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Understanding Lecturers' Knowledge of Critical Thinking: A Study of Two Secondary Pre-Service Teacher Education Programs in Saudi Arabia

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Abstract

This is a qualitative case study assessing lecturers' knowledge of critical thinking at two secondary pre-service teacher education programs in Saudi Arabia. Data include open-ended interviews with four lecturers from each university and is based on purposeful sampling. The theoretical framework is Richard Paul's (1992) theories on critical thinking and the consensus arrived at in the Delphi Report. The findings demonstrate that there is a lack of knowledge of critical thinking theory among lecturers at both universities and this can be attributed to many factors including cultural, lack of professional development and an emphasis on rote-learning and memorisation. This lack of knowledge of critical thinking impacts on the development of critical thinking among students who will perpetuate this in their own teaching practice in the future. This paper argues for education reforms based on critical thinking to improve student learning outcomes and for professional development in critical thinking for lecturers.

Key Words: Lecturers' knowledge, critical thinking, teacher education

Introduction

Critical thinking (CT) has been a subject of much discussion over the last four to five decades among academics and educators throughout most of the world. Although there are differences among critical thinking theorists about aspects of critical thinking, there is consensus about its importance in education. Beyer (1995), for example, claims that critical thinking is necessary in order to enable individuals to make decisions and form judgements about "information related to personal, social, economic and political issues" (p.28), while Paul (1992) maintains that "on the economic front, developed nations must increasingly generate workers who can think critically for a living" (p.34).

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The individual who has acquired critical thinking skills will be able to evaluate choices, study assumptions, balance weaknesses and strengths and also be equipped to distinguish between what is beneficial and harmful, and subsequently make decisions in their everyday civic life as Brookfield argues noting that "critical thinking is a survival skill that you need to make your way through life" (Johanson, 2010, p.27). Critical thinking skills benefit not only the individual but society in general. These skills are tools for cohesive social function that benefit everyone in society (Beyer, 1995, p.28).

However, Paul (2004) states that studies of higher education, primarily in western institutions, demonstrate that most college faculty lack a substantive concept of critical thinking; that most college faculty do not realize they lack this substantive concept; and that lecture and memorization are still the norm in college instruction. Elder (2009) argues similarly noting that most faculty members "teach as if learning were equivalent to rote memorization and teachers tend to teach as they have been taught" and that students believe that because "they are college graduates, they automatically think well" (p.1) If understanding of CT and its application is pervasive in developed countries such as the US, it goes without saying that lack of understanding of CT in Saudi Arabia is even more pronounced. This is borne out by the literature which emphasises the lack of CT in the Saudi context.

While the demand for critical thinking might be well acknowledged as a 21st century demand (Diamond, 2002) many studies showed that the Saudi Arabian education system lacks the necessary expertise in critical thinking skills (Al-Asmare, 1997; Allamnakhrah, 2006; Vassall-Fall, 2008; Kafe , 2009; Al-Souk, 2009; Al-Degether, 2009; Al-Essa, 2009; Jalil & Ziq, 2009; Al-Mziny, 2010; Barnaw, 2011).

Several Saudi scholars (Al-Essa, 2009; Al-Mziny, 2010; Kafe, 2009; Al-Souk, 2009) argued that the lack of critical thinking among Saudi students is one of the reasons why many Saudi youth have been increasingly influenced by al-Qaeda ideology over the last two decades. These critics point to the importance of critical thinking to limit the influence of destructive ideologies, arguing that youth lack appropriate knowledge and training to withstand the pressure to succumb to such ideologies. They recommend a greater emphasis in education on critical thinking to assist youth to resist these influences and to enable them to distinguish between reason and rhetoric.

Equally important is Saudi youth's low ranking in science and engineering in comparison to students in western institutions (Al-Essa, 2009). The poor outcomes are attributed to the Saudi method of rote learning. Cassidy and Miller (2002, cited in Elyas and Picard, 2010, pp. 141-142) noted that a Harvard study of Arab higher education found that "widespread practices of rote learning and memorization exercises are incapable of developing capacities in students for problem solving and application of theory to practical concepts". Carmeron (2011) argues that "reflecting on my experience teaching English at a technical College in Saudi Arabia, I gather that the majority of youth in the country are not equipped with critical thought skills" (p.1).

The need to improve Saudi youths' knowledge is not purely an academic exercise, but has social and economic implications. Because of the lack of expertise in important fields such as medicine and engineering, for example, Saudi Arabia imports professionals to carry out this work. Saudi youths' opportunities to broaden their knowledge and enhance their job prospects are circumscribed by the current education system which relies on rote-learning, which in turn is reflected in their low ranking.

