ENGLISH TEACHERS' QUESTIONS IN A VIETNAMESE HIGH SCHOOL READING CLASSROOM

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Abstract: Recently, developing students' thinking, especially critical thinking (CT), has become a hot issue. Critical thinking has been claimed to have an important impact on learners' reading comprehension because it can help them analyze, evaluate, construct their thinking, solving problems and reasoning (Ennis, 1989). However, the extent that teachers' classroom activities contribute to developing students' critical thinking has rarely been researched. The current case study was conducted with six EFL high school teachers and 10 reading lessons in Vietnam to explore the teachers' use of questions and to analyze if these questions could facilitate the students' critical thinking. Classroom observations and the cognitive domain of Bloom's taxonomy were adapted as the research instruments. The study results reveal common types of questions are often used by high school teachers in their reading lessons. Suggestions are made on types of questions that teachers should function more in their class in order to enhance students' critical thinking.

Keywords: teachers' questions, teaching reading, critical thinking

INTRODUCTION

Critical thinking has been considered a valuable tool for teaching and learning since the time of Socrates. More recently, researchers and educators have described the need for critical thinking as important as ever, particularly in today's information age (Mc Callister, 2004; Mc Kendree, Small & Stenning, 2002; Sternberg, 2003; Tapper, 2004). With access to more and more information,

students must be able to analyze that information systematically to solve unique problems.

Numerous researchers have indicated the relationship between students' CT and reading comprehension in the classroom. All of them emphasize that CT plays an integral factor in the development of reading comprehension; as it can be seen critical thinking and comprehension both are cognitive abilities having cognitive skills in common so that improving the former can contribute to the improvement of the latter, and vice versa (Facione, 1992; Facione & Facione, 2010; Fahim, Bagherkazemi & Alemi, 2010; Paul, 2004; Stapleton, 2001).

In the classroom, question-and-answer activity is viewed as the most common form of communication between students and teachers. A question proposed by teachers can promote students' learning, participation and thinking, especially CT (Wilen, 1991). The functions of different types of questions have been specified more clearly and good questioning strategies have been proposed. However, most of them are mainly focused on the influence of teachers' questions on classroom interaction and learners' oral output (Hu, 2004; Shomoossi, 2004; David, 2007; Lu, 2007).

It is also noticed that little to no empirical research on the use of teachers' question types in students' CT in Vietnam has been documented. Therefore, this research was conducted to gain more insights into the addressed matter in the context of a high school in Vietnam. The foci are on what the common types of questions are generated by EFL teachers in reading classes in high school and to what extent teachers' questions can be used to build up the high school students' critical thinking. It was also expected to offer teachers of English an effective and fruitful instructional technique to improve their learners' motivation in learning.

LITERATURE REVIEW
Defining Critical Thinking

The idea of CT originated from the Socratic Method of Socrates over 2,500 years ago. The method established the need to seek evidence, analyze basic concepts, scrutinize reasoning and assumptions, and trace the implications not only of what is said but of what is done as well: "Knowledge will not come from teaching but from questioning". Thereafter, within the overall framework of skepticism, numerous scholars raised awareness of the potential power of reasoning and of the need for that to be systematically cultivated and cross-examined.

In 1909, the famous American philosopher, psychologist and educator, John Dewey, is widely regarded as the "father" of the modern CT (as cited in Fisher, 2001), conceptualized CT as "active, persistent, and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it…" (as cited in Fisher, 2001, p.2). Dewey also emphasized the key element in CT, that is, skillful reasoning.

To support this point, Ennis (1989) further clarifies that CT is considered as "reasonable reflective thinking focused on deciding what to believe or do" (p.180) by offering a detailed list of abilities, skills, and dispositions which thinking (and thinkers) must manifest if it is (they are) to qualify as critical; whereas Siegel describes it as an ability to judge in such a way as to meet "relevant standards or criteria of acceptability" (Blake, Smeyers, Smith & Standish, 2003, p. 181). Although also opposing the exclusion of historically marginalized or oppressed groups, they are still concerned with epistemic criteria or standards that reason must meet in order to be rightly judged to be good reasons, namely, reasons that warrant beliefs, claims, and actions.

