Teacher Perceptions of Critical Thinking Among Students and its Influence on Higher Education

S. Chee Choy
Tunku Abdul Rahman College

Phaik Kin Cheah
Tunku Abdul Rahman College

The concept of critical thinking was featured in taxonomies a few decades ago. Critical thinking is a complex process that requires higher levels of cognitive skills in the processing of information. The teachers' perceptions of critical thinking among students influence their behaviors in the classroom. It has been found that teachers perceive they are teaching critical thinking to their students and believe that critical thinking will provide the intellectual stimuli that will facilitate critical thinking. The evidence of critical thinking among students was perceived to be their ability to explain to ideas and concepts in their own words. However, the ability to think logically and solve problems using new approaches paraphrase is not an indication of the students' higher-level cognitive skills but the process the student undertakes to gain understanding of the material presented. Teachers did not seem to understand the requirements needed to cultivate critical thinking among students. Although teachers perceive that they are encouraging critical thinking in the classroom, they are merely focusing on the comprehension of the subject matter.

One of the on going debates in education research is whether students can learn to think critically through their own exploration or whether they need to be formally taught the skill as part of the curriculum. Sternberg and Williams (2002) noted that students may not need to be taught critical thinking as thinking is a natural process carried by everyone. But Duron, Limbach and Waugh (2006) argued that thinking is a natural process, but when left to itself, can often be biased, distorted, partial, uninformed and potentially prejudiced; excellence in thought must be cultivated. Black (2005) also found that students are able to improve their thinking skills if they were taught how to think. Furthermore, Nickerson (1994) noted that students need to be taught how to think more effectively, that is more critically, coherently, and creatively. For example, teachers could provide students with the criteria for judging information and taught the terms and strategies used for critical thinking (Black, 2005). Therefore, although students have a natural ability to think critically, it is important for teachers to guide them in order to refine their skills.

Critical thinking was first highlighted by Benjamin Bloom's taxonomy a few decades ago (Duron, Limbach, & Waugh, 2006; Lauer, 2005). It was perceived that a higher level of cognitive ability involving critical thinking was a feature in the *analysis*, *synthesis,* and *evaluation* levels while lower levels of cognitive ability that is *knowledge*, *comprehension,* and *application* only involved remembering, relating and applying information respectively (Duron et al. 2006). Duron et al. described critical thinkers as those who are able to analyze and evaluate information. They noted that critical thinkers are those who are able to

raise vital questions and problems, formulate them clearly, gather and assess relevant information, use

abstract ideas, think open-mindedly, and communicate effectively with others. (p. 160)

However, Riddell (2007) noted that critical thinking should not be defined but explained by its components and features, stages, and characteristics as how critical thinking experts have done. The meaning of critical thinking can also be summarized from past researches as a reflection; identification and appraisal of assumptions; inquiry, interpretation and analysis; and reasoning and judgment; with the consideration of context. Therefore, critical thinking is a complex process that requires higher levels of cognitive skills in the processing of information.

The manner in which information is directed and conveyed to students may affect the students' ability to think critically. Duron et al. (2006) pointed out that the lecture format of learning a popular approach in higher education may not encourage active learning of critical thinking on the part of students. For students to think critically and learn actively, teachers must give up the perception that students cannot learn unless a teacher covers it. However, many teachers still perceive that students need to be taught before they can learn (Choy, 2003). Teachers should also be flexible and show students that there is often more than one solution to a problem (Black, 2005). Therefore, it is important to consider the influence of teacher perceptions of how students learn.

Teacher Perceptions of Learning

According to Sainn and Ugwuegbu (1980), perception may be defined as "the process by which we extract meaningful information from physical stimulation. It is the way we interpret our sensations" (p. 90). Sainn et al highlight three important points

about perception. Firstly, perception is not only dependent on the stimulus but is also determined by an individual's experience, intention, and social needs. Secondly, the perceiver is not passive and indifferent when perceiving something but is actively selecting information and forming hypotheses in order to decide what is actually taking place. Thirdly, perception is a higher mental process which helps an individual build up a model of his or her world in order to help anticipate future happenings and deal with them appropriately. Therefore, the physical stimulation from sensory receptors of an individual give relatively limited information and cannot be interpreted unless there is additional information derived from past experiences and memory. Once the physical stimuli are appropriately interpreted, they will become the perceptions of an individual.