These demands and criticisms of the education system prompted the Saudi government to reform the education system by initiating and funding two projects, Tatweer in 2007 and Afaq in 2008, to develop primary, secondary and tertiary education in Saudi Arabia. The primary objective of these projects is to train students in strategies for thinking skills. However, the proposed reforms have several limitations: the focus is on in-service teachers and little attention is given to pre-service teacher education programs; and there is little to no emphasis on critical thinking.

My own experience as student, secondary teacher for five years and later a lecturer under the Saudi education system impels me to concur with other Saudi scholars such as Barnawi (2011) who argue that in Saudi Arabian universities "the notion of critical thinking … is neglected" (p.190) and Al-Hazmi (2006) who claims that "critical reflection and deep-level thinking do not take place" in Saudi Arabian higher education (p.38).

A global study by the World Bank arrived at the conclusion that Saudi workers lack the skills to be more competitive globally because "the Saudi education system does not teach or promote higher-order cognitive skills such as problem solving, flexibility and independent thinking to form judgment" (The World Bank, 2002, p. 12). This claim is reinforced by several studies conducted in secondary

schools in Saudi Arabia, which demonstrate that there is a lack of knowledge of critical thinking among students and in the teaching strategies among secondary teachers (See Al-Qahtani, 1995; Al-Qmadi, 2008; Amen, 2008; Al-Gabrey, 2007).

These findings prompted me to investigate the possible reasons for the lack of critical thinking in secondary pre-service teacher education programs in Saudi Arabia. If Saudi students are to develop critical thinking skills, it is first necessary for lecturers to possess critical thinking skills and the strategies to effectively apply these (Paul & Wilson 1993; Elder 2011; Ab Kider 2009; Gruberman 2005).

This paper examines the conceptions of critical thinking among lecturers in secondary pre-service teacher education programs at King Abdul Aziz University and Arab Open University, which has not been undertaken before as most studies on critical thinking in Saudi Arabia focus on primary and secondary schools and were undertaken to examine students' abilities in critical thinking skills. This study demonstrates that the lecturers' conceptions of critical thinking reveal a lack of knowledge of critical thinking according to Paul's (1992) theoretical framework and the consensus arrived at in the Delphi Report (Facione, 1990a) on the definition of critical thinking. This issue addresses a gap in the literature on critical thinking in higher education and lays the groundwork for further study in this area, specifically in the Saudi context, and also may serve as a starting point for developing programs, curricula and courses to enhance critical thinking in Saudi Arabia.

Purpose of the Study

To assess the lecturers' conceptions of critical thinking, I will evaluate the knowledge of critical thinking among lecturers in pre-service secondary teacher education programs in Saudi Arabia by focusing on the following specific points:

1) Understanding lecturers' critical thinking knowledge about the concept of critical thinking (hereafter CT)
2) The factors impeding their acquisition of CTK

In order to address as comprehensively as possible their knowledge and understanding of critical thinking (or lack thereof) in the two Saudi Universities, the following main research questions guide the study:

1) How is critical thinking understood in King Abdul Aziz University and Arab Open University?
2) What are the factors impeding their acquisition of CTK?

Theoretical Framework

Because no policy or theory on teaching critical thinking exists in pre-service teacher education programs either in King Abdul Aziz University and Arab Open University or in Saudi Arabia in general, it is therefore, necessary to have a theoretical framework to evaluate lecturer knowledge and practice of critical thinking and students' perceptions of critical thinking in pre-service teacher education programs in the Saudi context.

I adopt the Delphi Report definition of critical thinking for my research. The report's outcome demonstrates that a consensus on the definition of critical thinking has been arrived at:

> *We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. Critical thinking is essential as a tool of inquiry (Facione, 1990a, p.2)*

This definition of critical thinking is an effective framework used by several researchers (Simpson, 2002; Al-Degether, 2009) to analyse critical thinking in the specific Saudi Arabian context.

There is consensus also on critical thinking as a skill that is not just to advance knowledge but to contribute to society in a positive way.

For the purpose of my study and analysis, I also adopt the theoretical framework developed by Paul (1992) who is a seminal figure in the contemporary critical thinking movement and who also contributed to the Delphi Report. His focus on teaching critical thinking skills crosses all levels of education including higher education, such as pre-service teacher education programs. His theoretical framework is the most suitable for this study as it is not domain or discipline-specific, has criteria to assess critical thinking and also provides models and frameworks for developing critical thinking, its application and assessment. This theoretical framework provides a basis for developing an analysis of critical thinking in the context of Saudi Arabia, its culture and educational policies and how critical thinking can be improved.

However Paul's critical thinking theory is broad and has several components including critical thinking concepts, critical thinking skills and critical thinking dispositions. This essay will focus on the concept of critical thinking and its importance for educators.

