

Transforming Teaching and Learning for Quality Teacher Education in Ghana: Perspectives from Selected Teacher Trainees and Stakeholders in Teacher Education

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Received: August 12, 2017 Accepted: September 6, 2017 Published: September 26, 2017

doi:10.5296/ije.v9i3.11686

URL: <https://doi.org/10.5296/ije.v9i3.11686>

Abstract

This survey measured the perspectives of teacher trainees, classrooms teachers and stakeholders in teacher education regarding factors that could enhance teaching and quality teacher education in Ghana. Findings from the survey indicate that teachers' content knowledge was considered appreciable, but more emphasis needed to be paid to cultivating critical and inquiry skills among Ghanaian teachers. Additionally, efforts were to be made in teacher education towards a more constructivists approach to teaching, with focus on student-centered teaching and attention to student diversity, as well as enhancing teacher professional development, especially in the area of academic research. Implications for policy and practice suggested among others, are that teacher education in Ghana needs a more professional development that is both data-based and standard driven, as well as collaboratively developed, as criteria to assess teacher quality and possible certification.

Keywords: Teaching, Learning, Quality Teacher Education

1. Introduction

The quality of every nation is contingent on the quality of its human capital. This in turn is also critically dependent upon the quality of their education. Quality education in any country, appears to rely more than any other determining factor on the quality of its teachers. This is especially so in the area of their academic and professional development. In terms of access to basic education, Ghana has made remarkable improvement since the beginning of this millennium. For example, it is estimated that from 2010-2014, gross basic school admissions went up to 106.9%. Nevertheless, learning achievement failed to match with the enrolment: an indication of lack of quality learning (Thompson & Casely Hayford, 2008). Consistent poor performance at the Basic Education Examination confirms poor quality learning at the basic level (cf. Myjoyonline News, 2012, p. 1). This has heightened teacher accountability. The teacher continues to be the number one important resource in realizing positive changes to students' improvement in academic performance (Sanders & Horn, 1998; Darling-Hammond & Sykes, 1999; Wenglinsky, 2000), especially content knowledge of the teacher (Ball & Cohen 1999). Any nation seeking to find answers to enhance improvement in the academic performance of its younger generation, especially in science education, for example, can hardly ignore the classroom practice of the teacher (Stigler & Hiebert, 1999; 2004; Hiebert, Gallimore, & Stigler, 2002;). This heightened expectation notwithstanding, what teachers are required to perform in the classrooms, may be different from the way they were taught in the Colleges of education. Thus, teachers are never left off the hook when it comes to student performance.

This is especially so when public basic schools, which are largely staffed by professionally trained teachers, and paid by public funding, continue to perform abysmally, compared to private schools with large number of unprofessionally trained teachers. This mismatch has precipitated the need to investigate those teacher-factors that might possibly account for this, mindful of the fact that other variables, such as students home background, school-related factors, etc. are equally implicated, when investigating students' academic performance. At any given financial year in Ghana, between 40-50% of budget allocation goes into education. For example, there was an increase of over GH 1 billion (Ghana Cedis) in the education budget in 2017. The total budget for the Ministry of Education for 2017 saw an increase of 20.7% in 2017 from GH7.55 billion in 2016 to GH9.12 billion (<http://multinewsonline.com/economy/2017/04/education-budget-jumps-by-ghc1bn-in-2017/>). Additionally, the increasing number of unemployed graduates in Ghana, whose expertise generally fail to match the demands of the Ghanaian labour market in practical areas, such as problem solving, critical and innovative thinking, and analytical skills etc., makes it compelling to investigate the quality of teacher education in Ghana. Some studies have been conducted in Ghana on quality teaching. Few however, have focused on examining the potential factors for or against the efforts towards transforming teaching and learning for quality teacher education. It is to respond to this lacuna that this research study was undertaken.

This paper tried to answer the following three (3) questions:

1. What knowledge should teachers in training need to have in order to transform

teaching and learning?

2. What are the qualities and preparation that should guide teacher education to transform teaching and learning for quality teacher education?
3. What are those things that teacher preparation should include or exclude to promote teaching and learning for quality teacher education?

1.1 Literature

The subsequent literature is organized along the following thematic strands: a) historical development of teacher education in Ghana; b) globalization and teacher education for the 21st century, c) what constitutes transformed teaching and learning? d) domains supporting transformed teaching and learning for quality teacher education.

1.1.1 Historical development of teacher education in Ghana

Ghana (the then Gold Coast) first received western formal education through Portuguese merchants in the form of 'castle schools' in 1471 (Hilliard, 1957; McWilliam, 1959). Later, similar castles schools were founded by other European merchants, such as the Dutch, the Danes and the English in their castles. These castles schools were for the privileged few. It was Christian missionary education by the Roman Catholics, the Basel, the Wesleyan, and the Bremen missions' that extended formal education to many Ghanaians. Later, the British colonial government joined hands with the Christian missions. This introduction of western formal education, naturally, precipitated the need for professionally trained teachers. Initially, teaching in Ghanaian schools in the early stages of educational development, was a variant of the 'monitorial system': one master or teacher was in charge of a school, and a group of monitors from among the pupils in senior classes were selected to help the teacher or master in memorization and rote teaching (Hilliard, 1957). This monitorial system of teaching typical in Canada, was adopted in the early stages of formal education in Ghana as well.

