Critical Thinking in Nigeria's Pre-Service Teachers Education: A Philosophical Investigation

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Abstract
This paper explores the roots of critical thinking and its importance. It also attempts a clarification of critical thinking as a concept. Using the method of philosophical analysis, the paper proceeds to investigate the place of critical thinking in teacher education in Nigeria. Among other things, it is suggested that the acquisition of critical thinking skills be included among the stated goals of Teacher Education and that necessary measures be taken by the relevant authorities to ensure that critical thinking is actually taught and practiced by pre-service teachers in Nigeria.

Key Words: Critical thinking, Curriculum, inquiry, creativity, Teacher education

Introduction

Critical thinking encourages people to shape their personal opinions and attitudes with self-confidence instead of simply restating those of others by investigating issues from different perspectives with logically reasoned arguments (McGuinness, 2005).

According to Caruth (2015), the body of knowledge is replete with how essential critical thinking skills are for students. In the same vein, Chouari (2016) pointed out that at the outset of the twenty-first century, the role of critical thinking in education became pivotal. As a result of this, most countries of the world (including developing countries) started implementing critical thinking in their curricula and at different levels of education (Inch & Warnick, 2011). Furthermore, Ozkan-Akan (2003) cited in Demirdag (2015), explained that the results of critical thinking studies show that education and critical thinking must go hand in hand to achieve educational goals.

Majasan (1995, as cited in Ekpiken and Edet, 2014), made it clear that teacher educational institutions and teachers help in the development of various skills and competencies that will in turn help to equip the individual members of the society to be useful to himself and to the society at large. In the light of this, Majasan sees teachers as the springboard for economic, social, political, cultural and scientific development.

There is also a general consensus that teacher education is the foundation of any educational system and is one of the major indices of quality education (Isyaku, 2002). To this end, Ijaiya, Alabi and Fasasi (2011) submit that one can almost say:" tell me the quality of your teacher training and I will tell you the quality of your educational system". Crerar and Barua (2015) also share these views and point out further that the

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21st century learner is supposed to be the product of a quality education; quality education they argued implies that every student should have developed very essential life skills by the time he/she finishes formal education. They reiterate the fact that one of the important 21st century life skills is the inculcation of critical thinking skills in learners. This view is in consonance with the findings of Bensley, Crowe, Bernhardt, Buckner, and Allman (2010), that there is a very obvious difference between students who are consciously taught critical thinking skills and those who did not receive such instruction. Furthermore, research also suggest that the critical thinking abilities of teachers positively affect students' academic understanding and help students engage in deep learning activities, which may seem more difficult and abstract for many students (Unal & Ergin, 2006, cited in Demirdag, 2015).

As a result of the increasing recognition that is being given to critical thinking in the contemporary world and the indispensable role of quality teacher education in fostering national development as discussed in the preceding paragraphs, this paper attempts a philosophical investigation of the place of critical thinking in Nigeria's pre-service teacher education. This attempt is significant if teacher education in Nigeria is to adequately do the job of preparing student teachers for a contemporary society.

Critical Thinking: The Genesis

Critical thinking has its genesis in Socrates, the center for critical thinking. Socrates in his time championed the pursuit of truth by using probing questioning technique. The age of Socrates was followed by that of Plato (his student), Aristotle and the Greek skeptics. In skepticism, critical thinking skills were the main tools put to use. During the Renaissance, critical thinking equally came to the fore. Then in the 17th century, scholars such as Francis Bacon used critical thinking in their scientific endeavor and made it the main tenet of scientific research (Cohen et al., 2000). It was however in the nineteenth century that critical thinking actually became well recognized and articulated as a discipline in western countries particularly in England and the United States of America among others (Ab Kadir, 2007). At the beginning of the 20th century, critical thinking became more widely used in education and many scholars wrote on the importance of using critical thinking skills in education. Prominent among these scholars were Dewey and Bloom.

Towards the end of the twentieth century, informal logic had become widely used in education and in the field of research generally. As a result of this, critical thinking became an integral part of the curriculum in developed countries especially in Europe and North America (Sternberg, 1985) as cited in Ab Kadir, 2007). As at the beginning of the 21st century, the role of critical thinking in education and research had become even more pivotal. Following this increasing awareness of the value of critical thinking in education at the outset of the twenty first century, Inch and Warnick (2011) point out that most countries of the world started implementing critical thinking in their cur-

ricula and at different levels of education.

Critical Thinking: Beyond divergent conceptions

While there is an increasing awareness of the indispensable role of critical thinking in fostering national and individual development, there is still however no universal consensus on its definition. This lack of unity in defining critical thinking can be attributed to the differing perspectives from which disciplines such as philosophy and psychology view critical thinking (Ab Kadir, 2007). According to Lewis and Smith (1993), these perspectives are intrinsically different in that, while philosophers emphasize critical thinking, psychologists, on the other hand, focus on the notion of thinking skills. Also, while philosophers focus more on the nature and quality of the products of critical thinking- for example, the analysis of arguments, psychologists, on the other hand, have concentrate on the process of cognition, the components and operations used to address academic and practical issues (Reed, 1998).