Paul et al. (1997) assert that educators "must have a clear concept of what critical thinking is" and that they must be taught "ways that facilitate skill in critical thinking and the ability to teach it to others" (p.2). This assertion is given credence by Elder (2002) who claims that "the reasons teacher preparation programs fail to place critical thinking at the heart of the curriculum is two-fold: first, faculty who control and teach the curriculum simply don't understand critical thinking, that is, they really don't know what it is. Second, they think they do" (p.1). Paul (2008) argues that in order for critical thinking to be effective as an academic mode of inquiry, the concept of critical thinking should be explicated to all faculty members in all disciplines by experts in critical thinking. It is necessary to have CT knowledge if it is to be applied successfully in the classroom and in the development of curricula and tests Paul (1995) avers that "critical thinking is the heart of well-conceived educational reform and restructuring, because it is at the heart of the changes of the 21st Century". Educators therefore, must be willing "to learn new concepts and ideas; to learn a new sense of discipline as we teach it to our students; to bring new rigor to our own thinking in order to help our students bring that same rigor to theirs" (Paul, 1992, p.1). Paul's (1992) assertion that "teachers need a solid foundation in critical thinking skills before they can teach them" (p.521), and that an ongoing long term perspective is required in order for critical thinking to be implemented by educators knowledgeable about CT and its application (Paul, 1995) is of particular importance to the Saudi context. This study will "distinguish between what is supposed to happen and what appears to be taking place" (Brookfield, 1987, p.151) in terms of CT in Saudi secondary pre-service teacher education programs.

Method

The study employed a qualitative case study approach to determine the lecturers' knowledge of critical thinking. Yin (2009) defines case study research as "empirical inquiry that investigates a contemporary phenomenon within its real-life context'' (p.18).

Data Sources and Sample Size

Data sources are comprised of eight lecturers from both universities: four from King Abdul Aziz University, two of whom are non-Saudi; and four from Arab Open University, two also who are non-Saudi. Because Saudi of gender-segregation laws prohibiting male Saudi researchers to conduct interviews with women, this study confines its participants to males. There are three methods to select from in qualitative research: convenience sample; purposeful sample; and theoretical sample (Marshall, 1996). In my study I adopt purposeful sampling which is described by Patton (1990) in the following way:

> *The logic and power of purposeful sampling lies in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research (p. 196).*

The researcher using this strategy will be able to choose "the most productive sample to answer the research question" (Marshall 1996, p.523). According to Merriam (2009) unlike the other types of qualitative methods the sample size of a case study needs to be established according to criteria. My selection of lecturers is based on two criteria:

1- The lecturers who teach classes (excluding those who only conduct research, visiting scholars or administrators)
2- Lecturer's nationality (Saudi, non Saudi)

The first criterion is necessary because lecturers are the most important disseminators of information and instruction in higher education and, based on my experience as a lecturer in pre-service teacher programs, they are more familiar with students, the curriculum and teaching methods than other faculty staff such as administrators. This is confirmed by some studies which show that lecturers who resign from teaching to work in another field lose many of their teaching skills (Al-Moberek, 2007).

Studying lecturers' understanding and knowledge about critical thinking "contribute to our understanding of learning processes that commonly take place in many of the thinking curricula" (Zohar & Schwartzer 2005, p.1596). Moreover, lecturers' understanding and knowledge of critical thinking is necessary in order to design suitable professional education programs. Generally, the instructors' view is essential as they are "agents of change in the reform effort currently under way in education and thus are expected to play a key role in changing schools and classrooms" (Prawat, 1992, p.354).

The second criterion is lecturers' nationality. Each pre-service teacher education program that I researched in this study has Saudi and non-Saudi staff. This criterion enables me to identify and recognize whether nationality or cultural background has any impact or influence on lecturers' understanding of critical thinking in pre-service teacher education programs. According to Egege and Kutieleh (2004) "cultural differences in approaches to educational learning do exist" (p.79) and therefore the lecturers' cultural background or nationality can perhaps impact or influence their conceptions of critical thinking. Furthermore, because half of the lecturers are from Egypt, Jordan and Sudan, this criterion also assists to compare critical thinking conceptions between Saudi scholars and those from other Arab regions. Most of the lecturers in pre-service teacher education programs at both universities graduated from different universities, including from the US and Britain, which provides for the collection of different and varied information in relation to critical thinking.

The Research Sites

The first site is the King Abdul-Aziz University's pre-service teacher education program (KAUPTEP) which provides a Diploma in general education over two semesters. The second site is Arab Open University's pre-service teacher education program (AOUPTEP) which provides a Diploma in general education over two semesters. Both universities are in Jeddah, the financial centre of Saudi Arabia. Arab Open is a private institution, with most courses and syllabi developed by British Open University, with around 30,000 students. King Abdul Aziz University is a public university and is the second-largest in Saudi Arabia, with around 100,000 students.