In another point, McPeck (1981) defined that CT refers to the thought processes which include problem solving and active engagement in certain activities, for example the process of evaluating statements (McPeck, 1981). This definition is regarded as the specific

one as he described certain activities in CT. According to Paul (1990), CT in terms of the ability and disposition critically evaluate beliefs, their underlying assumptions, and the worldviews in which they are embedded. Paul asserts that skilled thinkers are driven by a passion for getting to the bottom of things, are devoted to seeking the truth rather than to self-aggrandizement, are inclined to ask probing questions about why things are believed to be as they are asserted to be, are persistent in thinking their way through perplexing problems, and are deeply averse to sloppy, ambiguous thinking.

However, in light of the theoretical framework of the present study, the last four levels in the cognitive domain are related to CT skills. Bloom and other researchers indicated that questions belonging to these levels can facilitate students' CT skills because they can help students to utilize CT skills, for instance, applying, analyzing, synthesizing, and evaluating, rather than direct recalling (Bloom, et al., 1956; McNeil, 2010; Myrick & Yonge, 2002; Nagappan, 2001; Sellappah, Hussey, Blackmore & McMurray, 1998). In the present context, therefore, CT mainly refers to a kind of ability of manipulating or processing knowledge learnt in the classroom, which contains certain CT skills related to higher-cognitive levels in the cognitive domain of Bloom's taxonomy. In other words, CT is deemed to take place when students are required to perform in answering application, analysis, synthesis and evaluation questions.

The Significance of Critical Thinking in Education

It has been widely accepted that CT is a very essential learning and teaching tool for many years. It has been deemed as a skill that should be gained in order to meet the today's societal expectations such as quick thinking, competent communication, and ability to resolve conflict and reconcile diverse perspectives (McCallister, 2004). Specifically, in language teaching and learning, Brown (2004) stated that "the objective of an ideal academic English education should go beyond linguistic factors and develop the art of critical thinking" (p.25). Research findings have supported how it helps students to

learn tasks better and solve problems that they encountered in academic and nonacademic environments (McKendree, Small & Stenning, 2002). It is indicated that CT is a skill that can be taught and improved in everyone as opposed to intelligence. Since late 1980s, strategies for teaching the function of CT to all level of students have been discussed (Grant, 1988; Paul et al., 1989; White & Burke, 1992); and it has been emphasized that this skill should be taught to students at all level in the school curriculum.

Thinking and learning are interrelated; one must think to gain knowledge. To be able to add to the depth and breadth of an individual's knowledge, the individual must become more aware of and more skilled in thinking and the cognitive processes. Andrews and Mitchell (2001) and Lillis (2001) maintain that argument assists the learning process, enhancing and consolidating students' understanding of a subject. By being encouraged to argue and to question, both in spoken and written form, students are given a sense of control over their own learning, which leads to increased confidence and autonomy. Broadly, CT provides a means to circumscribe and assess the knowledge which is produced within the academy, and more specifically, a way for teachers to gage their students' understanding of the subject matter.

Moreover, the ultimate goal for educators is to promote lifelong learning by enhancing students' problem-solving abilities so that they may apply these steps not just in school problems, but in problems in everyday life (Sternberg, 2003). Concerning CT, Elander et al. (2006) believe that CT skills are not merely transferable to other areas of our lives, but also personally transformative, inducing individuals to develop from passive recipients of knowledge to active participants in society. With so many technological and informational advances, living and working in the world will change dramatically in the next millennium. People will have an ever-increasing need to obtain, understand, analyze, and share information. Dreher et al (2000) predict that workplace literacy in the next millennium will be synonymous with problem-solving; and employers will seek graduate

employees who are able to transfer their critical thinking abilities to the workplace (Tapper, 2004).

Taking everything into account, CT has changed its role significantly in education, for not only does it enhance learning process, but it also helps prepare successful international employees.

