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Theoretical Perspectives on Critical Thinking Teaching: Reflections from Field Experiences from a Norwegian Lower Secondary School in Comparison to Tanzanian Secondary School Teaching Practices

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Abstract

This paper presents the theoretical perspectives relevant to critical thinking as my topic of research during my teaching practice period which was conducted from 12th-28th October 2015 at Eidsvag secondary school in Bergen, Norway. As a requirement for Masters' degree in social science education, all master students were required to engage in teaching practice in different Norwegian primary and secondary schools. Importantly, every student teacher was given a topic of concentration as a mini-research for the whole teaching practice period. My topic of research focused at exploring and gaining the theoretical and practical perspectives on critical thinking teaching by drawing some experiences from a Norwegian lower secondary school (Eidsvag skole) in reflection to secondary school teaching practice experiences in Tanzania. Therefore, in this paper, my reflections with regard to the conditions favoring the possibility for critical thinking teaching and how it was enhanced by teachers at my practice school will be discussed. Further to that, I will also present the observed challenges of which, in my view, in way or another intervened the possibility for effective critical thinking teaching to take place.

Keywords: *Critical Thinking, Teaching for critical thinking, Constructivism and Teaching Practice.*

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Introduction

It is undoubtfull that, teaching and learning approaches which support the development of students' "critical thinking" skills, and the use of socio-scientific contexts for learning, have both been advocated as necessary and desirable directions for 21st century learners. Critical thinking as conceptualized by Lai (2011) includes the component skills of analyzing arguments, making inferences using inductive or deductive reasoning, judging or evaluating, and making decisions or solving problems. Historically, the teaching of critical thinking can be derived from Dewey's philosophy of thinking, developed during the early part of the twentieth century (Alazzi & Bataineh, 2009). However, it was not until the 1950's that educators began to teach critical thinking skills in the classroom as an integral component of the curriculum (ibid).

The Concept of Critical Thinking

The concept of critical thinking has been defined differently in the literatures depending on the contexts. Broadly, critical thinking entails all the cognitive processes and strategies, as well as attitudes involved in decision making, problem solving, inquiry, or higher-order thinking. It also involves deciding rationally what to or what not to believe (Norris, 1985 as cited in Yildirim and Ozkahraman, 2011). According to (Elder & Paul, 1994 as cited in Morale, 2011) critical thinking is best understood as the ability of thinkers to take charge of their thinking. Harris and Hodges (1995) cited in (ibid) defines critical thinking as a process of arriving at a judgement about the value or impact of a text by examining its quality. In this paper, critical thinking is conceptualized as a process of examining and evaluating ideas, events and arguments in their contexts. It involves questioning assumptions and identifying biases.

The Motives for Critical Thinking in Education Today

Previously critical thinking and problem solving used to be the domain of gifted students, but today teaching how to think and not what to think should is a critical domain for every student. This is because the global economy requires active critical thinking citizens who can be able to compare evidence, evaluate competing claims, and make sensible decisions. Further to that, the solutions to international problems, such as global warming, require highly developed critical thinking and problem-solving abilities who can immediately take actions. In social studies classrooms, this means students can analyze different sources of information and facts concerning political and social issues (Salam & Hew, 2010). It is imperative for students to know how to think critically in order for them to be successful in their lives, especially in this globalizing world we live in (Gallavan & Kottler, 2012; Morrison & Walsh, 2001; Kagan, 2005). Being able to make reasoned decisions and valued judgments can be the difference between success and failure in the work world.

Apparently, in the 21st century where governments and industries are seeking to grow their economies, critical thinking in education becomes the most valuable skill so as to produce competent graduates for regional and globe competitiveness, and hence schools are charged responsible to respond to these and other societal needs. To do so, schools must re-think their focus and develop and implement curricula that will produce the necessary human capital to identify viable solutions for these needs (Shah, 2010). It has been claimed by Thompson (2011) that, teaching for critical thinking should then be a learning goal for all teachers across all disciplines and levels. Chun (2010) also supports this argument that, in order to meet the demands of a dynamic global society, teaching for critical thinking competence should involve a philosophical shift in focus from learning to thinking, drill to practice, outcome to process and subject isolation to integration.