Many argue that the perceptions of teachers influence their behaviors in the classroom. Horwitz (1989), in her article about student perceptions and language learning, cautioned that it is important for teachers to consider how their students perceive them in the classroom as this can conflict with personal philosophies and attitudes towards teaching. She further stresses that "we (teachers) think of our classrooms as 'communication-centred' or 'grammar-focused', as dominated by 'teacher talk', while our students are more likely to think of their course as 'hard' or 'easy' and of their instructors as 'strict' or 'lenient'" (p. 61). It appears that the view of teachers and students can be diametrically opposed. Teachers, for example, might be more oriented towards imparting the skills necessary for effectively learning, but students may be more interested in the grading practices of their teachers, due dates for assignments, and the number of assignments they need to complete for the course. A similar view is shared by Lauer (2005) who posits that teachers may not know how to incorporate critical thinking into their lessons. Teachers may find it a challenge to teach students critical thinking, as it is sometimes difficult to incorporate aspects of critical thinking into their lessons.

It must be noted that there is a difference between whether teachers perceive themselves as disseminators of information or a mediator of learning for an individual. As noted by Williams and Burden (1997), a mediator empowers an individual to learn by teaching the relevant skills and strategies to learn. There is also interaction between the learner and teacher and the learner is an active participant of the learning process. The learner is able to let the teacher know his or her perceptions and is willing to carry out the task presented. In contrast, if teachers perceive themselves as disseminators of information, there is little regard for student input and feedback. The teacher is solely in control of the teaching situation and meaningful learning by students is questionable. Therefore, whether a student is able to acquire critically thinking skills from such teacher would be questionable.

Present Study

Drawing on the concept that critical thinking is social in nature (Vaske, 2001), this type of thinking does not occur unless there is sharing and interacting with others; therefore, critical thinking requires reflection followed by communication with others. The current investigation focuses on teachers' perception of critical thinking among their students and how this could influence the manner in which they teach and whether they are able to encourage this form of thinking among their students.

The main research questions underpinning this study were:

1. What are teacher's perceptions of critical thinking?
2. What are their perceptions of students' ability to think critically?
3. What are their perceptions of the role they have to play when incorporating critical thinking in their lessons?

The investigation was carried out using a qualitative approach, using a sample of lecturers from institutions of higher learning around Malaysia.

Method

The research questions led us to the interpretive approach. In this approach, the individual constructs personal meaning when they grapple with the environment around them to make it meaningful (Radnor, 2002), implying a need for an in-depth and insightful analysis of the data obtained. The aim is to view reality as being socially constructed where the behaviors of individuals are being continuously interpreted and reinterpreted to give a meaningful explanation to behaviors usually within a particular context (Holliday, 2002; Radnor, 2002) The meanings obtained in this manner are actually conceptualized, temporary knowledge (Greene, 2000). The responses were categorized according to themes interpreted from the data.

Design and Procedure

A questionnaire was used to generate data for this investigation. The 30 respondents were asked to answer a questionnaire with a total of 8 questions. The questions were focused on drawing out their perceptions on critical thinking. The questionnaire was semi-structured in nature so that it allowed the

Table 1
List of Questions on the Questionnaire on Teacher's Perceptions of Critical Thinking

1. From your perspective, what is critical thinking?
2. What role, in your opinion, does critical thinking play in your classroom?
3. Do you think that critical thinking happens in your classroom when you are teaching your students? If so, how do you know?
4. How do you think you could bring about critical thinking among students? Specifically what are some things you do or could do to get your students to think critically?
5. What are the problems faced by students when you are trying to teach them critical thinking? If so identify them.
6. Do you think your lessons are enjoyable to students? Why and Why not?
7. Do you think you need to give all the information to your students in order for them to learn your subject? Why and Why not?
8. Do you think you would be able to implement critical thinking into your lessons if you were required to do so? Why and Why not?

respondents to answer in the best way possible. The topics for the questionnaire were initially developed based on a review of relevant literature. An initial list of fifteen questions was adjusted until there was finally a list of eight questions. (See Table 1 for the questions on the questionnaire).

The analysis of the responses to the questionnaire was done using the process of topic ordering, a term used by Radnor (2002) to describe the process of preparing qualitative data for analysis. Using this process, the transcripts were analyzed inductively. The main categories were allowed to emerge from the data through repeated reading of the data. The transcripts were read a number of times in order for salient points that emerged to be placed into categories. The final categorization of the data was checked by another researcher for consistency in the categorization of the data.