Data Collection Strategies

The qualitative data collection strategies employed in this study included semi-structured interviews. Merriam (2009) argues that "in education if not in most applied fields, interviewing is probably the most common form of data collection in qualitative research" (p. 86). In order to obtain better detailed and richer descriptions regarding the knowledge of critical thinking in both universities, I use in-depth semi-structured, one-on-one interviews with lecturers at both universities which is "a popular approach in educational research" (Creswell, 2009, p.226) and which has advantage of flexibility of interview questions and enables the researcher to feel free to "probe and explore within predetermined inquiry areas" (Hoepfl, 1997, p.52). The interview guides centered on identifying the

lecturers' conceptions of critical thinking, to ascertain their understanding and knowledge of critical thinking.

Data Analysis and Presentation

There is a consensus among several authors who have written extensively about qualitative research such as Creswell (2009) and Merriam (2009) about the main steps following the preliminary exploratory analysis. Both authors argue for coding the data, construction of themes, reducing the themes, and writing the report. This study therefore will follow these general guidelines. Patton (2002) mentions several strategies for analyzing qualitative data. These techniques include unique case orientation, holistic perspectives, context sensitivity and voice, perspectives, reflexivity, inductive analysis and creative synthesis. Patton (2002a, 2002b) defines inductive analysis as "built on solid foundation of specific, concrete, and detailed observation, quotations and cases" (p.58). Inductive analysis is used in this study as it leads to understanding "what is happening in a setting" (p.56).

The coding process permitted me to divide the data "into text or image segments" (Creswell, 2009, p. 251). I then viewed the recurring themes and regularities in the interviews and I grouped the open coding comments and notes together in themes. The progression of grouping the open codes into themes is called axial coding or analytical coding (Merriam, 2009). In striving for accuracy to ensure the internal validity of the study's findings member checks is applied. The external audit was required to demonstrate the strengths and weaknesses of my research procedure to enable qualitative researchers to assess and evaluate my study. The audit trail strategy demonstrates "how data were collected, how categories were derived, and how decisions were made throughout the inquiry" (p. 223).

Once the data analysis was completed the evidence from interviews was sorted into themes in order to reflect the "complexity of human interaction by portraying it in words of the interviewees and through actual events and to make that complexity understandable to others" (Rubin & Rubin, 2005, p. 202). This was followed by an interpretation report.

Findings and Discussion

Critical thinking: superficial conceptions lacking a theoretical basis

Each lecturer was asked 'Can *you explain what critical thinking means to you'?* Using cross-case analysis methods, the findings show that most—around two thirds—of the lecturers seemed unable to distinguish between critical thinking conceptions, critical thinking disposition, and critical thinking skills. To visualise and articulate a clear picture and understanding about the lecturers' knowledge of the concept of critical thinking, I classify their responses into three levels: *lowest level of knowledge*, *mid-level of knowledge*, and *highest level of knowledge*. The lowest level of knowledge was prevalent among lecturers who were unclear about critical thinking knowledge, and who expressed confusion when talking about critical thinking. The mid-level of knowledge was evident in lecturers who showed an intuitive or superficial understanding about critical thinking. The highest level of knowledge would require considerable knowledge of critical thinking, but none of the lecturers reached this level. In general, the lecturers' viewpoints on the definition of critical thinking is that the concept of critical thinking is "unusual thinking".

Lecturer E was the only one of eight lecturers who articulated critical thinking as higher-order thinking with cognitive skills such as analysis. Each lecturer provided his own definition of critical thinking, most of which were superficial and lacking a theoretical basis. Several lecturers from both universities conceived of critical thinking as the ability to examine and analyse ideas in order to make a judgement. Lecturer D claimed that critical thinking is the kind of thinking that "does not accept or take any idea for granted unless it's analysed and summarized and then I can assess it and decide to accept or reject it". Similar to Lecturer D, Lecturer who is Saudi and graduated from a Saudi university, believes that "critical thinking is never to accept anything as true other than that which comes from the Quran and Sunna, which serve as a guide to critical thinking".

Lecturers D and J reflect strong sense critical thinking in their conceptions (Paul, 1992) which is a view maintained by Paul (1992) who says that people "...shouldn't accept as true everything taught

as true" (p. 45). Lecturers D and J's views are also consistent with those of some researchers such as Duron & Waugh (2006) who argue that "critical thinking is, very simply stated the ability to analyse and evaluate information" (p.160).

However, the differences between critical thinking from a western standpoint and critical thinking from an Islamic perspective is that in the latter there are ideas that are inviolate and not permitted by the Saudi state to be subject to questioning. For instance, the teaching of the Quran and Sunna can be used to advance knowledge but they cannot be the subject of criticism or judgement. This difference is crucial because according to Paul, in order to develop critical thinking, all facts and ideas must be scrutinised, validated and critiqued. All the lecturers, however, argued that while all other phenomena can be questioned and critiqued, the Quran and Sunna must be accepted as factual.