Conceptions of Critical Thinking: Philosophers' perspective

Dewey (1938), who championed the cause of critical thinking in education as early as the first half of the 20th century, perceived it as reflective thinking: the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it. Ennis (1992) on the other hand believes that critical thinking is a rational and reflective thinking focusing on beliefs and decisions. According to him, each person needs motivation to think critically. He classified critical thinking into five main processes: initial classification, serious supporting, and conclusion, advanced classification and strategy. Another philosopher, Garrison (1991), believes that critical thinking includes five steps: identifying the problems, defining the problems clearly, searching for possible solutions, evaluating their functions and integrating their understanding with available knowledge. According to Facione, Giancarlo and Facione (1998) as cited by Atabaki, Keshtiaray and Yarmohammadam (2015), in their own philosophical perspective of critical thinking, there are six critical thinking skills: interpretation, analysis, testing, inference, explanation and self-regulation. Lipman (2003), in his own philosophical submission, points out that critical thinking is one kind of reflective thinking that helps people to judge easily and correctly. He regards critical thinking to be related to cognitive growth and intellectual responsibility. He also believes self-correction is one of the most important features of critical thinking. According to him, basic skills like reading, writing, arithmetic and verbal communication have important role in developing social skills, but they are not enough for critical thinking.

Siegel (1991), from a philosophical background, explains that in addition to the ability to think, the critical thinker must have a 'critical spirit' (p. 18), which he sees as the inclination to think critically; while Splinter (1991) furthers this conception of

critical thinking by contending that for critical thinking to take place there must be multiple inquiries.

Paul (1995), in his own philosophical perspective, defines critical thinking as "thinking about your thinking while you're thinking to make your thinking better" and *a unique kind of purposeful thinking in which the thinker systematically and habitually imposes criteria and intellectual standards upon the thinking, taking charge of the construction of the thinking according to the standards, assessing the effectiveness of the thinking according to the purpose, the criteria, and the standards (Paul, 1995, p. 21).*

McPeck (1981) as cited by Ab Kadir (2007) went further than his fellow philosophers; Ennis and Paul in his own conception of critical thinking when he argues that the issue of skill cannot be a generalized one because thinking critically cannot be done in isolation. McPeck argues that the essence of the meaning of critical thinking is a "propensity and skill to engage in an activity with reflective skepticism" (p. 8). According to him, this is conceptually impossible as thinking must be done about something and that it is determined by the problem in question. He emphasized that thinking has to be always about something and not done in a vacuum. This view is further emphasized by Brookfield (2003) who explains that critical thinking is "irrevocably context bound as it can only be understood, and its development gauged, within a specific context" (p. 157)

While the scholars from the philosophical school of thought differ in their conception of critical thinking, the need to focus on the importance of argument analysis that stems from the thrust of informal logic is common to all of them. All the scholars from the philosophical school of thought also agree on the need to concentrate on the analysis of arguments on grounds of their validity and soundness, and the key role of thinking dispositions (Paul, 1995; Ennis, 1987).

Conceptions of critical thinking: psychologists' perspective

Unlike the philosophy based theories, psychology based theories are concerned with cognitive processes. Also while philosophers focus on critical thinking dispositions; the attitude, habits of mind or internal motivations that help an individual to use critical thinking skills (searching for facts, truth seeking, curiosity, skepticism, cognitive maturity, self- confidence, willingness to entertain the views of others, fair mindedness, open mindedness desire to be well informed etc.), psychologists put emphasis on critical thinking skills; the cognitive process that are involved in critical thinking (reflection, reasoning, analysis, comparison, evaluation, recognizing assumptions, inference, formulating hypothesis, synthesis and creating novel ideas, testing and arriving systematically at a comprehensive conclusion). This marked difference in focus is reflected in the definitions of critical thinking given by the psychologists.

Some definitions of critical thinking from the psychological perspective are:

- A set of skills that range from lower order to higher order- the higher order skills requiring more complex thinking than the lower ones which are seen as needing only basic and less complex thinking (Bloom, 1956).

- An active and systematic attempt to understand and evaluate arguments (Mayer & Goodchild, 1990).

- A sequence of internal symbolic activities that lead to novel and productive ideas or conclusions (Ericson & Hastie, 1994).

- Critical thinking includes three components: post components, components of performance, and components of gaining knowledge. Post components are executive components of intelligence design. Components of performance help to implement the instruction of post components while components of gaining knowledge refer to the ability of learning and using language. According to these components in critical thinking, everybody has to recognize the value of problems, try to solve it, prepare a design and test its messages and feedback (Norshimas, 2011).