Teachers' Question Types

In order to understand the teachers' question, it is prerequisite to make clear the notion question. By common sense, question is a command or request for information. Different researchers (Ur, 1996; Lynch, 1991; Tsui, 1992; Jansem, 2008) have their own ways in expressing what a question refers to, but in essence they share roughly the same thing. According to Ur (1996) question in the context of teaching can be defined as a teacher utterance which has the objective of eliciting an oral response from the learner. Lynch (1991) characterizes a question as an utterance with a particular illocutionary force, and Quirk et al (1985) define a question as a semantic class used to seek information on a specific subject. In terms of teacher-questions, Tsui (1992) claims that teacher-questions are all types and structures of utterances classified, either syntactically or functionally, as questions asked by teacher before, during, and after instruction in order to elicit responses from the students (Jansem, 2008). Without questions, there is no processing information.

There are many ways to classify questions. Although researchers offer a variety of ways to name the types of question, they share much in common in terms of purposes of the questions. For example, Wilen (1991) classifies questions into two categories: convergent and divergent. The purpose of convergent questions is to check students' comprehension and prepare students to apply what they have been taught. Divergent questions engage students in critical thinking process.

Correspondingly, Tienken, Goldberg and DiRocco (2009) synthesize the works of other researchers and categorize questions as either productive (the analysis, synthesis, and evaluation, also known

as high order questions) or reproductive (recall, comprehension and application, also known as lower order). Long and Sato classify questions into display questions and referential questions. "Display questions are those to which the questioner already knows the answer and is merely testing the respondent's knowledge or understanding, while referential questions are ones to which the questioner does not know the answer and is genuinely seeking information" (Long & Sato,1993, p.79). Thompson (1997) categorizes questions from three angles: form (yes/no questions or why-questions), content (fact or opinion) and purpose (display or communicative).

However, based on the scope of this case study, the writer would like to use the cognitive domain of Bloom's Taxonomy when classifying teacher's question types. The cognitive domain includes six levels: knowledge, comprehension, application, analysis, synthesis and evaluation, which mainly focuses on intellectual skills. In the cognitive domain, the first two levels, knowledge and comprehension, are often regarded as lower-cognitive levels in that they are limited to memorization with the information being recalled upon demand. Meanwhile the four levels of application, analysis, synthesis and evaluation are deemed as higher-cognitive levels in that they require higher-order thinking involving intellectual processing or the connecting or transforming of ideas of students (Bloom et al., 1956). With regard to these types of questions, McNeil (2010) summarized that questions with higher-cognitive level can increase literacy levels, develop thinking skills and lead more target language production than ones with lower-cognitive level. In other words, higher-cognitive questions require students to engage in independent thinking, for instance problem solving, analyzing or evaluating information (Gall, 1970).

Critical Thinking and Reading Comprehension

Viewing reading comprehension as a vital part of second language curriculum, Barnett (1989) describes several reasons for its importance: (1) it remains an important goal in many programs; (2) it

can be maintained after students complete formal language study; and especially (3) it fosters the development of literacy skills. Some of the mental skills employed in reading comprehension, as Grabe (1991) states, are inference, analysis, synthesis, and evaluation which are what experts include "as being at the very core of critical thinking" (Facione, 1992, p.4). More specifically, by using analysis, one can express and comprehend the significance of a wide variety of experiences, data, beliefs, conventions, and criteria (Facione & Facione, 2010).

Additionally, according to Facione and Facione (2010), using synthetic, one can generalize from specific pieces of evidence to valid results and conclusions; using evaluation, one can decide how weak or strong an argument may be, and the credibility of statements or descriptions of a person's perception, judgment, or opinion could be assessed; and using inference, one can identify elements needed to draw reasonable conclusions based on evidence and reason to form hypotheses.

In recent decades, it can be clearly seen that studies on reading comprehension have led to great emphasis on the important role of CT. Stapleton (2001) claims that CT is an important factor in the acquisition of reading. Similarly, Richard Paul (2004) stresses the connection between CT and reading comprehension. As he states, "The reflective mind improves its thinking by reflectively thinking about it. Likewise, it improves its reading by reflectively thinking about how it is reading…" (p. 11). Facione (1992) also suggests there is a significant correlation between CT and reading comprehension. His quotation follows "Improvements in one are paralleled by improvements in other." (p.18).