Lecturer D is a Saudi professor who graduated from a British university, and claims that critical thinking is acquired through reading in one's area of specialisation and acquiring much information:

> *I didn't read about critical thinking in an article but it is known in scientific research. Critical thinking means not to accept any facts whatever till they are checked, compared against other facts, and after much research, arrive at an exact definition. Only then can you know the negative and the positive aspects of an idea or theory.*

He also believes that "critical thinking is common in research because to be a good researcher you have to have adopted a deductive and inductive method in order to probe, and deal with matters from several perspectives". Deductive and inductive reasoning are important factors in the field of critical thinking (Paul, 1992; Facione, 1992).

The relationship between CT and subject expertise is also supported by lecturer N, who is Sudanese and graduated from an Egyptian university, who states that "critical thinking comes from reading so, no reading, no critical thinking". When asked how reading can help to obtain critical thinking, he replied that:

> *We know that reading is recognizing the words or understanding them in the text or criticizing the text and we benefit from this. Understanding the text enables a criticism of it and we can therefore form a judgement about it. This is beneficial as it is knowledge that we can apply in our lives. I imagine that critical thinking is acquired in this way, but I'm not certain.*

Lecturer K is Egyptian and also graduated from an Egyptian university. He defined critical thinking similarly as "the ability to rebuild thought when we start reading scientific books or scholarly articles as well as the ability to explain K were asked how critical thinking is developed through reading, none articulated a clear response. Lecturer N, for example, said "read and you will see how your critical thinking improves" while Lecturer D said "I read and think simultaneously in order to make judgments of what I read". However, Paul and Elder advocate what they term "close reading", which involves reading reflectively for "clarity, accuracy, precision, relevance, depth, breadth, logic, significance and fairness. Being open to new ways of thinking, it values new ideas and learns from what it reads" (2008, p. 4). Reading critically requires skills so that "readers do not read blindly, but purposely" (p.1). It is necessary; argue Paul and Heaslip (1995) to "teach students to read texts for themselves, actively and analytically" (p. 46).

Lecturer E, who is from Jordan and graduated from a Jordan University, provided the clearest definition of critical thinking. He makes a clear distinction between critical thinking and its skills, noting that critical thinking is "higher order thinking which depends on analysis, synthesis and evaluation in processing information". Such a view corresponds with that of Facione (1990) who recognises critical thinking as "one among a family of closely related forms of higher order thinking, along with, for example, problem solving, decision making and creative thinking" (p.13). Lecturer E's understanding of critical thinking is similar to that of the Delphi report's definition of critical thinking which states that critical thinking is "judgment which results in interpretation, analysis, evaluation, and inference" (Facione, 1990b, p. 4).

Lecturer H is Saudi and graduated from a US university also provides a clear definition of CT, stating that "critical thinking is to think independently and from different angles". Although Lecturer

H is the only lecturer at both universities who used the expression "to think independently" as a principal element in his definition of CT, but as Paul (1992) maintains, thinking independently is not a definition but an active strategy to obtain critical thinking. Lecturer H comments on the cultural factors determining the attitude to CT in the Saudi context:

> *In our Arab world, if there is critical thinking, we don't have correct critical thinking because many people here look at the issue from a negative viewpoint and many people here tend to find fault and criticise, which is not critical thinking. Critical thinking, as learnt from my studies in the US, is not destructive and it doesn't only look at the defects and negatives, but it balances between positive and negative, which enables better judgement.*

Lecturer H's views of critical thinking are consistent with many theorists in the field of critical thinking such as Paul (1992, 1995), Elder (2002), Ennis (2011) and other scholars who conceived of critical thinking, not only as detecting unfairness, bias or weaknesses, but as Paul (1995) states, the skills of evaluation "that can be justified by reason and evidence are not biased in the negative sense" (p. 522). In other words, the skill to evaluate is not based only detecting flaws in an idea or argument, but on the basis of sound, evidence-based argumentation.

A low level of knowledge in critical thinking was demonstrated by Lecturer A who was unable to describe critical thinking clearly. He offered vague definitions and was uncertain and puzzled about the meaning of critical thinking. Such was his confusion and vagueness that it caused discomfort for both the interviewer and interviewee. He was reluctant to admit to not knowing what critical thinking is, and instead defines critical thinking as a "term which has an idiomatic meaning" adding "I don't know exactly what it is, but the term critical thinking, I think is derived from criticism". It should be noted that this lecturer has been studying and teaching 'criticism' in Arabic literature for over ten years. However, he has conflated the formal definition of the word with the theoretical concept.

Critical thinking is tied strongly to ideas about epistemology, particularly those processes and practices that can be counted on to promote the growth of knowledge. Within this view, criticism plays a large role since I see it as a means of advancing knowledge but it is different from critical thinking. Literary criticism and theory, while important, are not necessarily synonymous with theoretically based concepts of critical thinking as a specific field. As Paul (1992) maintains, while critical thinking requires profound subject knowledge, it is not domain specific. An expert in literary criticism may not be able to apply critical thinking in other circumstances.