Conceptions of critical thinking: the perspective of educators

While the conceptions of critical thinking from the perspective of educators generally stem from the philosophical or psychological origins, they possess a more pragmatic slant. Kurfiss (1988), for example, states that critical thinking is "an investigation whose purpose is to explore a situation, phenomenon, question, or problem to arrive at a hypothesis or conclusion about it that integrates all available information and that can therefore be convincingly justified" (p. 2). Similarly, Shakirova (2007) explains that critical thinking skills are important because they enable students to deal effectively with social, scientific and practical problems.

Conceptions of critical thinking: distinct areas of agreement

A research project was undertaken in 1990 at the instance of the Philosophy Association of America with the mandate of finding a consensus on the issue of the definition of critical thinking. The report produced by the participants in the project; entitled The Delphi Report (Facione, 1990) states inter alia:

> *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, criterionlogical, or contextual considerations upon which that judgment is based (p2).*

In the bid to arrive at a more encompassing consensus on the definition of critical thinking among theorists, Halonen (1995), synthesizes the major areas of each critical thinking theory and came up with a submission that critical thinking is the propensity and skills to engage in activity with reflective skepticism focused on deciding what to

believe or do (p.76). Fasko (2003) however points out that such a conception excludes several concepts from the psychological and educational perspectives. As a result of this, he improved upon Halonen's conception as he argues that critical thinking is the "propensity and skills to engage in mental activity with reflective skepticism focused on deciding what to believe or do that can be justified" (Fasko, 2003, p. 8). Similarly, Johnson (1996, p. 46) identifies the following similarities among all the critical thinking theories:

> - a reflective skeptical or questioning attitude
> - a sensitivity to value or ideology laden assumption
> - an insistence on appropriate supporting grounds before accepting disputable claims
> - an appreciation of the various criteria applicable to good reasoning and argument (whether general or subject dependent)
> - skill and judgment in the analysis and evaluation of claims and arguments; and
> - a disposition to be self –reflective, sensitive to one's own possible biases or assumptions.

In addition to the observation made by Johnson (1996, p. 46), Reed (1998) also emphasizes the common threads that run through the various critical thinking theories. These are: the act of critical thinking involves specific processes and or skills; the propensity to think critically is crucial; and that a culture or an environment that promotes and reinforces such critical thinking is pivotal.

Johnson, Steven and Zvoch (2007) again highlight the similarities among the various critical thinking theorists as: critical attitude, emphasis on complete support of reasons before accepting controversial claims, testing different functional measures for judgment, examining claims and discussions and sensitivity to possible bias.

The efforts that singled out the areas of agreement among the various theorists on critical thinking is a major development that shows that despite the divergent definitions of critical thinking, the concept can still be used meaningfully.

Critical thinking in Nigeria's pre-service teachers' education- a philosophical examination

Section 5 subsection 93 of Nigeria National Policy on Education (2013, 43) states that the goals of Teacher Education shall be to:

> a. produce highly motivated, conscientious and efficient classroom teachers for all levels of the educational system;
> b. further encourage the spirit of inquiry and creativity in teachers;
> c. help teachers fit into the social life of the community and the society at large and enhance their commitment to national goals;

    d. provide teachers with intellectual and professional background adequate for their assignment and to make them adaptable to changing situations, and

    e. enhance teachers' commitment to the teaching profession.

The goal of further encouraging the spirit of inquiry and creativity in teachers (Section 5, subsection 93b of the National policy on Education (2013) is the only goal out of the five goals of Teacher Education that is related to critical thinking. However, while the spirit of inquiry and creativity are ideals that are related to critical thinking, they are not synonymous with it. Creativity is a uniquely human trait that reflects one's ability to adapt to changing circumstances and one's effective cognitive abilities to combine and improve upon ideas to which one is exposed (Runco, 2007). Cremin, Burnard and Craft (2006) also define creativity as possibility thinking, which includes seven habits of the mind: posing questions, play, immersion, innovation, risk-taking, being imaginative, and self- determination. Similarly, Newton and Newton (2009) alluded that creativity is the successful personal activity intent on producing an appropriate new idea or object. Andiliou and Murphy (2010) in their own contribution argue that creativity is the primary source of innovation, which is an essential tool in addressing global challenges and is also needed to promote social cohesion and wellbeing. While creativity is good as an ideal and while it is a positive step to have it as one of the goals of Teacher Education in Nigeria, the fact still remains that it is not the same as critical thinking. The affinity between creativity and critical thinking is well captured by Hader (2005) who points out succinctly that critical thinking boost creativity. The truth of Hader's view is substantiated by the submission of Russell (1939, p. 530) that critical thinking provides critical thinkers with (1) the ability to form opinion for oneself, (ii) the ability to find an impartial solutions (Russell, 1956b, p. 174) which involves learning to accept and control their own preferences and estimating issues on their merits; and (iii) the ability to identify and question assumptions by employing what Russell calls constructive doubt in order to test unexamined beliefs (Russell, 1927, p. 299). In a similar vein, Karakoc (2016) argues that critical thinking offers one the opportunity to be objective, less emotional, and more open-minded as one appreciate others' views. It stands to reason therefore that while critical thinking and creativity are not synonymous, critical thinking is an indispensable tool of creativity. In the light of this, if the objective of further encouraging the spirit of creativity in Nigerian teachers is to be achieved as expected, it is imperative that teacher educators in Nigeria be experts in critical thinking. It is also imperative that they be competent to teach pre-service teachers these skills and ensure that the pre-service teachers practice them successfully before leaving school.