Systematic efforts towards professional teacher education in Ghana began in 1863. The Basel mission opened a teacher-catechist theological training seminary at Akropong. Later another one was established at Abetifi. In 1909, the Roman Catholics also established a teacher training college at Bla in the Trans-Volta region. These were the only teacher training institutions in the then Gold Coast (Ghana). Later, the British colonial government supported the efforts of these Christian missionaries and founded a teacher training college in Accra in 1909. The Methodist mission also established a training college first at Aburi, but later transferred it to Kumasi in 1924, now called, Wesley College of Education. Initially, training in these Christian mission training colleges had a duration of two years. In 1923, teacher education was extended to improve the supply of certificated teachers. Nevertheless, the problem of unprofessional teachers persisted until 1957, when Ghana attained independence from Britain (Hilliard, 1957).

The recommendation of the 1937 Education Committee's Report concerning training colleges for both two-year as well as four-year colleges was implemented. By the end of 1950, the Gold Coast had nineteen (19) teacher training colleges, comprising eight certificate 'A' (or

four year colleges), and eleven certificate 'B' (or two-year colleges), with an estimated yearly output of some six hundred and twenty three (623) teachers. In all, there was an estimated certificated teacher output of 3,989, as at the end of 1950. Simultaneously, there was still a sizeable number of untrained or uncertificated teachers in the schools (ibid). The problem of unprofessional teachers became compounded after independence, when Ghana instituted free compulsory basic education. The supply of professional teachers was far below demand. This persisted through the 1960's to the middle part of the 1980's. As part of the 1987 educational reforms in Ghana, all unprofessional teachers in the public basic schools were laid off. Later, in the early part of the 1990's, teacher training colleges were upgraded to the current three-year Diploma awarding Colleges of Education for basic school teachers for Senior High School graduates. Thus, from this historical perspective of teacher education in Ghana, from the early 1900 to date, there has been a consistent trend to improve and upgrade teacher quality. Given this background, there is the need to investigate whether or not, Ghanaian teacher education has made any move to migrate from the traditional way of training teachers to give information to pupils and students, towards a more systematic efforts to forming a new breed of teachers, who are more flexible, adaptable, critical thinkers, more receptive to inquiry methods of teaching, innovative and creative to the demands of modern globalization and the 21st century education.

1.1.2 Globalization and teacher education for the 21st century

Teacher preparation in this 21st century cannot ignore modern globalization which has made our planet to become a global village, more connected than ever before, wired and flat (Freidman, 2007). This has precipitated a rapid migration from an economy based on traditional, industrial products, largely contingent upon physical labour and factories to a knowledge-based economy. In this knowledge-based economy, such qualities as problem solving, critical thinking, creativity, innovation, collaboration and adaptability have become and continue to become very crucial (Drucker, 1994; Scardamalia, 2000; Bereiter, 2002; Wagner, 2008; Gardner, 2008; Winner, Goldstein & Vincent-Lancrin, 2013). Improving teaching and learning to become more adaptable to the needs of this century has become a priority in every nation because education is considered a critical motivating factor for social and economic change (UNESCO, 1997; World Economic Forum, 2014). It is in this respect that how the education system, especially teacher education, is being shaped to be responsive to the demands of 21st century world, continue to receive the much needed attention. For example, the demands of postmodern society characterized by advances in high technology imply the cultivation of skills that are different from the industrial era. (Darling-Hammond, 2010). According to Robinson (2006), the current industrial model appears to have a preponderance for stifling creativity, just as in the present digitalized world, many pupils and students are growing completely different from that of their parents and teachers, (Dede; 2010; Prensky, 2010) especially, regarding how children today interact with information in the current world of multimedia. Indeed, it is reported in other parts of the world, such as Canada, that by Grade 9, over 90% of Canadian high school students raise question marks about the relevance of what they learn in schools to the demands in the labor market (Dunleavy & Willms, 2011). Considerable number of teachers in Ghana, are still rooted in

the structural models typical of the industrial era. In this model, emphasis in teaching is put on standardization and conformity, in which the teacher is considered the primary source of information (Sahlberg, 2011). The curriculum is hardly interrelated across disciplines, and students typically learn linearly based on age-levels.

1.1.3 Domains supporting transformed teaching and learning for quality teacher education.

It is within this context, that there is the need to examine domains that would support transforming teaching and learning for quality teacher education, along the following five areas. a) teachers' personal epistemology (knowledge) and personal philosophy of what teaching is about; b) teachers contextual knowledge and understanding of children, school and society; c) teachers pedagogical knowledge, theories and methods of teaching and curriculum development, d) teachers sociological knowledge of current diversity and cultural relevance and e) social knowledge of the teacher in the light of democratic group processes and conflict resolution.

1.1.3.1 Teachers' personal epistemology and philosophical understanding of teaching

Transforming teaching and learning for quality teacher education is linked to teachers' personal understanding of teaching. Teachers are likely to implement classroom teaching that resonates with their personal philosophy of teaching. For example, they would be more ready to teach using the constructivists approach than the traditional rote memorized learning (Levin & Nevo, 2009) if this ties in with their philosophy of teaching. This is because beliefs and behaviors tend to work in tandem, implying that changes in beliefs are more likely to accompany changes in behavior (Levitt, 2002; Elmore, 2002). It is in this respect that teachers' belief systems, tend to have such a powerful effect on both their classroom practices, as well as their value systems (Fullan, 2012). For example, if teachers still hold the traditional view and the philosophy that students are to receive information from teachers unquestionably, any attempt to introduce classroom teaching practices that are more progressive, interactive, constructivist and eclectic in approach becomes problematic. It is in this context, that Levin and Nevo (2009, p.440) make the submission that "...given that the strength of a belief is indicated by the person's subjective probability that he or she will live up to the behavior associated with the belief, it is important to investigate teachers' beliefs in the context of classroom experiences". Thus, teacher change is fundamentally linked to his/her knowledge and beliefs of teaching that interact with the socio-cultural milieu to bring about classroom transformation. It is in this light that Ertmer and Ottenbreit (2010, p.267) make similar conclusion that "the underlying message here is that teachers' knowledge and beliefs appear to interact with the existing culture to create action". Teachers' curricular and instructional decision, as well as their willingness to adopt new teaching methods, are critically hinged on their preparedness to re-evaluate and re-assess the epistemological values they hold about teaching and learning (Brand & Moore, 2011).