Similarly to lecturer A, Lecturer N demonstrated very poor knowledge of critical thinking, although he was very clear and honest about the limitations in his knowledge of CT:

> *My information and knowledge about critical thinking are limited but I will explain my understanding of it...critical thinking is criticising the information that I read after I understand it.. So critical thinking comes from reading, so no reading no critical thinking... This is my definition. Is this correct? .....to be honest, this is the first time I have been asked about CT... please excuse my ignorance if I'm wrong.*

When asked what he meant by "criticising the information I read after I understand it" he answered "I read and test the weakness or errors in that information. I think that is one way of critical thinking". This conception confirms Lecturer H's criticism of the Saudi, or Arab notion of critical thinking as "to find fault and criticise" and which is antithetical to the views of Paul and Elder (2008) who state that it is necessary:

> *To be open ... as much as possible and even if I don't agree full with author's [or speakers] views, I appropriate important ideas whenever possible..take command of the ideas that I think are worthwhile rather than dismissing all the ideas simply because I don't completely agree with the author's view*

The conceptions of critical thinking among lecturers at both universities is superficial and may be categorised as between middle and low level knowledge. The lack of understanding and knowledge

about critical thinking can perhaps be attributed to several factors including their background or experience, or cultural factors.

Up to now, certain features emerged from the analysis of the lecturers' knowledge of critical thinking which are summarized as three main and recurring features:

1- Most lecturers conceived of the concept of critical thinking as unusual thinking, but this conception is not theoretically based.
2- Their conceptions of critical thinking are very different from those advanced by the Delphi report (Facione, 1990a), Paul (1992), Ennis (1990), Elder (2002), Hatcher (2000), Siegel (1988) and McPeck (1990).
3- Some lecturers view critical thinking as a process for solving life's problems and forming judgements based on skills such as analysis, comparison and evaluation. Others believed it is obtained from reading and research skills.

It should be noted that prior to this study, none of the lecturers had ever been asked about their knowledge of critical thinking. Many of them were also rather anxious about being interviewed as this is not common practice in KSA. The nature of research in KSA is usually quantitative and is based on surveys and tests and rarely involves interviews or observation (Al Beradi, 2010).

Lecturers' Beliefs about Impediments to CTK.

Lack of professional development — "I have not heard about any courses in critical thinking in Saudi Arabia".

Much of the literature on critical thinking argues for the necessity of educators to undertake critical thinking courses, workshops, conferences or seminars to develop their critical thinking skills. However, only three Lecturers E, G, and H participating in this study had attended any professional development workshop, conference or seminar in the previous five years. Lecturer G claimed that it was "a conference, or actually more like a meeting in the last two years and it was about improving students' thinking but it was not useful".

However, Lecturer H argues that "I remember that I attended one workshop in critical and creative thinking here in Saudi Arabia which was not useful because the time was very limited. It was more like a lecture than a workshop and focused more on information about CT, with little theory and no discussion of how to apply CT. The trainer's knowledge of CT was very limited about critical thinking".

In fact Lecturer E is the only lecturer from both universities who attended extensive workshops in one of the US institutions. He showed me his certificate of workshops and stated that "I attended extensive two day workshops in the US. The workshop sessions were about how to adopt CT and develop it for all areas of life".

Lecturer D claims that "I haven't actually so far heard about any courses in critical thinking in Saudi Arabia in general" and adds that "I haven't attended any courses held inside the university or outside the university in critical thinking". He claims to use critical thinking through knowledge garnered in the course of research as a professor and says of critical thinking "I like it but people here don't care about it."

Lecturer J and N also claim that they have not attended any professional development workshops or conferences in critical thinking. Lecturer J states that "I have no idea about whether there were workshops, conferences in critical thinking nor have I been informed or instructed about CT, and no one encourages me to pursue studies of CT". Lecturer N denies that he had attended any professional conference in critical thinking, but nevertheless claims that

> *I have not attended any conferences in critical thinking because I had two courses in scientific research. Scientific research is based on criticism, which we consider a major skill according to Bloom's taxonomy. I think Bloom's classifications focus on critical thinking. So if I master and understand Bloom's classifications I think I have a full grasp of critical thinking. This is*

my view, but as I told you earlier, I do not have much information on critical thinking specifically.

Lecturer N, like several other researchers in the field of critical thinking, has linked critical thinking with Bloom's taxonomy. Jun Xu (2011), for example, claims that "Benjamin Bloom (1956) is the first person to classify human thinking skills into six major classes: 1) knowledge, 2) comprehension, 3) application, 4) analysis, 5) synthesis, 6) evaluation". (p.137). Duron et al, (2006) argues that "the lower levels require less thinking skills while the higher levels require more. The theory of critical thinking began primarily with the works of Bloom". When Lecturer N was asked explain the relationship between critical thinking and Bloom's classification he said he was not "a hundred percent sure, but I think there is a relationship between critical thinking and Bloom's classification".