Participants

The sample taken for this study is made up of teachers teaching in institutions of higher learning in Malaysia who volunteered to take part in the study during three teacher development workshops conducted by us. These teachers come from various disciplines. Because the study was grounded in the interpretive approach, total objectivity and neutrality in the data analysis process cannot be claimed. We approached teachers' value-laden responses from our own understanding and definition of critical thinking. We acknowledge our own subjectivity, which we managed by respecting the worlds and sensitivities of the participants in the research context (Denzin & Lincoln, 1994; Holliday, 2002). Even though the results may only be relevant directly to a Malaysian population, they could provide information relevant to other populations in similar situations.

Results

Analysis of the salient points of the data resulted in a total of 6 categories of teachers' perception of critical thinking. These categories will be used to answer the three research questions (RQ).

RQ 1. What are Teachers' Perceptions of Critical Thinking?

The results obtained from the analysis of two of the categories were used to answer RQ 1. The two categories used were the respondents' perception of critical thinking from their definition of critical thinking and their perceptions of practicing critical thinking in the classroom.

Teachers' definition of critical thinking. Most of the respondents, 25 out of 30, defined critical thinking as the intellectual stimuli which become the impetus to facilitate thinking among students in the classroom and enable students to enjoy the process of learning. They also described this as a process that involves analyzing information. For example, one respondent noted that

Critical thinking is a method or a way of thinking that maximizes the outcome or results. It also enables students to enjoy their studies and encourages them to produce satisfying results and analyze information.

The remaining 5 respondents explained that critical thinking involved logical reasoning and it plays a part in helping students think and analyze. For example, one of them wrote

Critical thinking involves logical reasoning, compare and contrast. Not simply accepting the norm rather needing to reason and justify answers.

Critical thinking plays a significant role. The students analyze information and solve problems using critical thinking.

Discussion. The results indicate that the respondents had two ways of perceiving critical thinking. A majority of them perceived that critical thinking was a method of thinking that would help students enjoy the learning process. This implies that critical thinking can be a tool to stimulate students' thinking and help them obtain better learning outcomes. The other respondents thought of critical thinking as involving reasoning which helped students analyze their learning. However, all the respondents did not indicate the depth of the learning that they wanted their students to attain. The results seem to imply that the respondents were more focused on students acquiring knowledge and learning to reason and analyze rather than reflecting and making appraisals of the material they learn. It is interesting to note that none of the respondents used words like reflection or appraisal in their definition of critical thinking, words which Riddell (2007) noted are important components of critical thinking apart from ability to analyze and reason. Although acquiring knowledge and learning to reason and evaluate is important, it should not surpass the need for higher level cognitive thinking, that is, critical thinking which encompasses analysis, synthesis, and evaluation as noted in Bloom's definition of critical thinking (Dunn et al., 2006).

Teachers' perceptions of practicing critical thinking in their classroom. All 30 of the respondents were certain that practicing critical thinking in their classrooms brings positive results. They also perceived that through critical thinking, students would be able to gain in-depth understanding of the subjects they were learning and apply what they have learned in real life. This process according to the respondents, maximizes the outcome of the students' learning experience as they would be able to achieve better results in their courses and perform better in class as well as becoming pro-active learners and independent thinkers. For example, one of the respondents commented,

> I feel that critical thinking plays an important role in the learning process. If students are able to think critically, they will be able to perform better in class. A lot of students fail to perform well in their courses because they lack the understanding of how to apply the theories that they have learnt in the case studies. The lack of application skills, I believe comes from the fact that they do not think critically but mere memorizing.

Fifteen of the respondents added that students needed to be taught critical thinking in order to enhance their learning experience. For example, one of them noted the following:

> I feel it is important for students to be taught critical thinking. However, a conducive environment must be created to help with this process. I think schools today do not have this type of environment today.

Therefore, all the respondents perceived that it was important that critical thinking occurred in the classroom. They also perceived that critical thinking needed to be taught in order to help students perform better in class. These findings support arguments by Duron et al. (2006), Black (2005), Choy (2003), and Nickerson (1994) that students need to be taught critical thinking in order to help them to think and learn better.