    Inquiry is a process of investigating problems, developing hypotheses, designing experiments, collecting data and setting conditions that are geared towards solving problems (Awg Kasmurie Awg Kitot et al., 2010). Omardin (1996) also defines

inquiry as a matter of questioning techniques and finding answers to questions raised. It involves careful observation and measurement, making hypotheses, interpreting and developing theories. The spirit of inquiry therefore is a persistent sense of curiosity that informs both learning and practice. Someone who has the spirit of inquiry will ask probing and intelligent questions, appraise existing practices and seek creative approaches to problem solving. While it is commendable that one of the goals of teacher education in Nigeria is to encourage the teachers to have the spirit of inquiry, the fact still remains that the spirit of inquiry is not the same thing with critical thinking. The affinity between critical thinking and inquiry is that critical thinking is essential as a tool of inquiry (Facione, 1990, p. 2). This being the case, it follows logically also that if the objective of further encouraging teachers to have the spirit of inquiry as stated in Nigeria's National Policy on Education is to be effectively achieved, teaching pre-service teachers critical thinking skills and ensuring that they practice these skills while in school becomes necessary.

As discussed in the earlier paragraphs of this paper, critical thinking as an ideal has its own distinct impact in teacher education. In Nigeria for instance, there has been serious complaints about the quality of teachers being produced, especially because of their poverty of knowledge and skills (Ijaiya et al., 2011). While the situation has not improved since the observation by Ijaiya, Alabi and Fasasi (2011), they reported at that time that as a panacea to this situation, increasing the duration of the pre-service teachers' education by one more year was suggested by some stakeholders. Ijaiya (2008) however convincingly argues that the duration of pre-service teacher education in Nigeria is not the issue. He explains that one of the major things that are lacking in the curriculum of pre-service teacher education in Nigeria is critical thinking skills. He correctly points out further that those teachers need critical thinking skills to prepare good scheme of work and lesson notes, select appropriate content, methodology and instructional materials, set thought-provoking questions and respond to questions. It follows from this submission that critical thinking is a sine qua non also for producing highly motivated, conscientious and efficient classroom teachers for all levels of the educational system, which is one of the goals of teacher education in Nigeria as stated in Section 5, subsection 93(a) of the National Policy document.

While emphasizing the importance of critical thinking, Russell (1956a) as cited in Hare (2001, p. 3), explains that critical thinking involves a wide range of skills, dispositions and attitudes which together characterize a virtue which has both intellectual and moral aspects, and which serves to prevent the emergence of numerous vices, including dogmatism and prejudice. Going by the submission of Russell, critical thin-king can go a very long way in making the achievement of the goal of teacher education (as stated in Section 5, subsection 93d of the National Policy of Education – to provide teachers with the intellectual and professional background adequate for their assignment and to make them adaptable to changing situations) a reality.

Furthermore, Elder (1996) cited in Ndofirepi (2014), while commenting on the importance of critical thinking asserts that:

> *Through critical thinking we acquire a means of assessing and upgrading our ability to judge well. It enables us to go into virtually any situation and to figure out the logic of whatever is in that situation. It provides a way for us to learn from new experiences through the process of continual self-assessment. Critical thinking then, enables us to form sound beliefs and judgments, and in doing so, provides us with a basis for a rational and reasonable life.*

From Elder's view, it is logical to affirm that critical thinking can play a pivotal role in the realization of the particular goal of teacher education in Nigeria stated in Section 5 sub section 93c of the National policy document- "help teachers fit into the social life of the community and the society at large and enhance their commitment to national goals".

Facione (2011) cited in Ndofirepi (2014) is of the view that critical thinking enhances a probing inquisitiveness, a keenness of mind, a zealous dedication to reason, and a desire for authentic information. Facione (2011) argues further that critical thinking would help individual to develop the capacity to imaginatively put themselves in the place of others and understand their viewpoints. According to him, it would advance the ability to listen with an open mind, even to contradictory point of view and consider its worth. On the ground of the explanations given by Facione on the benefits derivable from critical thinking, one opines that the realization of each of the goals of teacher education in Nigeria as stated in Section 5 Subsection 93 can be greatly enhanced by critical thinking.

Based on the indispensability of critical thinking in achieving each of the goals of teacher education in Nigeria, there is need to carry out some changes in the program of teacher education in the country such that critical thinking can be given the place it deserves.