Based on this argument, I was curious and positive to my practice school for the way they have integrated all the social science subjects together into one subject called social science. Within this subject, students gain learning skills from history, Geography, English, Civics and Religion altogether in an integrated manner. And more interestingly, the school assigns a single teacher who will take through the class from the beginning to the end. I find this as important as the teacher gets to know her/his students and vise verse. Under such circumstances, learning process become consistence and organized. This is contrary to Tanzanian schools where you find that the same class, same subject, in the same year has been taught by more than five teachers interchangeably. This is not a good practice because, sometimes, it confuses learners as it is known that, we are not all the same in handling issues, and likely as in teaching. Teaching is an art, and every teacher has a unique style of teaching, so this frequent change of teachers is sometimes confusing to leaners, and it may bring inconsistencies in curriculum practice, and finally may affect the students learning performance.

Furthermore, Beyer (1995) sees the teaching of critical thinking as important to the very state of our nation. He argues that to live successfully in a democracy, people must be able to think critically

in order to make sound decisions about personal and civic affairs. If students learn to think critically, then they can use good thinking as the guide by which they live their lives.

Theoretical Perspective on Critical Thinking Teaching

It is clearly shown in the literatures that, the question on how students learn and under what conditions favor effective and teaching and learning takes place, have been investigated by numerous scholars and many theories on how individuals learn have been developed over years (Boyanton, 2015). Such leaning theories existing in the literatures include: Behaviorism (classical conditioning and operant conditions theories); the social cognitive learning theories and the constructivism theory.

However, this paper centers itself on constructivism theory as a relevant theoretical perspective to critical thinking teaching as a central topic of the discussion of my essay. Under this important part of the paper which explicitly acts as a lens to educators, in their efforts to enhance critical thinking teaching within classroom and outside classroom context, I thought that it is worthy making to begin the discussion by giving a short description of the term; Origin of Constructivism Theoretical perspective; and its implications in education and classroom practices.

A Conceptual Understanding of Constructivism

Constructivism is a theory of learning used to explain about how people know what they know, in that for constructivists learning is not about memorization of simple facts but rather a process of knowledge creation through higher order active thinking skills such as comparing, interpretation, synthesizing, evaluating and then accommodate new knowledge in connection to the prior knowledge which is held in oneself (Boyanton, 2015). The idea behind this theoretical perspective is that problem-solving is at the heart of learning, thinking, and development. Constructivists like Bruner, Piaget, Ausebel, argue that, people construct their own understanding when they are involved in problem-solving and discovery inquiry in that, the consequences of their actions is a reflection of the past and new experience. According to (Piaget 1952 as cited in Boyanton, 2015) reveal that, new meaning is always built upon prior knowledge through comparing, analyzing and connecting the new with what one already knows. Hence for constructivists, learning is thus an active process that requires a change in the learner. This is explicitly achieved through the activities the learner engages in, including the consequences of those activities, and through reflection.

As explained above, it is clearly understood that, the underlying philosophy of constructive theory is different with the underlying philosophy of some other theories, especially theories of behaviorism and information processing (cognitivism). This is due to the fact that, while these theories considered the reality of the universe independent of the mind and outside the learner and learning, constructivism theory hold that students are the subject in teaching, thus teachers should offer create a favorable teaching environment for students to discover and interact between themselves, the teacher, the subject matter, and learning materials towards knowledge construction as opposed to the behaviorists who sees knowledge as a passive reflection of the external, objective reality. This implies that in a process of instruction learners remain as passive recipients of information and ensuring that they get correct information from the teacher. In principle, the constructivism emphasizes on the initiatives and the interaction in teaching because, it is through this way students can improve their cognitive abilities. The focus on exploratory, cooperative, active learning enhanced through interactive learning tasks should be the goal of every teacher in the modern world in promotion of critical thinking skills among learners.

Origin of Constructivism

Any theory has its basis and background and therefore constructivism learning theory is not an exception. Its origins is mainly explained from both philosophical and psychological backgrounds. The philosophic origin of Constructivism may be linked to Socrates with his Socratic method to teaching and classroom assessment which basically emphasizes on questioning and answer teaching technique as a tool of promoting critical thinking among learners. According to Dewey (1916; 1938), the idea of progressive education has a lot of contributions on how education institutions can re-shape their structures to go in hand with social-cultural changes. Although Dewey emphasizes that, teachers need to engage students in reflective thinking in order to create a sense of community and participation within the classroom, new perspectives are developed, shared and critiqued. It was not until the 1950's when educators began to teach critical thinking skills in the classroom as an integral component of the curriculum (Bataneh, & Alazzi, 2009).