Discussion. From the results obtained, it would seem that most of the respondents perceived that critical thinking is an important component of the learning process. None of the respondents, however, gave a clear idea of critical thinking other than it involved analysis and reasoning. As noted by Ridell (2007) and Duron et al. (2006), critical thinking involves higher level thinking skills and involves complex processing of information. The respondents seem to focus on critical thinking as a tool for students to learn better so that they can better apply what they have learned to later life. None of the respondents mentioned that critical thinking involved higher order thinking like reflection and appraisals. All of the respondents perceived that it was important to have critical thinking occur in the classroom, although some were critical of the learning environments that did not to support students in this type of learning.

RQ 2. What are Teachers' Perceptions of Students' Ability to Think Critically?

The results obtained from two categories: (a) teachers' perceptions of students' demonstration of critical thinking in their classroom and (b) their perceptions of the problem faced by students practicing critical thinking were used to answer RQ 2.

Teachers' perception of students' demonstration of critical thinking in their classrooms. A total of 13 teachers perceive that their students do practice critical thinking in their classrooms some of the time. One respondent commented,

> Personally, I know that a student is thinking critically if he or she is able to give sound and logical answers with substantial evidence and examples or conclusions that were not taken from the test or the teacher's notes but from his/her prior

experience, knowledge or belief. The ability to link logical relationships between ideas also tells me that a student is thinking in a critical manner.

Ten of the respondents added that they knew that their students were practicing critical thinking when they were able to defend their arguments and problem solve using new approaches. They felt it was important for teachers to guide them and help mediate their learning. For example, one of the respondents wrote,

> I know that critical thinking is happening when new facts, thoughts and ideas are discussed when the students present or defend their argument from a new point of view. They may also solve problems using different or new approaches.

On a similar note another respondent wrote,

> The occurrence of critical thinking is reflected in the structure, organization and sequence of logic and steps shown in students' solutions to a particular problem. Posing relevant questions could also be an instrument for identifying the existence of critical thinking.

Seven of the respondents also expressed almost similar perceptions as they explained that the content, line of thought and logical reasoning in the students' work were the indicators of their practice of critical thinking. For example, one of them wrote,

> The ability of my students to explain the content of what they have learned and their line of thought and how logical they seem to be are indicators of them practicing critical thinking.

Discussion. Most of the respondents perceived that students demonstrated critical thinking when they were able to perceive facts thoughts and ideas from a new perspective and defend these ideas with sound argument. These students do not seem to reflect the skills that Riddell (2007) and Duron et al. (2006) argued are necessary to demonstrate critical thinking. According to these researchers, it is important to have skills like reflection, inquiry, interpretation, and analysis. Based on this research, the results of the analysis do not seem to show that these students had been able to acquire all the skills necessary for critical thinking, although their teachers perceive they are demonstrating this type of thinking. This would imply that the level of critical thinking demonstrated by students would be dependent on how well their teachers understand the necessary skills for this type of thinking. Black (2005) suggested that teachers themselves may

not even know how to think critically and, therefore, their analysis of the level of critical thinking among students may be limited by their own ability of thinking critically. Added to this, teachers may confuse students by telling them that expressing facts they were given in their own words was critical thinking, a point emphasized by Williams and Burden (1997) in their research into learning.

According to Williams and Burden, many teachers do not make a distinction between whether they are disseminators of information or a mediator of learning for an individual. Disseminators of information are only interested in giving information to students while mediators of learning would be interested in helping students learn on their own. From the comments of the respondents, it would seem that they perceived that their students were able to think critically when they were able to rephrase what they had learned into their own words. These students may not know how to actually think critically as they would be equating rephrasing as thinking critically.

Teachers' perception of the problems faced by students when required to practice critical thinking in the classroom. Twenty-eight respondents perceived that students lack the skills to practice critical thinking. The students are also unaware of critical thinking as a skill as they were never exposed to it or trained to do it in their early education. For instance, one of them explained,

> Students are very passive as they were not taught how to think critically from young. It is difficult for them to discern what critical thinking is and applying critical thinking into the task at hand.

Another respondent expressed a similar perception with the comment:

> I think students will have to be aware of critical thinking to start with. This is because the students were trained in schools to memorize the information, and not to ask questions. This has caused them to rely on their teachers to provide them with the information. Consequently, this stunts their ability to analyze.