1.1.3.2 Teachers' understanding of children's behavior, the school and society

The knowledge that teachers have regarding children's behavior, the school and society, as they operate in this 21st century, is critically important. Children differ tremendously. These

individual differences in children have become more accentuated in this 21st century world of information technology and exposure to the internet, as well as the growing gap between parental socio-economic status. Increased migration has induced increasing diversity of children in many classrooms in today's schools. This places onus on the teacher, especially at the basic level of education. Additionally, the concept of schooling is no longer what we are traditionally used to, such as, school buildings and text books, which over the years, were looked upon as the basic source of knowledge and students were required to master state level examination. Society is changing fast and this traditional view of schooling is no longer tenable. This implicates the complexities confronting young people and teachers today. One typical example is the digital environment. Young people continue to browse the internet to access all kinds of information, unaware to many parents and teachers, inducing fast learning in these young men and women (Liu, 2011). Therefore, the old concept of school and schooling, is no longer structural with buildings and classrooms. This raises questions in respect of how teacher trainees come to acquire this contemporary understanding of the school. With this contemporary perception, the traditionally perceived hierarchical roles of teachers and students, as well as processes of teaching, learning, communication, and decision-making, etc., have also changed drastically. This primarily is due to the critical impact of the digital technologies, including cyber-books, on-line programs, etc. In all these changes, how does Ghanaian teacher education in the Colleges of Education, support this contemporary understanding of schools and schooling, as means to transform teaching and learning for quality teacher education? All this has implications for a social constructivism perceived as "an approach that encourages all members of a learning community to present their ideas strongly, while remaining open to the ideas of others" (Beck & Kosnik 2006, p. 8). This concept is "dependent on attitudes, emotions, values and actions" (ibid, p. 13), and it is centered upon three concepts: integration, inquiry and community." (ibid, p. 24).

1.1.3.3 Teachers' pedagogical knowledge, theories and methods of teaching and curriculum development

Every teacher trainee, after years of formation in any College/Faculty of Education, knows some strategies of teaching methods which help to provide some level of security. This notwithstanding, simply knowing the strategies of teaching methodology, does not de facto, imply that a teacher will transform teaching and learning to enhance quality education. By and large, a good pedagogy, likely to effectively transform teaching and learning for quality education, is one in which teacher develops the habit of examining given situations/contexts, be smart enough to anticipate his/her students' needs within the situation, and on the basis of those needs, to invent appropriate teaching practices. Cultivating this habit, is more a skill than just implementing specific methods of teaching that one learnt from the teacher training college or from books. It is in this context, that it is required of the graduate teacher to know his students very well, especially their needs, interests and styles of learning (Gregory & Chapman, 2007; Cowdery, Ingling, Morrow & Wilson, 2007; Nash, 2009). Every child has his/her strengths, different prior knowledge and varied attitudes towards learning. All these differences must be individually catered for in the instructional planning. In this vein, it is important for the teacher to use a multidimensional approach to teaching and learning that is

sensitive to coherence, relevance and context (Killen, 2007). This skill could be acquired, when student teachers are challenged in the Colleges and Faculties of Education to blend meaningfully subject content knowledge and pedagogical skills with students' prior experience and current teaching practice.

1.1.3.4 Sociological knowledge of the teacher

Globally, the world is experiencing sociological changes that have been unprecedented. These have direct impact on schools, and what it implies to be a teacher today. Since the ethnic revitalization movements of the 1960s and 1970s especially in the U.S., the issue of marginalized groups and their fundamental rights have become important (Carmichael & Hamilton, 1967; Sizemore, 1973; Gordon, 2001). This has implications for teacher education as means to respond to cultural identities, and the reform of curricula to commensurate with peoples' cultural experiences (Nieto, 1999; Gordon, 2001). Similarly, schools are requested to design instructional/pedagogical curricula to make them more culturally responsive to all students (Gay, 2000; González, Moll, & Amanti, 2005; Au, 2006). In this respect, new teachers are to be challenged, to have universal lenses that reflect how he/she identifies with cultural groups, and how this identification can enhance perceptions, emotions and above all classroom behaviors (Carter, 2000).

1.1.3.5 Teachers' social knowledge

The world continues to become increasingly more complex. This implies that to transform teaching and learning, we need a new breed of teachers who can work cooperatively and collaboratively to promote teacher empowerment. Such teacher empowerment can help shape teaching as a profession and make professional judgments about curricular content and instruction. Additionally, to transform teaching and learning, teacher education needs to equip trainees to be skillful in individual and group interaction. When teachers are able to demonstrate effective group interaction, professionalism and empowerment, they can be more influential, not just on students and their learning, but also enhance those principles needed in the contemporary world. In the 1980's in the U.S. for example, Little (1982) conducted research showing the benefits of teachers working together collegially. Similarly, Rosenholtz (1989) described how in schools where teachers worked collaboratively, sharing ideas and finding common problems to solutions to teaching and learning, correlated more with higher student academic achievement, than schools in which teachers tended to work in isolation