In the perspective of psychology, Piaget, and Vygotsky are the first psychologists who contributed a lot to the development of constructivism thought and its application in classes which geared to promotion of students' learning and development (Jia, 2010). In fact according to the available literatures, Piaget is taken as the forerunner of modern constructivism. However, during 70s and 80s in 20th century, Russia excellent psychologist Vygotsky discovered the base for the formation of modern constructivism where he argues that learning is a social construction and thus new knowledge is developed through discussion and negotiations (Boyanton, 2015). Going further, for Vygotsky, the language of instruction is therefore important for promotion of interpersonal communication among students themselves, the learning media and with the teacher. This is important because teachers' feedback to student's question will facilitate their comprehension on the taught concepts. Further to that, as a student interacts with other classmates, the concepts is consolidated and kept in the long-term memory for future retrieval.

The Relevancy of Constructivism Theory to Critical Thinking Teaching

Constructivism theory of learning is the most relevant one with regard to high educational demand in the current global societies which is characterized by international economic competitive, technology and information advancements, meaning that, the competence level of an individual is the key determinant to enter in the pull quality workforce. This has stimulated many nations around the world to undergo educational curricula and teaching methods reforms so as to prepare learners who will graduate while equipped with the 21st century skills. One component of the current redevelopment of all subject area curricula is the change in focus of instruction from the transmission curriculum to a transactional curriculum. For example, there was the knowledge promotion reform Norway in (2006) which introduced new curriculum for basic education aiming at improving the quality of lower secondary education (OECD, 2011). From the year 2005 in Tanzania, there were the curriculum reform in education which emphasized pedagogical shift from content-based teaching to competence-based teaching. The aim was to promote quality education by preparing graduates who are competent and well-educated with the necessary skills and knowledge to help them in their future living while working with others and bring development in their own society and nation at large.

Conditions for Promoting Critical Thinking Teaching in Schools

(A Reflection from My Teaching Practice Experiences in Comparison to Tanzania Secondary School Practices)

Various learning theories are there to guide education provision and how teachers should plan for instructions. Based on Constructivism theoretical perspective, this section of the paper will discuss the practicability of the proposed conditions for promotion of critical thinking for classroom instruction, while drawing experiences from Norwegian schools classroom practice in comparison to the actual practices in Tanzanian secondary schools.

In their study 'perceptions of Jordanian Secondary School Teachers towards Critical Thinking' (Bataineh and Alazz, 2009) realized that teacher behaviors and the classroom culture have an influence on students' critical thinking. The seven behaviors include: teachers' inquiry; discussion, multi-communication, and encouraging students to ask questions; cooperative learning, teachers reaction; time of waiting for answers; seat arrangement and number of students; and teachers' instruction, as well as modeling.

With regard to my teaching practice experiences from different social sciences classrooms at Eidsvåg secondary school that I taught and observed, I witnessed the use of student-centered learning in which various instructional techniques such as video clips, group discussions, and questioning techniques were used to promote critical thinking skills among learners. In this paper, my practice host teacher will be used as a case and point of reference to describe my teaching practice experiences in Norwegian schools. It was interesting to see that there was students 'engagement, inquiry, self-discovery, or self-reflection. However, the time when I had my first lesson to my 10th grade students, although I tried to promote the students to voice up about what they know about Africa before I introduced them to Tanzania history, and education system which was the target of our discussion for that day, the learners were merely passive. But in my opinion I thought that it was because of myself being an outsider and perhaps my English dialect was difficult for them to capture. Fortunately, as time went on, in the next session, I saw a great change where by the students were more active compared to the previous lesson.

Also, I was impressed with the contents of the textbooks. When I was going through the English text book for 10th grade students, I recognized that the suggested students' tasks outlined in the English textbook are relevant and clearly stated according to the age and learning ability of students as it has been suggested by Bloom taxonomy (1986). The tasks are not based on lower-ordered thinking

skills like recalling facts or labeling maps but rather aimed at testing higher levels skills. Also, I noted that, the English textbook has got varieties of pictures to explain more about a particular relevant topic. The presence of pictures and illustrations in the students' textbooks reinforces and motivate students to enjoy learning and hence promoting critical thinking of the learner.