Besides that, among the 28 respondents who felt that their students could not think critically, 14 respondents expressed their concern that the students have a passive behavior in the classroom. They also described their students as not having the language mastery of language or confidence to demonstrate critical thinking. They also felt that their students were too examination-oriented. For instance, one of them explained,

Students' don't like to open up as they are shy and inhibited. They would rather keep their opinions to themselves. Added to this they also lack language mastery, confidence to express new ideas and many of them are also overly examination oriented.

Another respondent shared the same view:

I have tried to encourage more guided group discussions so that they may be able to think more critically without accepting answers from me alone but the students do not seem to enjoy these discussions as much as I hoped. They keep quiet and do not participate. Sometimes I do see a few students thinking critically but they don't seem to realize that and they get confused easily.

Discussion. It would seem that students were unaware that they needed to think critically as they were not exposed to this form of thinking and were often confused when they were encouraged to do so. The respondents perceived that the students were also not encouraged about the critical thinking process as they did not respond well when asked to think critically. This would suggest the importance of helping teachers understand the importance of incorporating critical thinking into their lessons consistently. This finding is supported by Lauer (2005), who noted that helping teachers teach students to think critically in the classroom can be a challenge. According to Lauer, techniques to teach critical thinking must be incorporated into the lessons so as to facilitate a smooth flow of the lesson at the same time teach critical thinking to students.

The finding that the respondents found their students passive and inhibited during discussion to enhance critical thinking could imply that students' and teachers' perceptions of the learning taking place in the classroom are very different. This supports the findings of Horwitz (1989), whereby the way teachers view their students would influence the learning that takes place in the classroom.

RQ 3. What Are Their Perceptions of the Role They Have to Play When Incorporating Critical Thinking in Their Lessons?

The results from two categories were used to answer RQ 3. The two categories are (a) teachers' views about ways of encouraging critical thinking in their lessons and (b) teachers' perception of the students' enjoyment of their classes as a contributing factor to critical thinking.

Teachers' views about ways of encouraging critical thinking in their lessons. All the respondents were certain that they could implement critical thinking in their classrooms by providing students with guidelines and prompts would give the students a chance to explore and learn to think critically on their own. They also felt that they needed to take on the role of a mediator by providing students with prompts, such as topics, keywords, etc., instead of notes could encourage them to practice critical thinking more effectively. For example, one respondent noted,

Instead, they could be given specific tasks to allow them to think creatively such as role-playing where students are required to solve problems using their own approaches. We could also conduct group discussions that require students to air their views and come up with solutions. They could also be given texts to read and then answer questions which require them to think out of the box.

Twenty respondents added that it was important to encourage students to be creative as creativity is essential in critical thinking that requires them to produce original ideas. They also suggested that students should also be given the preference to choose the topics that they want to study as this would empower the students and, thus, promote critical thinking. It could also increase the students' interest and in-depth understanding of the subject and create sense of responsibility towards their studies. For example, one of them wrote,

I feel it is important for me to encourage students to be creative in their thinking so that they can produce original ideas. However, I feel that that this process could be enhanced if we could get students to choose the topics they like to learn and explore.

In addition, 17 respondents wrote that the learning environment in the classroom plays an important part in encouraging critical thinking among the students. To facilitate critical thinking in the classroom the respondents perceived that teachers play an important part in providing a conducive learning environment. For example one respondent wrote that

The teacher should also provide a conducive learning environment in the classroom to encourage the students to air their views and offer creative solutions.

However, 13 respondents felt that students expect lecturers to give notes containing all the information that the students need to know in order to answer the questions in their assessments. For example, one of the respondents wrote the following:

Students enrolled in private institutions of higher learning expect to be treated as customers who are buying education. Therefore, they expect the education provider to provide the information instead of having to find the information by themselves. As a result, this practice caused more difficulty for the teachers to cultivate critical thinking skills in the private institution.

In addition, 20 respondents expressed their observation that students in general lack proficiency in the English language to understand the texts and the basic skills to do research. Therefore, given the pressures of completing the syllabus by the relevant governing and licensing bodies, teachers often have to use the lecture approach, providing students with the information that is prescribed. This is because there is inadequate time for students to obtain the information on their own. This they perceived prevented them from encouraging critical thinking among their students, as one respondent noted:

> As much as I am reluctant to provide students with the full set of notes, I still do it. The reason for this is that I am pressured to cover the syllabus which was approved by the National Accreditation Board. Therefore, there is just not enough time to conduct classroom activities to encourage critical thinking.