2. Present Paper

The common denominator in the above literature indicates a consistent trend, namely an upgrading in teacher education and teacher quality. For example, the teacher in Ghana in the early 1900's has shifted from the initial non-professional monitorial system to a teacher trained to transmit knowledge in the 20th century. In the 1991 Education Reform Program in Ghana, for instance, the 4-year Post-Middle School Teacher Training Program was phased out, introducing the 3-year Post Secondary Programme. Entry requirements into Colleges of Education in Ghana have been upgraded, to ensure the recruitment of students with good

grades and who also have a desire for the teaching profession (https://www.modernghana.com/ghanahome/ghana/ghana_education.asp?menu_id23). Faced with contemporary demands of the 21st century, Ghana like other nations, needs a contemporary professional teacher, who facilitates and helps students/pupils to create knowledge, to be critical thinkers, analytical and above all problem solvers. The historical antecedent of the changing nature of teachers in the above literature, seems to suggest a link between teacher upgrading and the demands of society, especially demands in the labor market. As these demands continue to grow higher, so also the training of the teacher continues to shift. With this as backdrop, this paper surveyed the perceptions of a random purposive sampling of teacher trainees, professional teachers, principals of selected Colleges of Education and other stakeholders in teacher education to find out, what in their view, constituted the predicting factors for transforming teaching and learning for quality teacher education in Ghana along three measures: a) required knowledge that teachers in training need to have to function effectively to transform teaching and learning; b) the requisite qualities and preparation needed to guide teacher education to promote a transformed teaching and learning and c) the essential things that teacher preparation should include or exclude to enhance teaching and learning.

3. Methodology

3.1 Sample and Design

This paper used a descriptive research survey design with an estimated three hundred (300) stratified purposive sampling size of teacher trainees, principals of selected Colleges of Education, and selected basic school teachers as respondents drawn from four (4) out of the ten (10) administrative regions of Ghana. These four regions were: Ashanti, (75 respondents), Brong Ahafo (75) respondents, Greater Accra (75) respondents, the Western region (75 respondents). These were randomly selected from the following categories of respondents: a) principals and retired principals of Colleges of Education (50); b) teacher trainees/students from the Colleges of Education (150); c) basic school teachers (100). In the Ashanti region, teacher trainees and past students from four Colleges of Education took part in this survey: St. Louis College of Education, Kumasi; Offinso College of Education, Offinso; St. Monica's College of Education, Mampong and Wesley College of Education, Kumasi. In the Brong Ahafo region, teacher trainees and some past students from St. Joseph College of Education, Bechem, and Berekum College of Education also participated in the survey. In the Greater Accra, some teacher trainees and past students of Accra College of Education and in the Western Region, teacher trainees and past students of Holy Child College of Education, Takoradi. The Brong Ahafo and the Ashanti regions were chosen for this survey for easy sampling for this researcher. Besides, the Ashanti region has the highest number of Colleges of Education in the country (in addition to the Volta region), as well as the highest number of basic schools and teachers. The Western and Greater Accra were also selected for this survey to cater for the southern belt of the country. It was explained to many of the respondents through telephone calls and e-mails during the long vacation, that the purpose of the study was purely academic. The over-all objective was to gauge the perception of stakeholders in teacher

education on what they perceived to be determining factors for transforming teaching and learning as far as quality teacher education was concerned. No one was coerced to participate in the study. When permissions were granted, respondents were given a survey pack with the consent form and questionnaires. In terms of gender, three quarters of the respondents were males and one-third was females.

3.2 Data Collection Instruments

Two main instruments were used to gather the data: a) a structured questionnaire titled '*Barriers to transforming teaching and learning in Ghana*' and b) an adapted variant of the *Ohio Teacher Effective Instrument*.

3.3 Procedure and Measures

The questionnaire was divided into sections measuring different variables as follows: a) biographical data of respondents, such as age, level of academic qualification (Diploma in basic education, Bachelor of Education, M.Phil/M.Ed; M.Sc, M.A), academic/administrative rank, years of engagement in the teaching profession/years of working in the Ghana Education Service; b) Using a Likert's, ranking scale, the other section of the structured questionnaire tested respondents perception of each of the three research questions: i) what knowledge should teachers in training need to have in order to transform teaching and learning?; ii) what are the qualities and preparation that should guide teacher education to transform teaching and learning for quality teacher education?; iii) what are those things that teacher preparation should include or exclude to promote teaching and learning for quality teacher education? Each of these three questions had sub questions of five (5) making a total of 15 questions. Each sub-question was scored over 6.66 giving a total score of 99.9 (100).; c) Using a variant of the Ohio teacher effectiveness evaluation, this instrument sought to measure the following four teacher effectiveness attributes: i) teachers understand student learning and development and respect the diversity of the students they teach; ii) teachers know and understand the content area for which they have instructional responsibility. iii) teachers' understand and use varied assessments to inform instruction, evaluate and ensure student learning iv) teachers plan and deliver effective instruction that advances the learning of each individual student.; v) teachers assume responsibility for professional growth, performance and involvement as an individual and as a member of a learning community. (https://education.ohio.gov/getattachment/Topics/Teaching/Educator-Evaluation-System/Ohio-s-Teacher-Evaluation-System/TeacherPerformanceRatings/Rev_TeachingProfession_aug10.pdf.aspx) Each of the four attributes had five subheadings questions totaling 20 questions. Each question was scored over 5 marks. Over-all score was marked over 100. All scores were converted into both simple percentages, and mean scores.