Generally, studies have shown that, teaching critical thinking skills through student-centered, learning approaches will be able students to retain information better and able to apply it to real life situations (McCombs & Miller, 2007; McCombs & Whisler, 1997; McKay & Gibson, 2004; Yilmaz, 2008; Young, 1994). In the social studies classroom, this means students will be able to connect to history and in turn make meaningful connections to their lives (McKay & Gibson, 2004; McCombs & Whisler, 1997; Yilmaz, 2008).

Furthermore, critical thinking teaching in social studies requires holistic learning meaning that, educators need to apply an integrated approach form of inquiry looking at the big picture rather than treating subjects as isolated units. In practice, a curriculum which is deep is more effective at facilitating quality thinking than one with a variety of under-developed topics. Kirchberg (2000) argues that, in geography didactics for example, educators need to reconsider the predominant method of 'near-to-far'. The author insists that, in today's world, pupils need foreign topics for a better understanding of their own worlds and their surroundings, which are apparently taken for granted. In that matter, by getting the students exposed to the external world, they can therefore reflect more in their own worlds and hence expanding their self-understanding.

With regard to my teaching practice experience, I noticed the practicability of the progressivism theory in one of the Geography class where students were being taught a topic on Climatic condition of Africa. The geography textbooks of grade 10 students had the map of Africa and some pictures as well, which represented some economic activities that are done by African societies. Also, in one of my lessons, students got an opportunity to learn about Tanzanian tourist attractions as well as the education system. I could notice that students were real curious to know about what is happening in Africa because, some of them thought that Africa is a country while other students knew it as a poorest continent with nothing good happening there. But when I talked to them about Tanzania with its eight national parks, showing them some video clips on Mt. Kilimanjaro, some animals, the Island of Zanzibar, and some big cities like Dar es salaam, Arusha and Mwanza, I could see that their attitudes towards Africa was changed and some showed a great interest to visit Tanzania in future.

Teaching for critical thinking also requires training, practice and patience (Amiri Mehr et. al., (2014). This is because sometimes students may initially resist critical thinking learning techniques especially if they have previously learnt to remember information and not to think about what they know. Under such circumstance, as a teacher, it is important to slowly orient your learners so as to get used to new models of leaning so that they get meaningful learning. Also, tolerance by the teacher is important because sometimes while in a process of enabling learners think on the subject matter, some of the students may not be following on what you are instructing them to do, so, in that situation a teacher has an extra role to bring back the learner to the lesson. While I was at my practicing school, I noticed that the teachers were tolerant in a situation where students misbehaved while the teaching session was in progress. There were two boys in one of my observed classes, they usually sat at the back benches, they were always disturbing the class, but when the teacher noticed them disturbing, she could go and talk to them politely by wanting them to stop what they were doing and follow the lesson. And when I talked to the practice teacher after the session about other means she uses to deal with misbehaving students in the class, she told me that sometimes she uses gesture language like twinkling her eyes to the disturbing student and he/she could understand on what she means, and hence stops disturbing. To me this was a strange experience when I compare it to my teaching experience in Tanzania where you find teachers using more energy to deal with misbehaving students. I think it is time for Tanzanian teachers to change because, nagging and shouting against the disturbing students or applying physical punishments to students is not a best alternative for handling classroom students' misbaviour in promotion of effective learning but rather, we should talk to them friendly by telling them the negative consequences of their unwanted characters on their future career and academic successes.

Conducive learning environment is also necessary for critical thinking to operate. In the observed class, I found that classroom infrastructure was good in terms of class size being small that ranged between 1-18 students. This number is manageable and it allows active and interactive learning to take place. This was a new experience to me since I am used to teach a class of 100 students and sometimes more. Moreover, ICT and information integration was recognized in Norwegian school where by in each class there was a desktop computer to be used by both students and teachers as a learning tool to promote critical thinking as well as to enable students involve their five senses in the

learning process. This is not normal in Tanzania classrooms for both categories of schools (private and public schools). The use of ICT in instructional learning is important as it promotes interaction and develops reflection skills of learners.