A necessary starting point is for the government to include the acquisition of critical thinking skills explicitly among the objectives of teacher education contained in the National policy on Education, take steps to ensure that pre-service teacher educators possess critical thinking skills and that pre-service teachers are taught these skills and encouraged to put them into practice. If these are to be proactively done and if positive results are to be realized, it is important also to modify some aspects of the practice of teacher education in the country. For instance, Clark and Biddle (1993) assert that critical thinking strategies cannot be taught by a teacher standing in the front of the class room. There must be active interaction between the students, the instructor and the instructional materials. This requirement however poses a challenge within the Nigerian context with respect to teacher education as overcrowded classroom is the

rule rather than the exception and this gives little or no room for meaningful interaction and questioning.

The National University Commission (2006) reported that the presidential visitation panel that looked into the operations of all Federal Universities between 1999 and 2003 revealed that academic and physical facilities at the Universities were in deplorable states with insufficient lecture theatres/halls, laboratories and so on. Jokthan (2012) also reveals that tertiary institutions in Nigeria are no longer places where rigorous and progressive teaching and research work is being conducted, because the infrastructures that can aid teaching and research are non-existent, as is the motivation for teachers and students. He points out further that the libraries in most tertiary institutions are stocked with obsolete books, broken down chairs, poorly ventilated rooms and the classes are even worse. He alluded also that functioning computers and access to internet are hard to come by in many of the tertiary institutions. Fostering critical thinking in a learning and teaching environment that prevails in Nigeria's tertiary institutions as described by the National University Commission and also by Jokthan is almost impossible especially that the situation is not changing for better. This is more so if one is to go by the observation of Brookfield (1987), Paul (1995), Pithers and Soden (2000) that a review of research on critical thinking shows that motivation is a key factor in getting students to think critically. This observation is in agreement with the findings of Figen (2010, p. 144) who remarks that in order to effectively foster critical thinking skills of students, the physical conditions of classrooms must be ideal and the classroom climate must be favorable.

Brown and Freeman (2000), based on a review of the literature, also assert that there are four primary elements to a classroom that promote critical thinking: frequent student questions, developmental tension, contingency of conclusions, and active learning. They added further that one of these characteristics alone does not promote critical thinking; it is the combination of all of them that fosters such development. These requirements highlighted by Browne and Freeman are also difficult to meet in the context of teacher education in Nigeria. Aboluwodi (2016) confirms this in his comments that most teachers in Nigeria's higher institutions are still tied to the colonial educational tradition where the dominant instructional practice is to teach students to pass examination. In a system of this nature, the students are there as passive receivers. Richmond (2007) cited in Aboluwodi (2016) also contends that the passive nature of education in Nigeria's tertiary institutions is reinforced by the tradition of authority and obedience, this time, it is the authority of teachers and obedience by students to teachers' instructions. This, he explains further, is because sometimes teachers take offence when students deviate from their ideas. Aboluwodi (2016) points out that the culture of passivity in Nigeria's tertiary institutions is also tied to the culture in the larger society which adorns conformity, hence students' inability to question the ideas of others or engage their teachers in constructive arguments and criticism. The result

is that they prefer to maintain their silence on issues and settle for what they taught emanated from their teachers. In a similar vein, Ijaiya et al (2011) observe correctly that tertiary institutions, polytechnics, and colleges of education in Nigeria pay little attention to co-curricular activities that promotes critical thinking among the students population such as quiz and essay competitions, debates, public lectures and seminars by students. Furthermore, they rightly observed that students on their part pay more attention to social gathering, dancing and drumming, etc. They alluded further and correctly too that at the personal level, many students spend more of their spare time listening to music from their handsets, even during lectures, instead of engaging themselves in productive activities that can foster critical thinking. These observations by Ijaiya, Alabi and Fasasi, (2011) have not abated.

Clark and Biddle (1993) summarize the ideas of several researchers with the assertion that teaching critical thinking goes beyond the role of conventional teaching. Teaching critical thinking requires that the teacher take on the role of "researcher", to guide students through the use of information, the role of "designer", to carefully guide students from questions posed to potential answers; the role of "consultant", to provide methodological direction for students doing inquiry, the role of "referee, to settle disagreements that may arise among students and to know when questions/seize to drive inquiry, the role of "analyst", to encourage critical thinking as a subject of study, and the role of "judge" to evaluate the students' growth and level of knowledge. To expect teacher educators responsible for educating pre-service teachers in Nigeria to play the aforementioned roles at the moment is to expect the near impossible. This is because the teacher educators are overloaded, they are victims of role conflict due to inadequacies of personnel and they have to struggle with relatively overloaded course content. As a result of this, most lecturers are compelled to use the lecture method in the classroom and also use objective questions and questions that warrant factual answers in assessing their students. By so doing, the assessment of their students becomes relatively easy and this also makes it possible for these lecturers to meet the various deadlines for the submission of students' scores. Aboluwodi (2016) made a similar observation that while Nigerian Universities run courses in philosophy and logic in their General Studies program for undergraduates (teacher trainees inclusive), in most of these institutions, lectures constitute the basic approach to teaching and the major focus is on elementary philosophy and logic. This mode of teaching, he argues does not give students the opportunity of assessing their thought, those of their teachers and the materials they are compelled to consume. Aboluwodi (2016) gave the following questions as examples of questions designed to test the logical reasoning of university undergraduates in a General Studies examination:

(1). -- - - - is not in the domain of metaphysics

        (a)   universals and particulars

        (b)   knowledge and justification

        (c)   mind and body

        (d)   free will and determinism

(2) - - - - which of the following is the fallacy of ambiguity?