4. Results

4.1 Respondents Profile

In all, three hundred (300) respondents comprising three categories of stakeholders in Teacher

Education participated in this survey. One third, constituting one hundred (100) (33.33%) were basic school teachers actually involved in classroom teaching in the basic schools. Fifty (50) of the respondents (16.66%) were either retired Principals or current Principals in Colleges of Education, and the remaining one hundred and fifty (150) constituting fifty (50%) percent of respondents were teacher trainees from randomly selected Colleges of Education. Fifty (50) out of this 150 teacher trainees were from peri-urban areas, while the twenty-five (25) were from the urban areas. All the fifty (50) Principals possessed the Master's degree; out of the one hundred (100) respondent teachers teaching in the basic school, ten (10) had the Master's degree, thirty (30) possessed the Bachelor's degree, while the remaining sixty (60) had the Diploma in Basic Education. Out of the one hundred and fifty (150) teacher trainees, sixty (60), constituting 40% were from the urban areas, while the remaining ninety (90) that is about 60% were from the peri-urban and rural areas. In all, the teachers and principals had been engaged in teaching and teacher education ranging between 3-48 years. Age of respondents ranged from 18 to 60+

4.2 Knowledge Teachers in Training Need to Have to Transform Teaching and Learning

In response to the first research question on the knowledge that teachers in training need to have in order to transform teaching and learning for quality education, there were varied responses among the respondents. Ninety (90) out of the three hundred (300) respondents' constituting 30% were of the view that teachers in trainee need to have a clear understanding of their own personal epistemology (knowledge) and philosophy of what teaching is all about, while about 26.6% that is about eighty (80) respondents felt that teachers personal knowledge and understanding of children's behavior, the school and of modern society should be a vital knowledge that teachers in trainee need to have. Overwhelming majority of respondents, constituting one-third of the total respondents' (100) that is 33.33% rather considered teachers personal knowledge in content specific areas as well as solid knowledge in theories and methods of teaching and curriculum to be the overarching knowledge required of teacher trainees to be effective to transform teaching and learning. Only thirty (30) respondents, representing 10% of respondents cited teachers sociological and their social knowledge respectively as very important.

4.3 Qualities and Preparation That Should Guide Teacher Education to Transform Teaching and Learning for Quality Teacher Education

The second research question of this survey attempted to gauge respondents' views on suggestions on how teacher education as it operates in Ghana today could migrate from the teacher-centered, standardized way of training teacher trainees in order to become more context-sensitive, as well as helping trainees to not only to develop skills for knowledge and theory building, but also to strike the needed balance between theory and praxis.

Overwhelming majority of respondents concurred that teacher education in Ghana especially at the basic level of education need to avoid the simplistic and often times the misplaced overemphasis of practical training. More than half of the respondents (180) constituting 60% made the argument that classrooms, especially at the elementary level, need first and foremost to ensure that foundational knowledge in core disciplines such as Mathematics, Science and

Language are mastered by pupils. It is when the basic underlying concepts in these foundational content areas are understood, then teachers can help to deepen these basic concepts by means of a less standard and a more flexible way of teaching. Consequently, teacher preparation need to emphasize teachers' conceptual knowledge in foundational disciplines. Twenty percent representing sixty (60) respondents were of the view that, the digital technology with specific reference to information technology, need to constitute a critical component in teacher preparation. The basis for this view was underpinned by the fact that, the concept of school as social institution is gradually being modified by the digital environment, especially cyber-books and on-line programs. Teacher in training therefore needed to become abreast with this contemporary developments. The remaining twenty (20) percent also perceived student diversity as a critical component that should guide teacher education, especially within the context of unprecedented urbanization and migration of variety of children in Ghana. Additionally, clinical practice of teacher trainees in the classrooms need to emphasize teachers helping pupils to become problem solvers, and to acquire critical thinking skills.

4.4 Things That Teacher Preparation Should Include or Exclude to Promote Teaching and Learning for Quality Teacher Education

This part of the survey sought answers to the third research question. Three main areas were identified in the survey as potential barriers to quality teacher education. One hundred and ninety (190) respondents constituting some 63.33% were of the view that it is about time teacher education in Ghana migrated a from the inflexible traditional topic-centered and sequential approach to teaching and learning, to help student teachers to become abreast with programs structured and designed to equip them to become more inquiring, more critical and oriented towards problem solving. The contention of these respondents was that, when teacher trainees after four years in Colleges of Education are exposed topic-focused, sequential approach to teaching and learning, they in turn become inflexible and continue to teach the same way as they were taught while in training. Teacher education in Ghana in their view, has largely remained unchanged, and this was counterproductive to teaching and learning that is more sophisticated, flexible, holistic and integrated.

Another sixty (60) respondents which constitute twenty percent (20%), indicated that any type of pedagogy that overemphasized simply the pouring of knowledge into students is likely to ignore the following a) relating teaching and learning to practical things; b) lack of attention to student diversity and experience and c) implementing curriculum with flexibility. The remaining respondents to this question fifty (50) in number representing some 16.66 % raised very interesting points on the dual role of teacher educators in Ghana as a critical barrier: Teacher trainers have duty to implement curricula approved by the National Council for Tertiary Education (NCTE), as well as the Ministry of Education for teacher trainees. This de facto sets some limitation. Teachers involved in preparing and training teachers, cannot question approved curricula, even if in their professional expertise, they see some flaws, and this in turn precipitates the inflexibility in curricula implementation.