Again, school-parent relationship has a great contribution to promoting critical thinking among learners in schools. This can be promoted through parent-school meetings where parents are invited to discuss some issues connected to academic and social progress of their children. This is also a good time for parents to be updated with current reforms in curriculum so that they are aware of those issues in order to cooperate with the school in achieving various curriculum goals. Based on my teaching practice experience, when I talked to the practice teacher, she assured me that, at least in her school, parents are working hand in hand with the teachers in taking care of the students. When they are invited for the meeting in the school, she conveyed that, most of them will turn up, and those who will not attend, normally write an email or send a text message through her telephone to inform that they will not make it for some reasons. In that case, both the teacher and the school are kept informed and feel that the parent is in support. Of course, this does not work in the same way in Tanzania because, few parents who know the importance of education, and those who are educated will show a great support to schools for the concern of their children at school.

Challenges that face educators in implementing critical thinking strategies

Snyder and Snyder (2008) identify lack of training and information among educators; personal beliefs and preconceptions; and time constraints as challenges that may limit teachers to effective teaching of critical thinking in their classrooms. However, in my teaching practice experience while at my practicing school, I did not see the identified challenges in realities. Time constraint was not a problem because 60-minutes of teaching hours as I observed were sufficient to engage students in various learning teaching and learning activities such as group discussion, watching video clips and making reflections on the subject matter.

The big challenge observed in Norwegian schools was the issue of handling adolescent learners. The lesson I got is that in Norwegian schools, students are more autonomous, and there is no that big gap between students and the teacher as it is in Tanzania schools where teachers have more authority in the classroom while their relationship with students is kept at a distant of which I think is inappropriate tradition. The 21st century classrooms should promote a learner at the center of learning while the role of the teacher remains that of facilitating learning among learners. However, my teaching practice experiences revealed deviant learning behaviors among learners whereby at Eidsvag school, I could observe that sometimes students were not motivated to learn and feel engaged, and instead some students could move outside the classroom while the session was in progress, and also, others students were busy doing other things different from what the teacher required them to do. In actual sense, I have learnt that, handling adolescent students' behaviors is very challenging especially in a situation where students are more autonomous and education system does not allow the use of punishment to misbehaving students like in Norway. In such situations teachers need to have much patience to make all students learn. Apparently, with regard to challenges of implementing critical teaching in Tanzanian contexts, all what I can say is we experiences as many challenges compared to those that Norwegian schools face. This is because these are two different countries with a lot of variations in terms of economic social-cultural backgrounds, political, and technological aspects. However, in this paper I will presents some of them as explained in the following paragraphs.

Although traditional and contemporary theories have provided a base for teaching for critical thinking, many schools in Tanzania particularly the public schools are still graduating students who are not well equipped with the required competencies like problem-solving and analytical skill. This may be due to a variety of factors including; Large class sizes; teachers' lack of knowledge in interpreting critical thinking, students' inadequate information-searching skills and teachers' preference for more behaviorist than constructivist approaches to teaching. Also, teachers' motivation is a pre-requisite for promoting critical thinking teaching for classroom instruction is lacking among many Tanzanian teachers. Demotivation among teachers has been due to long time experiences of low and irregular salary payments, lack of proper housing, inadequate facilities, low status accorded to them and limited opportunities for professional development.

Another challenge which constrains effective implementation of critical teaching in Tanzania is the lack of required skills on how to use the modern technology. This is the problem of technical '*know how*' for teachers and is affecting the ability to use the teaching and learning materials, and besides that, Tanzania secondary schools lack sufficient teaching and learning materials. Most of the schools particularly government schools do not have relevant and adequate teaching learning materials in both science and arts subjects. For stance most of the schools do not have libraries, subject rooms like geography rooms and their learning materials, laboratories and no access to on- line resources.

Conclusion

It may be concluded that thinking critically, clearly, and effectively is not an easy process as emphasized by constructivists. Also, developing critical thinking skills among learners require considerable thought, effort and practice, and therefore care must be taken by educators to consider the many factors that may inhibit a student from thinking critically. In that case after you as teacher have noticed such challenge, then you have to think critically on the better way of removing out or nurturing the limiting factor for effective critical thinking. By so doing, developing critical thinking skills in learners requires an innovative, creative and critical teacher. Additionally, it is also important for the teacher to be aware of the subject goals and learning objectives because this enable them to plan in advance relevant teaching and learning strategies as well as critical assessment activities that fit the level, age and learning abilities of the learners. However, after having an opportunity to reflect on my teaching practice experiences, I came to realize that, if approached and implemented effectively, teaching for critical thinking has potential benefits on stimulating learners' engagement to reflect upon their experiences in the development of new knowledge in today's classrooms.

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