Another respondent who held similar views explained:

> I strongly feel that students cannot be spoon-fed with information. However, due to the demanding request from the students, their slow pace of learning and lack of time (especially in grasping concepts), I provide them with lecture notes to addition the textbook. Another reason is that the students do not understand what they read in the textbook due to their low proficiency in the English language. Therefore, they are unable to decipher what they read in the textbook.

Fifteen of the respondents further expressed concern that teachers themselves may not have mastered critical thinking causing the students to not develop this form of thinking well. For example, one of them stated,

> I know it is important to help students think critically but I wonder if it really happens. I do not know if it really takes place because the teachers themselves may not be able to think critically. You cannot have someone who does not know how to think critically to teach critical thinking.

Discussion. This finding suggests that respondents are certain they could implement critical thinking in their classroom. Many of them suggested students could be empowered to choose what they wanted to learn and encouraged to problem solve using their own approaches. However, this certainty that they could implement critical thinking in their classroom seemed to be checked by the respondents' perception that students were on the whole dependent on their teachers to provide them with all the relevant study materials. Their lack of ability to understand the required reading materials is perceived by teachers as deterrents to helping students develop critical thinking skills. Added to this the respondents were also unsure that teachers could think critically themselves. These perceptions could also be a result of the way they perceived their students and themselves. These respondents may actually be disseminator information rather than mediators. They may not know how to stimulate their students to think critically because they may not actually know how to think critically themselves. This finding supports research by Williams and Burden (1997) that the way in which teachers manage their classroom environments influences the way in they interact with students and the way they learn. Furthermore, the confidence of a teacher and their self-efficacy and self-esteem could influence the way they influence their students' thinking.

Teachers' perception of the students' enjoyment of their classes as a contributing factor to critical thinking. Twenty-seven of the respondents expressed certainty that their lessons were enjoyable to students. These respondents also noted that their students practiced critical thinking in the classroom. For instance, one respondent wrote,

> My students enjoy my classes. This could be assessed from the responsiveness and enthusiasm of the learners.

All of the respondents were sure that their lessons were enjoyable cited the feedback forms which students filled-in at the end of the term as evidence to support their claim. In addition, they also felt that their own enjoyment in teaching their classes was a factor in ensuring that the students enjoyed the lessons. For instance, one of them noted,

> My students enjoy my lessons most of the time. I also enjoy teaching them. Their evaluation of me through the feedback questionnaires at the end of the semester is very encouraging.

Besides that, 15 respondents believed that providing students with explanations to which the students could relate was important to make their lessons enjoyable. They perceived that this contributed to students' critical thinking during classes. Additionally, the respondents

believed that the students' enjoyment of their lessons were dependent on various aspects like their understanding and connection with the material presented, their interest in the content of the lesson, and whether they were prepared to learn the lesson. For example, one respondent explained,

> If students came prepared for the lesson by doing prior reading, they would find it enjoyable. They would be more apt to want to think critically especially when they understand the lesson. The content of the lesson was also important as students would find more enjoyment in a subject that is of interest to them.

Discussion. This finding seems to suggest that most teachers perceive that their lessons were enjoyable to students. They also felt that their own enjoyment of the classes they teach was also a good indicator. In addition, the students' own preparations for the material to be learned would contribute to their ability to think critically. It is important to take into consideration the arguments of Horwitz (1989) that a teacher's perceptions were not shared by their students. Their students may actually be looking at the same situation from vastly different perspectives. However, the results do not seem to support Horowitz's argument. These students seem to enjoy their class as evidenced from the comments from the students' feedback questionnaire.

Conclusion

The results show that teachers perceive they are teaching critical thinking to their students. They believe that critical thinking will provide the intellectual stimuli that will facilitate learning among students. They perceive that students' ability to explain concepts in their own words is evidence that they were thinking critically. However, this perception is questionable because thinking logically and being able to problem solve using new approaches may not be indicative of critical thinking but may just be the process the student undertakes to gain understanding of the material presented. As Black (2005) aptly noted, critical thinking requires students to take their own thinking apart: to analyze their own thinking according to standards of clarity, accuracy, relevance, logic, and fairness. This seems to imply that teachers themselves may not have a strong understanding of critical thinking and how to encourage students to think in this way. This lack of understanding of the concept is also reflected in their definition of critical thinking. Many of them equate critical thinking to intellectual stimuli, but they are unable to define the forms these stimuli must take. Vaske (2001) noted that the definition of critical thinking needs to encompass both the natural qualities

of a person – disposition - and the critical thinking skills of the person. This would imply that critical thinking can only be taught by teachers who have in-depth knowledge of critical thinking skills and understanding of how to incorporate this into their lessons so that it is easier for students to adapt to this type of thinking.