4.5 Measures on Teacher Effectiveness

Respondents were also asked to rate teacher effectiveness attributes in Ghana in five different measures mentioned above through Likert's scale. Out of the five measures on teacher attributes, the one that received the highest rating was that, by and large, majority of Ghanaian trained teachers know and understand the content area for which they have instructional responsibility. Fifty percent (50%) constituting one hundred and fifty (150) respondents were of this view. The attributes that received the lowest rating were teachers assuming responsibility for professional growth, which received only 13.33%, representing only forty (40) respondents, while teachers understanding and use of varied assessments to inform instruction and ensure student learning was also rated low: 19.33%, representing fifty eight (58) respondents. Individualized instruction in the sense that teachers plan and deliver lessons tailored to individual need was also very low at 15%, by forty-five (45) out of the three hundred (300) respondents

5. Discussion

The above data on the three research questions and teacher effectiveness attributes measures gauged from the respondents appear to suggest that in terms of content knowledge, half of those who took part in this survey, felt that many Ghanaian teachers knew their specific content subject areas, and were on top of that. What appeared, however, to be a potential barrier to transforming teaching and learning in Ghana was more pedagogical than content. Out of a total sample of three hundred (300) respondents, 63.33% constituting one hundred and ninety (190), which was more than half, suggested that Ghanaian teacher education was still essentially inflexible, more oriented towards topic-focused sequential approach. What was being implied is that this approach, if carried to extreme without some balance to context, especially regarding students' diversity and experience, it was more likely to undermine teacher trainees' skills to develop a habit of mind that was more inquisitive, inquiring and sensitive to the needs of students' interest and their styles of learning. This finding corroborates other research studies (Nash, 2009; Gregory & Chapman, 2007; Cowdery, Ingling, Morrow & Wilson, 2007) which put premium on teachers getting to know their students' needs, and adapt their teaching accordingly. Again, this finding also reinforces UNESCO contention that more often, inclusive education, especially in teacher education programs were treated as a stand-alone topic. In too many situations, teacher education automatically does not expose trainees to learn about inclusive education. It was certainly not part of the core curriculum for teacher education. This lapse could invigorate many teachers entrenched position, that inclusive education was a specialist issues, dealing with physically challenged students. This often made teachers unprepared to welcome student diversity (<http://unesdoc.unesco.org/images/0022/002210/221035e.pdf>). No one can deny the fact that good education, is contingent on teachers' personal attention to individual students learning style, teachers being interested in each individual student, and challenging them individually.

Teachers' professional development received very low rating on the Likert's scale from respondents. This was a clear indication that teacher education in Ghana, needed to

emphasize a more systematic and more structured approach to teachers' continuing education which goes beyond simple in-service training workshop. A more in-depth professional development of the Ghanaian teacher, focused on helping him/her to advance his/her teaching careers, along clearly defined standards was being suggested in this survey. Professional development, needed to be enhanced by helping teachers to cultivate a culture for research in areas, such as the variety of learning needs, the different environments for student learning, the indispensable role of family involvement in teaching and learning, evaluation etc. This finding strengthens recent research on teacher professional development that shows that students' achievement, notwithstanding other variables, such as parent and community development, etc. was also linked to teachers' professional competence. In all these variables, teacher professional quality is supreme (Marzano, 2003). Teacher professional development, additionally, enhances the needed knowledge base that could also help to transform quality schools (Guskey, 1995). This finding from this survey however showed, that in the perspectives of respondents, to transform and restructure quality in Ghanaian schools, there was the need to intensify a more standard way for teacher professional development as a new module for teacher education (Walling & Lewis, 2000; Cochran-Smith & Lytle, 2001) going beyond the current in-service training workshops organized for teachers.

The issue of teachers' non-involvement in curricula and instructional issues from a handful of respondents (30 respondents) also came up as potential barrier to transform teaching and learning for quality teacher education. The perception was that Ghanaian teachers including teachers in the Colleges of Education, played dual role in curricula issues: they both enforced and implemented curricula from both the Ministry of Education and the National Council for Tertiary Education (NCTE). Consequently, teachers could rarely raise objections, even if they disagreed with content and structure of the curricula for teacher education. Classroom teachers, who actually implement curricula are rarely consulted on curricula issues. This is especially so in Ghanaian Colleges of Education: the teacher educator helps teacher trainees to construct identity and develop professional competency on one hand. On the other, they also play the role of implementing state approved curricula. When teacher education operates in this manner, the teacher educator can hardly question state authority and mandate, even if he/she disagrees. When teacher trainees are trained in this way, they also accept unquestionably state mandates, which when carried to the extreme, could potentially and psychologically undermine teachers' identity formation and professional development.

5.1 Implications for Policy

The above findings especially in the context of heightened expectation of the classroom teacher, vis-à-vis the lack of capacity to building teacher efficiency in many districts, teacher unions in Ghana, and all stakeholders in teacher education, are to help bridge this gap between teacher growth, and lack of capacity building resources to accept new ways of teaching and learning, that might be diametrically different from the ways they were trained. Effective teaching and learning, by which all our younger generation would receive very solid education, is quintessentially contingent upon knowledgeable and effective teacher. Setting standards students need to know, and what they should be able to do, would come to nothing, without some criteria, to periodically assess classroom teacher effectiveness. Teacher education needs

a more professional development rubric that is simultaneously data-based, standard driven and collaboratively developed, as a framework to assess teacher quality and their possible certification into teaching.

5.2 Constraints

The findings from this survey could be said to be exploratory and are not meant to be exhaustive for two reasons: a) the survey was conducted in only four (4) out of the ten (10) administrative regions of Ghana, and thus limiting the sample size which could have possible limitation on the findings; b) secondly, precisely because it is a survey, one could hardly avoid subjectivity in respondents' views. These two constraints notwithstanding, the outcome of this paper points to certain indicators that are real in the contemporary Ghanaian situation of teaching and teacher education, as expressed here from the perspectives of teacher trainees, teachers in the classrooms, as well as stakeholders in teacher education, including selected principals and former principals of Colleges of Education. Some of the issues highlighted in this survey, if attended to, could contribute significantly towards efforts to transform teaching and learning to enhance quality teacher education.

