-47.
- McMillan, J. H. (1987). Enhancing college students' critical thinking. *A review of studies. Research in Higher Education* 26, 3-29. Morales-Mann, E. T., & Kaitell, C. A. (2001). Problem-based learning in a New Canadian curriculum. *Journal of Advanced Nursing*, Vo. 33 (1), pp. 13-19. *American Psychologist*, 41, 1279-1289.
- Nelson, C. E. (1994). Critical thinking and collaborative learning. *New Directions for Teaching and Learning*, 1994(59), 45–58.
- Neo, T. K., & Neo, M. (2001). Problem-based learning: Reconstructing a website using multimedia authoring tools. Retrieved November 13, 2008.
- News Straits Times. (2013). Move to expand students' potential, *News Straits Times*. Retrieved from <http://www.nst.com.my/>
- Pajares, M. F. (1992). Teachers' beliefs and education research: Cleaning up a messy construct. *Review of Education Research*, 62, 307-332.
- Paul, R., & Elder, L. (2008). Critical thinking: strategies for improving student learning, part II. *Journal of Developmental Education*, 32(2), 34-35.
- Paul, R. Elder, L., & Bartell, T. (1997). Study of 38 public universities and 28 private universities to determine faculty emphasis on critical thinking in instruction. Retrieved from <http://www.criticalthinking.org/research/Abstract-RPAUL-38public.cfm>
- Poulson, L. (2001). The theoretical orientation of primary school literacy teachers: an exploratory study, *Research Papers in Education*, 16, (3), 271-292.
- Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula & T. J. Buttery & E. Guyton (Eds.), *Handbook of research on teacher education* (pp. 102-119). New York: Macmillan.
- Rosnani, H., & Suhailah, H. (2003). *The teaching of thinking in Malaysia*. Kuala Lumpur: International Islamic University Malaysia.
- Senechal, D. (2010). The most daring education reform act of all. *American Educator*, 34(1), 4-16.

- Siegel, H. (1991). The generalisability of critical thinking. *Educational Philosophy and Theory*, 23(1), 18-19.
- Siegel, H. (1990). *Educating Reason*. Routledge, London.
- Sigel, I. E. (1985). A conceptual analysis of beliefs. In I. E. Sigel (Ed.), *Parental belief systems: The psychological consequences for children* (pp. 345-371). Hillsdale, NJ: Erlbaum.
- Silverman, J., and Smiths, S. (2002). *Answers to Frequently Asked Questions about Critical Thinking*. Minneaolis: Center for Teaching and Learning Services.
- Stein, B., & Haynes, A. (2011). Engaging faculty in the assessment and improvement of students' critical thinking using the critical thinking assessment test. *Change*, 43, 44-49.
- Sternberg, R. J., & Williams, W. M. (2002). *Educational psychology*. Boston: Allyn and Bacon.
- Vaske, J. M. (2001). *Critical thinking in adult education: An elusive quest for a definition of the field*. Unpublished doctoral thesis. Drake University, Des Moines, Iowa.