The findings also suggest that teachers are not confident that their students could learn to think critically on their own. Many of them perceive their students to be unwilling to share and lack the command of language to express their thoughts well. Black (2005) suggested that a climate of high expectations and teacher warmth that encouraged students to express their thoughts needed to be present to ensure success of critical thinking in the classroom. The tendency for teachers to provide the necessary materials and the need to complete their syllabi was indicative that they were not able to incorporate critical thinking into their lessons all the time. Many teachers also perceive that their students do not enjoy classes when discussions required them to think critically. The teachers also seem to be in conflict with wanting to stimulate critical thinking in their students and needing to complete the stipulated requirements of the course. This is a dilemma because the relevant governing and licensing bodies of these institutions may not be aware of the needs and the time constraints imposed on teachers. Duron et al. (2006) noted that although content delivery is very important in higher education, it often does not encourage active learning of critical thinking among students. This tendency for teachers to provide all necessary learning materials and the need to complete syllabuses would imply a very structured approach to teaching.

The results would imply a need to improve the understanding of the concept of critical thinking among teachers to enable them to effectively teach student to think in this manner. There also seem to be a lack of understanding of the requirements needed to help students think critically. Many teachers may think they are helping students think critically, but they could be focusing on their comprehension of the subject matter instead. It would also be important for teachers to give consideration to their current instructional methods and their personal beliefs before attempting to incorporate critical thinking in their lessons. Critical thinking is a learning process that needs to be constantly practiced and incorporated into daily lessons. With the current constraints and requirements of the teachers, the success of this process is questionable. Further studies need to be carried out on how teachers perceive meeting expected requirements and time constraints could be hindering them from effectively incorporating critical thinking into their lessons.

References

Black, S. (2005). Teaching students to think critically. *The Education Digest*, *70*(6)*,* 42-47.

Choy, S. C. (2003). *An investigation into the changes in perceptions of and attitudes towards learning English in a Malaysian college*. Unpublished doctoral thesis, University of Exeter, Exeter, U.K.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (1994). *Handbook of qualitative research.* Thousand Oaks, CA: Sage.

Duron, R., Limbach, B., & Waugh, W. (2006). Critical thinking framework for any discipline. *International Journal of Teaching and Learning in Higher Education*, *17*(2)*,* 160-166.

Greene, J. C. (2000). Qualitative program evaluation: practice and promise. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage.

Holliday, A. R. (2002). *Doing and writing qualitative research*. London: Sage.

Horwitz, E. K. (1989). Facing the blackboard: Student perceptions of language learning and the language classroom. *ADFL Bulletin, 20*(3), 61-64.

Lauer, T. (2005). Teaching critical-thinking skills using course content material. *Journal of College Science Teaching*, *34*(6)*,* 34-44.

Nickerson, R. S. (1994). The teaching of thinking and problem solving. In R. J. Sternberg (Ed.), *Thinking and problem solving* (pp. 121-132). San Diego: Academic Press.

Radnor, H. A. (2002). *Researching your professional practice: Doing interpretive research.* London: Open University Press.

Riddell, T. (2007). Critical assumptions: Thinking critically about critical thinking. *Journal of Nursing Education*, *46*(3)*,* 121-126.

Sainn, G., & Ugwuegbu, D. C. E. (1980). *Education psychology in a changing world.* London: UnwinHyman.

Schultz, R. A. (2001). Cultural difference in student and teacher perceptions concerning the role of grammar instruction and corrective feedback. *The Modern Language Journal, 85*(2)*,* 244-258.

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.

Williams, M., & Burden, R. L. (1997). *Psychology for language teachers.* Cambridge, United Kingdom: Cambridge University Press.

S. CHEE CHOY, Ph. D., is currently a full time administrator of a college. Her area of research interest is in perceptions and attitudes. She is also in teacher training and development and conducts workshops.

PHAIK KIN CHEAH, Ph.D, is currently a full time lecturer and administrator of a college. Her research interest is in the area of language learning.