To support this point, Fahim, Bagherkazemi and Alemi (2010) conducted a study to examine if there is any substantial relationship between test takers' CT ability and their performance on the reading section of TOEFL. The findings indicated a statistically significant advantage for those with greater CT skills. The researchers concluded

that CT is very important for answering reading comprehension questions, especially those related to main ideas.

In light of the theoretical framework of the present study, the last four levels in the cognitive domain are related to CT skills. Bloom and other researchers indicated that questions belonging to these levels can facilitate students' CT skills because they can help students to utilize CT skills, for instance, applying, analyzing, synthesizing, and evaluating, rather than direct recalling (Bloom et al., 1956; Sellappah et al., 1998; Nagappan, 2001; Myrick & Yonge, 2002; McNeil, 2010). In the present context, therefore, CT is likely to take place when students are required to perform in answering application, analysis, synthesis and evaluation questions.

With regard to the relationship between students' CT and reading comprehension in the classroom, numerous researchers (e.g. Facione 1992, Stapleton 2001; Richard Paul, 2004; Facione & Facione, 2010; Fahim, Bagherkazemi & Alemi, 2010) emphasize that CT plays an integral factor in the development of reading comprehension. In other words, critical thinking and comprehension both are cognitive abilities having cognitive skills in common, thus, improving the former can contribute to the improvement of the latter and vice versa.

Students' Critical Thinking and Teachers' Question Types

In terms of teachers' question types and students' CT, most scholars have concluded that the level of students' thinking is strongly influenced by the level of questions which are asked in class. The questions can vary based on the texts the students are learning in the instructional classroom. Teachers' thoughtful questions play a crucial role in inducing students' higher level cognitive processes. Unfortunately, a majority of teachers' instructional time is spent asking students questions (Dillon, 1982), but not all teachers ask higher order questions to promote students' CT. Most questions that are asked in a classroom context seem to be at the lower level of cognitive processes (Guo 2002; Ambrosio, 2013; Chafi and Elkhouzai, 2014). Traditionally, EFL teachers tend to emphasize covering text

material over engaging students in independent thinking because they do not fully appreciate the role of questions in teaching content (Elder & Paul, 1998).

English in Vietnam

The Vietnamese educational system is composed of five levels pre-school (3 to 6 years old), primary (grades 1 to 5), secondary (grades 6 to 9), high school (grades 10 to 12), and tertiary. At the end of grade 12, students must pass a formal national examination to earn a high school diploma. Depending on which field of study students want to apply for tertiary education, marks for different exam subjects will be combined and assessed by the university they apply for. For example, those who want to major in English Studies in Vietnam will have four options of subject combinations, namely (2) English, Vietnamese literature and Mathematics combined; (2) English, Mathematics and Physics; (3) English, Literature and History; and (4) English, Literature and Geography. In addition, their study results during the three years of high school also play a role in deciding whether they can enroll in their favorite university or not.

Regarding English language teaching and learning in Vietnam, although English has been taught at school since the late nineteenth century (during the French colonization), it only became more popular in the country since the late 1980s with the start of the economic reform (Lap, 2005). The open-door policy in Vietnam attracted English-speaking foreigners to Vietnam and enhanced business communication with western countries. Within the context of international business cooperation development, English language use increased its importance. Canh (2007) state that "For the first time in the country's many-thousand-year-long history, English emerged as the most important foreign language, which was chosen by most students" (p. 172).

An outstanding manifestation for the rise of English is that approximately 90 percent of undergraduate students chooses English as the foreign language learned at school. This percentage is

impressive in view of the fact that foreign language education is compulsory at secondary and high school levels and the first two years of undergraduate programs at tertiary institutions as regulated by the Ministry of Education and Training (MOET).

The way of teaching and learning in Vietnam is claimed to be affected by examination-oriented educational practice. Therefore, the curriculum emphasizes theoretical information and provides little space for practical experience (Canh, 2011). In fact, it has been claimed that the Vietnamese school curriculum is "extremely voluminous". As a result, learners focus on repeating, reciting, and memorizing factual information from their textbook and they are "usually uncritical of the information they receive" (Canh, 2011, p. 17). Within that context, Nguyen (2002) remarks that Vietnamese learners "are very traditional in their learning styles: they are quiet and attentive, good at memorizing and following directions, reluctant to participate" and "regard the teacher as the complete source of knowledge" (p.4). In such the context, it is crucial to help students change their learning styles to the more positive ones and develop their critical thinking ability. In order to do so, teachers' activities in the classroom play an undeniable important role.