        (a) equivocation

        (b) amphiboly

        (c) accent

        (d) appeal to ignorance

The above questions and others of such nature do not require rigorous thinking on the part of the students; they only encourage them to memorize facts and give them back to their teachers. Moreover, while Philosophy of Education is one of the compulsory courses in Nigeria's teacher education program and is a possible avenue of getting pre-service teachers to acquire critical thinking skills, those who teach this course in most tertiary institutions are not specialist in that academic discipline and are also not conversant with the terrain of critical thinking. In addition, the course content does not make provisions for critical thinking to be taught and when students are examined in this course, more often than not, the questions are not such that can foster critical thinking. These findings are in agreement with the observation of Mgboro (2006), Ejide (2006) and Udosen (2011) who report that learning environment and teachers in Nigeria have been faulted in fostering critical thinking.

Conclusion

In this paper, attempt has been made to investigate philosophically, the place of critical thinking in Nigeria's teacher education. For Nigerian teachers and students to be on the same page with their counterparts in developed and fast developing nations and to make the realization of the set goals of teacher education a reality, it is suggested that the acquisition of critical thinking skills be included explicitly among the stated goals of teacher education. Furthermore, practical steps should be taken to ensure that critical thinking is not only integrated into all aspects of teacher education but also taught as a course of study. By implication, there is therefore the need for the relevant authorities to train sufficient number of specialist in Philosophy of Education who will be in a position to competently handle critical thinking as a course of study in teacher education programs. Schafersman (1991) cited in Aboluwodi (2016) points out that all education consists of transmitting to students two different things: (i) the subject matter or discipline content of the course (what to think); and (ii) the correct way to understand and evaluate this subject matter (how to think). Aboluwodi (2016)

rightly points out that most teachers especially in Nigeria's tertiary institutions often embrace the first goal. Aboluwodi's observation further shows the need for critical thinking to be taught as a course of study in Nigeria's teacher education program. This will also enable teachers in Nigeria to adequately cope with the increasing obligations demanded of them nationally and internationally. Similarly, when Nigerian teachers and teacher educators become experts in critical thinking, the nation will invariably be better equipped to meet up with other nations of the world that have maximally utilized critical thinking skills as the springboard to attain optimum levels of technological and other forms of development. An apogee of this nature, however, is not what can be left to occasional and unconscious display of critical thinking skills by few teacher educators here and there. This underscores the need for the relevant authorities to take proactive and sufficient steps to address the various factors in Nigeria's teacher education that cannot possibly allow critical thinking and its practice to thrive as highlighted in this paper.

References

Ab Kadir, M. (2007). Critical thinking: A family resemblance in Conceptions. *Journal of Education and Human Development. 1*(2), 1-11.

Aboluwodi, A. (2016). Imperative of Teaching Critical Thinking in Higher Institutions in Nigeria. *Journal of Teaching and Teacher Education, 4*(1), 9-15.

Andiliou. A. & Murphy, P. K. (2010). Examining variations among researchers' and teachers' conceptualizations of creativity: A review and synthesis of contemporary research. *Educational Research Review. 5,* 201-219.

Atabaki, A. M., Keshtiaray, N., & Yarmohammadam, H. M. (2015). Scrutiny of critical thinking concept. International Education Studies, 8(3), 92-102.

Bensley, D. A., Crowe, D. S., Bernhardt, P., Buckner, C., & Allman, A. L. (2010). Teaching and assessing critical thinking skills for argument analysis in Psychology. *Teaching of Psychology. 37*(2). 91-96. doi:10.1080/00986281.

Bloom, B. (1956). *Taxonomy of Educational Objectives: The Classification 0f Educational Goals.* London: Longman.

Brookfield, S. (2003). *Critical Thinking in Adulthood.* In Fasiko, D. (Ed). Critical thinking and reasoning: current research, theory and practice. USA: Hampton Press.

Brookfield, S. D. (1987). *Developing Critical Thinkers.* San Francisco: Jossey- Bass publishers.

Brown, M. N. & Freeman, K. (2000). Distinguishing features of critical thinking classrooms. *Teaching in Higher Education, 5*(3) 301-309.

Caruth, G. D. (2015). Critical Thinking: An Examination of the status and Teaching Methods in Higher Education. *GLOKAde*, 1, 4, 57-69.

Chouari, A. (2016). Teaching critical thinking in Moroccan Higher Education: challenges and opportunities. *Arab World English Journal,* 7, 2.