Several researchers in the field of critical thinking maintain that the last and highest three components in Bloom's classification (analysis synthesis and evaluation) constitute critical thinking because they require higher order thinking. However both Paul (1992) and Elder (2003) critique Bloom's taxonomy, with Elder (2003) arguing that

Bloom presents "knowledge" as the first level of cognitive skill, meaning that it is the most simple of all cognitive skills. Moreover, Bloom equates knowledge with recall. But true knowledge occurs in the mind only through an active skilled intellectual process. Knowledge cannot be memorized, but must be brought into the mind, connected to other ideas, and used by the mind when relevant to particular situations.

Elder adds:

Another problem in Bloom's taxonomy is its failure to integrate its six cognitive domains: knowledge, comprehension, application, analysis, synthesis, and evaluation. Nowhere does Bloom help teachers understand how these domains interrelate. In addition, the taxonomy implies that teachers need only be armed with questions within each of the cognitive levels to effectively foster cognitive skills. Yet higher order thinking entails complex interrelated skills which the teacher must develop before they can teach these skills to others. (Elder, 2003, p.15).

Although Bloom's taxonomy has been influential in education in the post-World War Two period, the critiques offered by Paul and Elder are valid in that they point out the limitations of Bloom's approach. Furthermore, CT did not, as Duron et al., (2006) claim, begin with Bloom, but dates back to Socrates, and CT in education originated with Dewey in the US in 1918.

University, Students, and Lecturers Themselves: Further Impediments to CTK.

Most lecturers claim that while students do not lack the ability to be critical thinkers they are nevertheless part of an education system that teaches in the traditional rote-learning method. Lecturer F, for example, claims that "there is negligence in developing critical thinking skills in students at all levels of education in Saudi Arabia" and Lecturer D claims that "in university, it is the supervisor's role to teach critical thinking to students". But he claims that "the problem sometimes stems from the lecturers themselves" who he argues are "too lazy to learn about CT and don't want to use critical thinking in their classroom because it is hard work". Lecturers H, J and K agree with Lecturer D that it is the lecturers' who are responsible for their lack of knowledge on critical thinking. Lecturer H claims that:

We can categorise our lecturers into groups. The first group is comprised of lecturers with no motivation to improve their skills; not only critical thinking skills but many other skills ... The other group is motivated to improve their skills in many fields such as critical thinking but the university does not help them in this by encouraging them or paying for them to attend conferences or by running workshops in critical thinking.

Similarly Lecturers D, G and J agree that the university they work for does not focus on improving its academic staff in higher order thinking such as critical thinking. Lecturer D argues that there is "ignorance about critical thinking because the university believes that all academic staff obtained a high level of education and they therefore don't need more courses in critical thinking. The lecturers themselves think the same way. This is mistaken"

Lecturer D's view is supported by Elder (2003) who states that one of the reasons teacher preparation programs fail to include critical thinking is that academic staff believe that because they are college graduates, they automatically think well. The fact is that teacher preparation programs seldom prepare teachers to foster critical thinking skills and dispositions (p, 2).

Lecturer J states that "Lecturers themselves don't want to improve their knowledge by such skills because they are in the habit of learning and teaching in the traditional way and do not feel the need to further develop their knowledge".

This view is confirmed by lecturers A and N, who state that critical thinking is not a priority and therefore this accounts for their lack of knowledge of critical thinking. Lecturer N claims that "there are many factors behind the lack of knowledge of critical thinking and one of them is my own reluctance to study CT as it is not a priority".

Other lecturers believed they acquired CT in the course of their postgraduate studies. Lecture E, for example, claimed that "I do not need any workshops or courses in critical thinking because I already learned and mastered it and I think all my colleagues should have CT if they have PhD degrees".

This view is inconsistent with studies such as those of Paul et al., (1997) that show that while most academics in the US consider critical thinking of primary importance to their instruction, Paul et al., found that only 19% could elaborate or articulate their concept of critical thinking or were able to give examples of how they enhance critical thinking in the classroom, nor could they name specific critical thinking skills they think are important.

Lecturer J not only criticises lecturers and universities for the lack of CT, but also blames students for his lack of knowledge in critical thinking. He claims that "students do not want me to introduce new methods or materials such as critical thinking because they are not accustomed to it. Therefore this discourages me from improving me knowledge of CT". Although it is futile to blame students for the lack of development of their lecturers, this does point to the need to introduce CT into the education curriculum from primary school upwards, so that students are accustomed to CT from a young age. For instance, (Ritchhart 2009 cited in Ab Kadir, 2009) makes the point that in order to develop and teach CT, both teachers and students need a culture in education where CT is valued, encouraged and actively promoted.