METHOD

This research includes a case study. The subjects involved in this study were 6 teachers who are in charge of the English reading classes for grade 10th and 11th at a high school for the gifted in Mekong Delta. The teachers, non-native speakers, have been teaching English for more than four years. Their age ranges from 29 to 35, with the average age of 32. All of them had an M.A. degree of Education in TESOL. Their reading classes were chosen to be observed with the use of audio-recording to capture what common types of questions that they frequently use in their classroom.

In order to answer the two research questions, the study used two instruments. The first instrument was classroom observation to recognize what types of questions that teachers frequently used in the

reading classes. Meanwhile, the second instrument was the theory of Bloom's Taxonomy to gain more understandings of to what extent these types of questions facilitate students' critical thinking in English reading. These research instruments were described in detail in the sections below:

Classroom Observation

Classroom observation refers to a systemic procedure during which classroom events are recorded in such a way that it can be studied later (Allwright, 1988). It involves the researcher observing, recording and analyzing events that happen in the classroom. It was the main instrument for collecting data in the case study.

The reasons why classroom observation was employed in the current study are that observation can provide the opportunity to record information as it occurs in a setting and it is fruitful and workable to reveal the classroom teaching and learning strategies (Chesterfield & Chesterfield, 1985; Creswell, 2005). Therefore, the common types of questions generated by teachers in reading classes could be observed when it occurred by using classroom observation (with the use of audio – recording).

There are two types of classroom observation: participant and non-participant observation, which are distinguished by whether the observer participates in the observed activity in the classroom. In the current study, the researcher adopted non-participant classroom observation which meant the researcher was mere an observer rather than a participant in the classroom activities.

Theory of Bloom's Taxonomy

In the current study, the cognitive domain of Bloom's Taxonomy was used to classify teacher's question types. According to Bloom (1956), questions can be classified into two levels: lower and higher level questions. Lower-level question are those at the knowledge, comprehension, and simple application levels of the

taxonomy. Higher-level ones are questions requiring complex application (analysis, synthesis and evaluation skills).

Bloom's Taxonomy was used in analyzing the impact of teacher' question types on students' CT for the two reasons. Firstly, many researchers have proposed different classification systems used to analyze teachers' questions (Adams, 1964; Aschner, 1961; Bloom et al, 1956, 1956; Carner, 1963; Clements, 1964; Gallagher, 1965; Guszak, 1967; Barnes, 1969; Long &Sato, 1983); however, Bloom's taxonomy is viewed as the best-known and most widely used paradigm in education to categorize and analyze the types of questions (Bernadowski, 2006).

Secondly and most importantly, the purpose of the current case study was to explore to what extent students' CT can get improvement with the help of the teacher' question types. With respect to Bloom's taxonomy, Jacobsen, Eggen and Kauchak (1999) pointed out that the domain which has the most impact on the CT issue is the cognitive domain. This is because cognitive domain is concerned with imparting knowledge and thinking skills (Moore, 1998); moreover, higher-cognitive levels in the cognitive domain focus on promoting learners' CT. Therefore, the cognitive domain of Bloom's taxonomy is relatively appropriate and practical for the purposes of the case study.

FINDINGS AND DISCUSSIONS
Common Types of Teacher's Questions

To answer the first research question, data from classroom observation were used. A total of 423 content-related questions were used in the reading classrooms in the current study. These questions belong to both lower-cognitive and higher-cognitive levels. The samples of questions asked by the teacher are provided in Table 1.