Clark, J. H. & Biddle, A.W. (1993). Introduction: Critical Thinking Across the Curriculum. In J.H. Clark & A.W. Biddle (Eds.), *Teaching Critical Thinking* (pp 1-16). Englewood Cliffs, N.J. Prentice- Hall Inc.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research Methods in Education.* (5th ed) London: Routledge Falmer.

Cremin, T., Burnard, P., & Craft, A. (2006). Pedagogy and Possibility thinking in the early years. *Thinking Skills and Creativity.* I, 108-119.

Crerar, B. A. & Barua, N. K. (2015). Critical thinking skills in teacher education: need and strategies. *American Thoughts,* 1, 7. 1578-1606.

Demirdag, S. (2015). The relationship between critical thinking abilities and classroom management skills of high school teachers. *Educational Research and Reviews, 10*(7) 850 – 855.

Dewey, J. (1938). *Experience and Education.* N.Y.: Collier.

Ejide, B. (2006). Teaching metacognitive Skills: A challenge for teachers. *The Educational Psychologist. 3*(1) 60-67.

Ekpiken, E. E. & Edet, A. O. (2014). The role of teacher education and nigerian teachers in national development: the way forward. *Higher Education of Social Science. 7*, 1, 139 -143.

Elder, L. (1996). Cognition and Affect: Critical Thinking and Emotional Intelligence. Inquiry: Critical Thinking Across the Discipline, XV 1(2). (Online). Available: http://www.critical thinking.org/page.cfm?page ID=485&CategoryId=73

Ennis, R. (1992). Critical thinking: What is it? Proceedings of the 48th annual meeting of the Philosophy of Education Society. Retrieved from http//www.ed.u.uc.edu/ PES/92_DOCS/Ennis. HTM.

Ennis, R. H. (1987). A taxonomy of critical thinking dispositions and abilities. In J.B. Baron & R.J. Sternberg (Eds.), *Teaching Thinking Skills: Theory and Practice* (pp. 9-26) New York: Freeman.

Ennis, R. H. (1985). A Logical basis for measuring critical thinking skills. *Educational Leadership. 2* (43) 2.

Ericson, K. A. & Hastie, R. (1994). Contemporary approaches to the study of thinking and problem solving. In R. J. Sternberg & E.E. Smith (Eds.) *Thinking and Problem Solving* (pp. 37-79). New York: Academic Press.

Facione, P. A. (1990). The California Critical Thinking Skills Test: College Level Technical Repot-Experimental Validation and Content Validity. Retrieved from http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED327549.

Fasko, D. (Ed). (2003). *Critical Thinking and Reasoning: Current Research, Theory, And Practice.* N.J.:Hampton Press. Inc.

Figen, K. (2010). An Assessment of Teachers' Conceptions of Critical Thinking and

Practices for Critical Thinking Development at Seventh Grade Level. A Thesis submitted to the Graduate School of Social Sciences of Middle East Technical University.

Garrison, D. (1991). Critical Thinking in Adult Education. *International Journal of Lifelong Education.* 10, 4. 287- 303.

Hader, R. (2005). Carve out time to think – yes think. *Nursing Management, 36*(4), 4. Retrieved April 5, 2011 from EBOSCO Host database.

Halonen, J. S. (1995). Demystifying critical thinking. *Teaching of Psychology.* 22. 75-81

Hare, W. (2001). Betrand Russell and Critical Thinking. *Inquiry: Critical Thinking Across Disciplines, 20*(2), 3-50.

Ijaiya, N. Y. S. (2008). The quality of Teacher Education in Nigeria. In A.Ejiogu and V.Onyene: *Emergent issues in Nigerian Education.* 4. September, pp. 230-250.

Ijaiya, N. Y., Alabi, A. T., & Fasasi, Y. A. (2011). Teacher Education in Africa and Critical Thinking Skills: Needs and Strategies. *Research Journal of Business Management. 5*(1), 26-34.

Inch, E. S. & Warnick, B. (2011. *Critical Thinking and Communication: The Use of Reason in Argument.* (6th ed). Boston. MA: Pearson.

Isyaku, D. 2002. Teacher Education in the 21st Century in Anikweze, C.M., Ojo, M.O. & Maiyanga, A.A. (Eds). Teacher Education in Nigeria, National Commission for Colleges of Education, Abuja.

Johnson, R. H. (1996). *The Rise of Informal Logic.* Newport News, VA: Vale press.

Johnson, B., Steven, J. J., & Zvoch, K. (2007). Teachers perception of school climate: A validity study of scores from the revised school Environment Questionnaire. *Educational and Psychological Measurement,* 67(5),833-844. http//:dx.doi.org/10.1177/0013164406299102.

Jokthan, E. T. (2012). Teachers and Teacher Education in the 21st century: The challenges. *JORIND.* 10 (2), 175- 179.

Karakoc, M. (2016). The significance of critical thinking ability in terms of Education. *International Journal of Humanities & Social Science.* 6 (7), 81 – 84.