6. Conclusion

This survey investigated the perspectives of teacher trainees and other stakeholders on predicting factors to transform teaching and learning for quality teacher education in Ghana from four perimeters: a) knowledge that teacher trainees needed to have to transform teaching and learning; b) quality and preparation needed in teacher education to transform teaching and learning, c) things to include or exclude in teacher education preparation and d) measures on teacher effectiveness. Based on the above findings, the following five major conclusions could be made: a) teachers' personal knowledge in content area was considered a priority. Most respondents scored Ghanaian teachers high on this variable; b) this notwithstanding, many teachers were perceived to lack critical inquiry skills and tended to limit teaching to topic-focused approach, which in the view of respondents, did not help students to be critical thinkers, the skill most demanded in contemporary global age; c) consequently, helping teacher trainees to migrate from the teacher-centered approach, to a more student-centered and interactive teaching was considered critical in teacher preparation, if Ghana is to transform teaching and learning for quality teacher education; d) professional competency and development of Ghanaian teachers, was scored low, and needed to be revamped from the present in-service training workshops, to a more structured professional development; and e) to help construct teacher identity, the current situation in which the Ghanaian teacher typically plays the role of simply implementing state approved curricula without questioning state authority and mandate in curricula matters, undermines teacher identity and professional development .

Acknowledgements

This author acknowledges with sincere thanks teacher trainees and principals from the selected Colleges of Education in Ghana, as well as trained teachers from Kumasi, Bechem, Berekum, Offinso, Mampong, etc. and other stakeholders, such as former principals of Colleges of Ghana who participated in this survey.

References

- Au, K.H. (2006). *Multicultural issues and literacy achievement*. NJ: Lawrence Erlbaum. <https://doi.org/10.4324/9781315045450>
- Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In G. Sykes & L. Darling-Hammond (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco: Jossey Bass.
- Beck, C., & Kosnik, C. (2006). *Innovation in pre-service teacher education: A social constructivists approach*. New York: Sunny Press.
- Bereiter, C. (2002). *Education and mind in the knowledge age*. NJ: Lawrence Erlbaum. <https://doi.org/10.4324/9781410612182>
- Berry, B. (2011). *Teaching 2030: What we must do for our students and our public schools-now and in the future*. New York: Teachers College Press
- Brand, B. R., & Moore, S. J. (2011). Enhancing teachers' application of inquiry-based strategies using a constructivist sociocultural professional development model. *International Journal of Science Education*, 33(7), 889-913 <https://doi.org/10.1080/09500691003739374>
- Carmichael, S., & Hamilton C. (1967). *Black power: The politics of liberation in America*. New York: Vintage <https://doi.org/10.4135/9781446220986.n11>
- Carter, R. (2000). Reimagining race in education: A new paradigm from psychology. *The Teachers College Record*, 102(5), 864–897. <https://doi.org/10.1111/0161-4681.00082>
- Christensen, C., Horn, M., & Johnson, C. (2008). *Disrupting class: How innovation will change the way the world learns*. New York: McGraw-Hill <https://doi.org/10.1007/s11423-009-9113-1>
- Cochran-Smith, M., & Lytle, S. L. (2001). Beyond certainty: Taking an inquiry stance on practice. In A. Lieberman & L. Miller (Eds.), *Teachers caught in the action: Professional development that matters* (pp. 45–61). New York, NY: Teachers College Press.
- Cowdery, J. R., Ingling, L., Morrow, L. E., & Wilson, V. A. (2007). *Building on student diversity: Profiles and activities*. United States of America: Sage Publications.

<https://doi.org/10.4135/9781452232348>

- Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future*. New York, NY: Teachers College Press.
<http://dx.doi.org/10.18676/cadernoscenpec.v2i2.191>
- Darling-Hammond, L., & Sykes, G. (1999). *Teaching as the learning profession: Handbook of policy and practice*. San Francisco: Jossey-Bass Publishers
- Dede, C. (2010). Transforming education for the 21st century: New pedagogies that help all students attain sophisticated learning outcomes. NCSU Friday Institute. Retrieved 15th July, 2017 from thenetwork.typepad.com/files/dede_21stc-skills_semi-final.p
- Drucker, P. (1994). The age of social transformation. *The Atlantic Monthly*, 274, 53-80.
- Dunleavy, J., & Willms, J.D. (2011). Are Canadian students engaged? *Canadian Educational Association*.
- Elmore, R.F. (2002). *Bridging the gap between standards and achievement: The imperative for professional development in education*. Washington, DC: Albert Shanker Institute
- Ertmer, P.A., & Ottenbreit-Leftwich, A.T. (2010). Teacher technology change: How knowledge, confidence and beliefs, and culture intersect. *Journal of Research on Technology Education*, 42(3), 255-284.
<http://dx.doi.org/10.1080/15391523.2010.10782551>
- Freedman, B. (2007). *Looking for leadership: Increasing principal presence through classroom-walk-throughs and the resulting influence on principal-teacher relationships*. Doctoral Thesis: OISE/University of Toronto
- Fullan, M. (2012). *Stratosphere: Integrating technology, pedagogy, and change knowledge*. Toronto: Pearson.
- Gardner, H. (2008). *5 Minds for the future*. Boston: Harvard Business School Press:
- Gay, G. (2000). *Culturally responsive teaching: Theory, research, and practice*. New York: Teachers College Press.
- González, N., Moll, L. C., & Amanti, C. (2005). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Mahwah, NJ: Lawrence Erlbaum.
<http://dx.doi.org/10.4324/9781410613462>
- Gordon, B. M. (2001). Knowledge construction, competing critical theories, and education. In J. A. Banks & C. A. M. Banks (Eds.), *Handbook of research on multicultural education* (pp. 184-199). San Francisco: Jossey-Bass.
- Gregory, G. H., & Chapman, C. (2007). *Differentiated instructional strategies: One size doesn't fit all*. United States of America: Corwin Press
- Guskey, T. R. (1995). *Professional development in action: New paradigms and practices*. In