Table 1 reveals that the teachers asked knowledge, comprehension, application, analysis, synthesis, and evaluation questions respectively in the reading classes. In other words, both

Table 1 Samples of Questions Asked by the Teacher

Types	Examples
Remembering	1. What are the two things that make humans different from other animals? 2. Where does he collect the stamps?
Understanding	1. Why does the writer admire his uncle? 2. Translate these phases into Vietnamese please.
Applying	1. A foreigner friend is visiting Viet Nam. You introduce the Asian Games to him / her. What are you going to talk about? 2. What would you do to save energy in your family?
Analyzing	1. What do you think of the music in the second picture? 2. What inference can you make from the two sentences?
Synthetizing	1. Which of the options is the best title for the passage? 2. Can you predict the alternative sources of energy in the near future?
Evaluating	1. In your opinion, which of the roles of music is the most important? 2. Which source of energy do you think has the most potential?

lower-cognitive questions (LCQ) and higher-cognitive questions (HCQ) were raised by the teachers. In terms of the frequency of each type of questions, Table 2 shows that the number of LCQ was much higher than the one of HCQ. In other words, during 10 periods of English reading, the teacher asked more LCQ (79%), in particular knowledge questions (43.5%), than HCQ (21%).

As Table 2 presents, the teacher asked 184 (43.5%) knowledge questions, 150 (35.5%) comprehension questions, 14 (3.3%) application questions, 6 (1.4%) analysis questions, 7 (1.6%) synthesis questions, and 62 (14.7%) evaluation questions. Furthermore, with regard to each type of questions, the numbers of either knowledge or

Table 2 Frequency of Each Type of Questions

Levels	Types	Frequencies (%)
Lower-cognitive	Remembering	184 (43.5%)
	Understanding	150 (35.5%)
Total		**334 (79%)**
Higher-cognitive	Applying	14 (3.3%)
	Analyzing	6 (1.4%)
	Synthetizing	7 (1.6%)
	Evaluating	62 (14.7%)
Total		**89 (21%)**
Grand total		**423**

comprehension questions in lower-cognitive level are higher than each type of questions in higher-cognitive level. In terms of lower-cognitive level, it is evident that the number of knowledge questions is higher than that of comprehension ones. As for higher-cognitive level, it is interesting to see that the number of evaluation questions is the highest while that of analysis ones is the lowest.

With respect to the cognitive levels, the teacher asked more LCQ (79%), particularly knowledge questions, than HCQ (21%). This result is in line with those from studies of Sellappah et al. (1998), Guo (2002), Ambrosio (2013), Chafi and Elkhouzai (2014) which indicated that teachers always asked more LCQ than higher ones in classes. In the study of Ambrosio (2013), although he used factual, empirical, productive and evaluative questions to classify teachers' questions, this categorization was also based on the cognitive domain since Moore (2001, as cited in Fajuri, 2011) pointed out most of questions classifications, including, factual, empirical, productive and evaluative, are proposed according to the cognitive levels of Bloom's taxonomy.

Furthermore, Moore (2001, as cited in Fajuri, 2011) also indicated that factual question is viewed as LCQ while the empirical, productive and evaluative ones are regarded as HCQ. In these studies mentioned above, the researchers adopted different teachers who taught different grades as their participants. The subject in the study of Chafi and Elkhouzai (2014) involved teachers who taught in

primary schools; while the data of Ambrosio's research (2013) were collected from three different sixth grade reading classes. In the studies of Sellappah and Guo cited by Ping (2011), they observed teachers who taught at universities. Additionally, the high school teachers were subject in the present study. Therefore, apparently, it is a common phenomenon that teachers are inclined to ask more LCQ in the classes.

The reason for asking plenty of teachers' LCQ could be explained as follows: since LCQ can help students review their previous knowledge, for instance, vocabulary (e.g: *What do you call a group of people who play various instrument together?*) and grammar structures, (e.g: *"Nam's success at school [pause] his parents". We need a noun, verb, adjective or adverb here, class?*) and also to check students' comprehension on the reading passage (e.g: *Why has music always been a big business?*) so that the teacher could know how well the students understood the materials. Additionally, if students could not answer teacher's questions, she had to change them into easier ones. For example, when the teacher taught a unit named "Sources of energy", she asked a question related to students' predictions which belonged to HCQ (*Can you predict the alternative sources of energy in the near future?*), but no response from students, so the teacher changed it into the easier one belonging to lower-cognitive level (*Are they always plentiful and infinite?*). That is to say, asking LCQ was to help students achieve the basic requirements of reading lesson. Therefore, LCQ can help learners review learnt knowledge and understand the main ideas of texts, rather than processing or manipulating the knowledge which is related to higher-order thinking, namely, CT.