Kitot, A. K. A., Ahmad, A. R., & Seman, A. A. (2010). The effectiveness of Inquiry Teaching in Enhancing Students' critical thinking. Procedia Social and Behavioral Science (7c), 264-273. Elsevier Ltd.

Kurfiss, J. G. (1988). Critical thinking: Theory, research, practice and possibilities. ASHE –ERIC Higher Education Report No 2. Washington, D.C.: Association for the study of Higher Education.

Lewis, A. & Smith, D. (1993). Defining higher order thinking. *Theory into Practice,* 32, 131-137.

Lipman, M. (2003). Thinking in Education (2nd ed). New York, N.Y: Cambridge University press. http://dx.doi.org/10.1017/CBO9780511840272.

Majasan, J. A. (1995). *The Teachers' Profession: A Manual for Professional Excellence.* Ibadan. Spectrum books Ltd.

Mayer, R. E. & Goodchild, F. M. (1990). The Critical Thinker: Thinking and Learning Strategies for Psychologist Students. Dubuque,1A: WM.C. Brown.

McGuinness, C. (2005). Teaching thinking: Theory and Practice. *British Journal of Educational Psychology,* 3, 107-126.

McPeck, J. E. (1981). *Critical Thinking and Education.* New York: St Martins Press.

Mgboro, C. U. (2006). Improving learning in secondary schools in Ebony in State using metacognition. *The Educational Psychologist,* 3(1), 47-51.

National Policy on Education. (2013). 6th edition. *Federal Republic of Nigeria.* NERDC Press. 3 Jibowu street, Lagos.

National University Commission. (2006). Ban on Admission into more Program with Denied Accreditation. Monday Memo, May 4 (18).

Ndofirepi, A. P. (2014). Is critical thinking desirable for children? *Mediterranean Journal of Social Science.* 5, 10, 325 – 330.

Newton, D. P. & Newton L. D. (2009). Some student teachers' conceptions of creativity in school science. *Res. Sci. Technol. Educ.* 27(1):45-60.

Norshima, B. (2011). Evaluation of critical thinking in Social studies text book. (PhD Thesis, Shiroz University, Shiraz.

Omardin. A. (1996). *Peranan, Tuguasdan Tanggungjawab Guru di Sekolah.* Cheras, Kuala Lumpur: Itusan publication and Distributiors Sdn. Bhd

Ozkan-Akan, S. (2003). Teachers' perceptions of Constraints on improving students thinking in high schools. Master's thesis, Middle East Technical University, Turkey, Retrieved from http/etd. Lib.metu.edu.tr/upload/683631/index.pdf

Paul, R. (1995). Critical Thinking: how to prepare students for a rapidly changing world. California: Foundation for Critical Thinking.

Pithers, R. T. & Sodon, R. (2000). Critical Thinking in Education: A review. *Educational Research,* 42, 237-249.

Reed, J. (1998). Effect of a model for critical thinking on students achievement in primary source document analysis and interpretation, argumentative reasoning, critical thinking dispositions and history content in a community college course. Unpublished dissertation, University of South Florida, Tampa, Florida.

Richmond, J. E. D. (2007). Bringing Critical thinking to the education of developing country professionals. *International Education Journal, 8* (1) 1-29.

Runco, M. A. (2007). *Creativity. Theories and Themes: Research, development and Practice.* Burlington M.A.: Elsevier Academic Press.

Russell, B. (1927). *Philosophy.* New York: WW. Norton

Russell, B. (1939). *Education for Democracy.* Addresses and Proceedings of the National Education Association, 77, 527-534.

Russell, B. (1956a). John Stuart Mill. In B. Russell (Ed), *Portraits from Memory.* Lon-

don: Allen & Unwin.

Russell, B. (1956b). *Portraits from Memory and other Essays*. London: Allen & Unwin.

Shakirova, D. M. (2007). Technology for shaping of college students' and upper grade students' critical thinking. *Russian Education and Society, 49*(9). 42- 52.

Sternberg, R. G. (1985). Teaching Critical thinking: Eight easy ways to fail before you begin. The Phi Delta Kappan. *68*(6), 456 – 459.Doi 10.2307%2F20403395.

Schafersman, S. D. (1991). An Introduction to Critical thinking. Retrieved from facultycenter.schoolsyr.edu/wp-content/ ----/critical thinking/pdf

Siegel, H. (1988). *Educating Reason*, N.Y. Routledge.

Splitter, L. T. (1991). Critical Thinking: What, why, when and how. *Educational Philosophy and Theory.* 23(1), 89 – 109.

Udosen, A. E. (2011). The Rationality, critical thinking & education state of reading Instruction in Secondary Schools in Akwa Ibom State: Implications for sustenaible development. *Journal of Emerging Trends in Educational Research and Policy Studies*, 2(5) 382-387.

Unal, G. & Ergin, O. (2006). Buluş yoluyla fen öğretiminin öğrencilerin akademik başarılarına, öğrenme yaklaşımlarına ve tutumlarına etkisi. *Turk Fen Egitimi Dergisi. 3*(1), 36-52