- T. R. Guskey & M. Huberman, (Eds.) New York: Teachers College Press.
- Hiebert, Gallimore, & Stigler. (2002). Closing the teaching gap: Assisting teachers to adapt to change retrieved 15th July, 2017 from <http://ronaldgallimore.com/resources/Misc.-PDFs/GallimoreStigler.pdf>
- Hilliard, F.H (1957). *A short history of education in Ghana*. London: Longmans Green & Sons Co. Ltd.
- Killen, R. (2007). *Effective teaching strategies: Lessons from research and practise* (4th ed.). South Melbourne: Thomson Social Science Press
- Levin, T., & Nevo, Y. (2009). Exploring teachers' views on learning and teaching in the context of a trans-disciplinary curriculum. *Journal of Curriculum Studies*, 41(4), 439-465. <http://dx.doi.org/10.1080/00220270802210453>
- Levitt, K.E. (2002). An analysis of elementary teacher beliefs regarding the teaching and learning of science. *Science Education*, 86(1), 1-21 <https://doi.org/10.1002/sce.1042>
- Little, J.W. (1982). Norms of collegiality and experimentation: Workplace conditions of school success. *American Educational Research Journal*, 19, 325–40. <https://doi.org/10.2307/1162717>
- Liu, F. (2011). *Urban youth in China: Modernity, the internet and the self*. New York: Routledge
- Marzano, R. J. (2003). *What works in school: Translating research into action*. Alexandria, VA: Association for Supervision and Curriculum Development.
- McWilliam, H.O. A (1959). *The development of education in British West Africa*. London: Thomas Nelson & Sons Ltd.
- Myjoyonline News. (2012, February, 23). Government must address poor performance in schools GNECC, Myjoyonline.com/education. Retrieved 12th July, 2017 from <https://www.newsghana.com.gh/government-must-address-poor-performance-in-schools-gnecc/>
- Nash, R. (2009). *The active classroom: Practical strategies for involving students in the learning process*. United States of America: Corwin Press <http://dx.doi.org/10.4135/9781452219158>
- Nieto, S. (1999). *The light in their eyes: Creating multicultural learning communities*. New York: Teachers College Press. Oaks, CA: Corwin.
- Prensky, M. (2010). *Teaching digital natives: Partnering for real learning*. Thousand Oaks, CA: Corwin Retrieved July 15th from <http://www.cea-ace.ca/sites/cea-ace.ca/files/cea-2011-wdydist-infographic.pdf>
- Robinson, K. (2006). How schools stifle creativity. *TED Talk*.
- Rosenholtz, S. (1989). *Teacher's workplace: The social organization of schools*. New York:

Longman.

- Sahlberg, P. (2011). *Finnish lessons: What can the world learn from educational change in Finland?* New York: Teachers College Press.
- Sanders, W., & Hors, S (1998). Research findings from the Tennessee value-added assessment systems (TVAAS) data base: Implications for educational valuation and research. *Journal of Personnel Education in Education*, 12(3), 247-256.
- Scardamalia, M. (2000). Social and technological innovations for a knowledge society. In S. S-C. Young, J. Greer, H. Maurer, & Y.S. Chee (Eds.), *Proceedings of the ICCE/ICCAI 2000: volume 1. Learning societies in the new millennium: Creativity, caring commitments*. (pp. 22-27). National Tsing Hua University, Taiwan: Taipei. Retrieved July 15, 2017 from: https://portal.utoronto.ca/bbcswebdav/xid-1113975_1
- Sizemore, B. A. (1973). Shattering the melting pot myth. In J. A. Banks (Ed.), *Teaching ethnic studies: Concepts and strategies* (43rd Yearbook, pp. 72-101). Washington, DC: National Council for the Social Studies.
- Stigler, J.W., & Hiebert, J. (2004). Improving mathematics teaching. *Educational Leadership*, 61(5), 12-17.
- Stigler, J. W., & Hiebert, J. (1999). *The teaching gap; Best ideas from the world's teachers for improving education in the classroom*. New York, NY: The Free Press <https://doi.org/10.1080/00220270050167215>
- Thompson N.M., & Leslie C. H (2008). *The financing and outcomes of education in Ghana*, Research Consortium on Educational Outcomes and Poverty, Working Paper, 16.
- United Nations Educational Scientific and Cultural Organization. (1997). Educating for a sustainable future. Retrieved 5th July, 2016 from www.unesco.org
- Wagner, T. (2008). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need- And what we can do about it*. New York: Basic Books
- Walling, B., & Lewis, M. (2000). Development of professional development pre-service teachers: Longitudinal and comparative analysis. *Action Teacher Education*, 22(2a), 63-67. <http://dx.doi.org/10.1080/01626620.2000.10463040>
- Wenglinsky, H. (2000). How teaching matters: Bringing the classroom back into discussions of teacher quality. ETS Policy Information Center Report. Retrieved July 15, 2017 from https://www.ets.org/research/policy_research_reports/publications/report/2000/idxn
- Winner, E., Goldstein. T., & Vincent-Lancrin, S. (2013). *Art for art's sake? Overview*. Paris: OECD publishing <http://dx.doi.org/10.1787/9789264180789-en>
- World Economic Forum. (2014). *Education and skills 2.0: New targets and innovative approaches*. Geneva: Switzerland. <http://dx.doi:10.1080/03004431003654925>

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