The Use of Teachers' Question Types on the Students' CT

To answer research question 2, data from classroom observation and the cognitive domain of Bloom's taxonomy were utilized. From the record of classroom observation, the teacher asked plenty of LCQ in the classrooms. All of these questions are mainly focused on vocabulary, sentence structures and understanding on the

specific contents of texts, which always required students to locate answers from memory or textbooks directly, instead of the process of higher-order thinking. It was mentioned in Bloom's cognitive domain that questions belonging to lower-cognitive level can require students to simply recall or memorize the previous knowledge from memory, concentrating on factual information.

In contrast, questions belonging to higher-cognitive level require learners to be engaged in higher-order thinking, in particular CT, for example problem solving, analyzing and evaluating information (Bernadowski, 2006; Bloom et al., 1956; McNeil, 2010). Therefore, these questions could not make students be engaged in higher-order thinking; that is processing or manipulating knowledge. Unquestionably, it can be concluded that excessive use of LCQ could not facilitate students' CT, because students' CT did not take place when they answered LCQ.

Besides, according to the data, the teacher also asked a few HCQ (21%) which mainly focus on application, analysis, synthesis, and evaluation questions. All of these questions were related to CT skills. However, from the records of classroom observation, the misuse of HCQ was identified. Below is an example for such a case.

> T : *The disadvantage of nuclear energy is that it is very dangerous". What do you think about the answer?*
> S1 : *It's correct.*
> T : *Are you sure?*
> S1 : *Yes.*
> T : *OK. Thank you*

The above example presents a question-and-answer chain between the teacher and students. Based on the analytical framework, the first question of teacher (*What do you think about the answer?*) was categorized as evaluation question since it required students to judge their friend's answer and express their opinions. Sellappah et al. (1998) suggested that questions were required to be asked in a logical format to facilitate a chain of reasoning so that they could prompt the

development of CT. However, obviously, there was no chain of reasoning in this example. The teacher moved to another checking question (Are you sure?) instead of requiring students to justify their answers. Although this question was categorized as higher-cognitive one, its role played in the class was similar to LCQ. Therefore, it comes to a conclusion that some teachers' HCQ might not facilitate students' CT under investigation.

The findings are consistent with the theory of the cognitive domain which indicates that in terms of question functions, LCQ are likely to require students to simply recall the prescribed data from memory, concentrating on factual information, and also to grasp the meanings of materials (Bernadowski, 2006; Bloom et al., 1956; Brualdi, 1998; McNeil, 2010). Consequently, with respect to the relationship between LCQ and CT, Bloom et al. (1956) pointed out that LCQ (knowledge and comprehension) represents the lowest level of understanding. It requires students to recall previous knowledge directly instead of any process of manipulating knowledge; so the use of these questions could not make students be engaged in any process of CT. That is to say, LCQ could not be beneficial to the development of CT. This finding is consistent with the study of Sellappah et al.'s (1998) which also indicated that the excessive use of LCQ could not facilitate students' CT since they merely required students' recalling the knowledge directly rather than processing or manipulating knowledge learnt in the class.

CONCLUSION

Most educators agree that the skill to think critically is becoming increasingly important as classes become more diverse and global. Furthermore, critical thinking is best taught when teachers give questions that would entail the student to solve problems or discover new information (Acker, 2003). The findings of the present study indicated that the teacher asked more LCQ related to recalling facts or grasping main contents of materials, especially knowledge, than HCQ. The results also revealed the limited use of HCQ would

limit the development of students' CT. Therefore, the case study recommends that teachers are expected to pay more attention to HCQ after asking a series of LCQ in order to provide an environment rich in opportunity for enabling CT. Additionally, teachers should be trained how to ask questions appropriately and effectively, especially HCQ. As such, teachers need the ability to "draw on communicative moves to discern whether the students need more scaffolding to further prepare them to answer questions that elicits higher order thinking" (McNeil, 2012, p. 403) in order to keep the discussion continuous and productive.

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