However, attributing the lack of CTK among lecturers to the students is at odds with several studies in critical thinking (see Paul, 1992; Elder, 2002, 2003 and Beyer, 1995) who all stress the importance of educators to steer the questioning or discussion that encourages students to think critically. CT in the classroom needs to be initiated by educators, not students as "the classroom environment plays a major role in enhancing the thinking of students" (Own-Ewie's, 2008, p.169). Fisher (1990) also states that educators are responsible for instilling CT in students, citing the response of one of the students in his study: "I'm quite a good thinker. I just need someone to start me up" (p. 245). However, as Kong (2001) notes "the classroom teachers will probably be the ones feeling most pressurised due to the increased responsibility of teaching thinking skills; in addition to their existing content teaching and classroom management" (p.1).

While some lecturers attribute their lack of knowledge and practice of critical thinking to schools and universities, students and educators, Nagappan (2001) points out that in Malaysia, which has an education system similar to Saudi Arabia, "there seems to be a legitimate question as to whether the educational system, as a whole, or society in general, has ever really accepted the idea that helping students to become independent thinkers should be a primary education goal" (Nagappan, 2001, p. 49). Such concerns apply to the Saudi context, as lecturers D and F note. For instance, Lecturer D states that "even the Islamic religion encourages people to think critically, but our culture and customs do not". Lecturer B claims that "the whole education system in Saudi Arabia does not encourage people to be independent thinkers" and that "teachers feed information to students without

encouraging them to think critically. I observed that in our school with my son and here at university". Similarly, Lecturer H claims that:

> *We grow up in an uncritical thinking environment, therefore we observe many people who have no critical thinking skills. It is not encouraged in the home, with children taught to be unquestioning and obedient. To be honest we do not allow our children to ask questions and they are not taught at school and university so I can argue that all society is responsible.*

However, Lecturer H qualifies this statement by adding that "although I agree that the lack of CT can be attributed to social customs, it is no excuse for lecturers to perpetuate such attitudes and to neglect their responsibilities.". Lecturer H's attributing the lack of using critical thinking to the social environment is also supported by Lecturer D who claims that:

> *If we compare our children with those from the western developed countries, we will find that the western child is encouraged to be inquisitive, to ask why and what, whereas the Saudi child is discouraged from questioning and is silenced. We raise children to be silent and unquestioning and so they are raised to receive and accept information and knowledge without criticism. This reflects negatively on our society including lecturers, teachers, curricula's designers and students.... the problems therefore, are our customs and culture.*

Own-Ewie's (2008) study on critical thinking in pre-service teacher education in Ghana demonstrates a similar scenario to the Saudi. The findings reveal a society and culture that do not encourage critical thinking, with children being discouraged from questioning or discussing what they are taught at school and are encouraged to unquestioningly accept the authority of adults which therefore "impinges on our curiosity .....You have to take what the adult says as absolute truth" (p. 182).

A similar scenario prevails in Saudi Arabia where students go to school with the impression that what is disseminated by adults is correct and their instructions and advice must be unquestioningly followed. Such customs and attitudes do not contribute to a culture of critical thinking. It is therefore necessary that CT be introduced to students at an early age; otherwise the habit of rote-learning becomes entrenched. Such an environment is not conducive for either teachers or students to develop CT, which is then reflected in broader society in Saudi Arabia. Incorporating CT in the early stages of education "rewards adherence to the values of critical thinking and hence does not use indoctrination and inculcation as basic modes of learning and rewards reflective questioning, intellectual independence, and reasoned dissent. (Paul, 1995, p. 522).

Paul (1992, 1995) emphasizes the role of culture or society is essential to create an environment conducive for developing CT and Ramanathan & Kaplan (1996) argue that "critical thinking is not only a cognitive practice, but a sociocognitive one whose detailed workings are hidden from our view because it has become a practice that we take for granted." (p. 231).

Conclusion

This paper has demonstrated that while all lecturers in this study acknowledge the importance of CT in education, their conceptions of CT are limited when considered within the framework and definition of CT expounded by theorists such Paul and the Delphi Report. These limitations can be attributed to several factors such as Arabic cultural traditions that discourage from a young age a critical and questioning attitude. Cultural constraints can also be attributed to lecturers' lack of motivation to develop CT, which impacts on their students. Those lecturers who studied in western universities had slightly more developed conceptions of CT, but lack of resources to develop this further is a major impediment.

If Saudi Arabia is to develop its knowledge economy and assist Saudi students to compete favourably in fields such as science, engineering and medicine against their western counterparts, it is vital to introduce CT into educational programs. Furthermore, such programs would also allay the concerns of critics who argue that the Saudi education system does not provide students with the ability to withstand terrorist ideologies such as those of Al Qaeda.

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