UNIVERSITY OF EDUCATION, WINNEBA

A COMPARISON OF TEACHING EFFECTIVENESS OF ELECTIVE AND NON-ELECTIVE PHYSICAL EDUCATION TEACHERS FROM COLLEGES OF EDUCATION ON STUDENTS LEARNING OUTCOME IN BRONG AHAFO REGION GHANA.

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DECLARATION

CANDIDATE'S DECLARATION

I, Stephen Kyeremeh declare that this Thesis, with the exception of quotations and references contained in published works, which have all been identified and duly acknowledged, is entirely my own original work, and has not been submitted, either in part or whole for another degree elsewhere.

SIGNATURE: ……

DATE: ….……

SUPERVISOR'S DECLARATION

I declare that the preparation and presentation of the Thesis were supervised in accordance with the guidelines on supervision of Thesis laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: ……..

SIGNATURE: ……..……

DATE: ……..……

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DEDICATION

I dedicate this work to my dear wife Bernice Kyere Dwomo and children Joana Annette Kyeremeh, Ryan Edwin Kyeremeh and Julian Benjamin Ampaabeng Kyeremeh for their love, support and understanding that they gave during this work. A special dedication also to my parents, Ms. Rose Cecilia Anomah and my late father Nana Ampaabeng Kyeremeh II (Nsoatre traditional council) who invested in my education to become who I am today.

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ABSTRACT

The purpose of the study was to compare two sets of teachers: one set of which took physical education as an elective course during their pre service preparation while the other set only studied it as a general compulsory course during pre-service preparation. The study was focused on what they do in the name of physical education on the field of work. The study also sought to describe the association(s) that may exist between these two sets of teachers and the students' products from their schools. Descriptive survey and correlational design methods were used. The population consisted of physical education teachers and students in basic education schools within the catchment area of Tano North and South Districts of the Brong-Ahafo Region of Ghana. The sample was made up of 40 physical education teachers within the catchment area of Tano North and South Districts of the Brong-Ahafo Region of Ghana. The population was made up of 20 physical education elective teachers and 480 non-physical education elective teachers. In all, 200 students were selected from the participating teachers classes (i.e. 5 students from each teacher's class) were used for the study. A class observation form was adapted from the Community College of Aurora's Mentor Program Handbook and Staffordshire University's Guidelines for the observation of teaching. The findings revealed that there was significant difference between the two set of teachers ($t(39) = -12.26$, $p < .05$). Except for the reasons assigned to affect the teaching of physical education at the basic education in the two districts. Based on this, a number of recommendations have been made to district education offices, and when followed would improve the teaching and learning of physical education in Ghana, in particular.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Teachers play a major role in the lives of their students. It is not, therefore, surprising that teacher training is on the priority list of the national educational programmes of Ghana. The key role of teachers in the development of educational systems and policies of the country cannot be underestimated. It has become a worldwide recognition that the quality of teachers and teaching are among the most important factors shaping the learning and growth of students. Teachers come with a variety of abilities, standards and specializations to their field of work, each with the intention to work and achieve the educational goals of the nation. Teachers stand out as a key factor to realising the high standards that are increasingly emphasized in schools and school systems across the country.

The resource-intensive nature of teachers coupled with the empirical evidence documenting the critical role of teacher quality in realising student achievement implies that teacher policy is a promising avenue toward better realising goals of efficiency, equity, and adequacy in public education (U.S. Department of Education).

Students teaching and related school experiences have emerged as an entrenched and widely accepted component of teacher preparation as noted by Guyton and McIntyre (1998). A teacher not only implement the specifications of the syllabus but also modifies the teaching-learning environment through provision of teaching learning materials, ability groupings and personal factors like nature, interest, and code of conduct.

The above statement signifies that there is a real challenge for teachers creating an environment in the classroom where redesigning of knowledge, stimulation of intellectual curiosity, and preparing students towards innovative and independent thinking to take place. To inculcate these attributes in teachers, teacher training

programmes must put utmost stress on developing such skills among student teachers. One factor remains that during teaching practice, as part of their pre service preparation, the novice teacher trainee uses teaching skills strictly per guidelines given by the teacher educator in respect for scoring marks, but this state of affairs become different in real classroom situations.

Governments in Ghana over the years have committed to governor Guggisberg's sixteen (16) educational principles as the brain child of Ghana's educational system. In the context of physical education, the governor categorically stated that organized games and sports should form part of the school's curriculum, (Dzobo Education Reforms of 1974 cited in Anum-Odoom M.K.A. 2007) which we are witnessing today.

Ghana has over forty colleges of education. Specifically, thirty eight of these colleges are public institutions with the rest being private. These institutions provide trainees with content and pedagogical skills that will enable them to acquire competencies necessary to function as autonomous teachers upon completion.

Higher educational institutions (Colleges of Education) provide necessary training and unique opportunities for individual trainees towards their future professional careers as teachers by acquainting students with pedagogical and content knowledge in an intellectual environment.

It becomes conceptually clear therefore that with the exception of the hidden curriculum, and its related experiences, the learning entitlement for every Ghanaian student reflects through the specifications of curriculum content. The curriculum is to enhance student's capability to learn and describe the knowledge, understanding and skills that young people are expected to learn across the years of their schooling.

The apparent esteem accorded teacher preparation in the country pre-disposes that it is grounded in a sound theoretical (content) and pedagogical (methods) foundation with general agreement concerning its structure and activities (Guyton & McIntyre, 1990).

It is however an observation of concern, that by national policy the curriculum of an integral subject like physical education at the colleges of education, draws disparities in the professional preparation of its teaching personnel to manned and implement the basic education syllabus of the subject within the country.

Despite general agreement about the importance of high-quality teachers, researchers, practitioners, policy makers, and the public have been unable to reach a consensus about what specific qualities and characteristics make a good teacher. Even more concerning is the array of policy statements regarding teacher preparation that have been set forth in the face of volumes of inconclusive and inconsistent evidence about what teacher attributes really contribute to desired educational outcomes (Jennifer, 2003).

Jennifer (2003) stated that the willingness of policy makers and taxpayers to devote large amount of national money in the education of teachers highlights the undisputed importance of teachers in realizing educational goals.

The national policy concerning physical education in the Colleges of Education stipulates that the subject become compulsory in the second semester of first year but however becomes an elective during the second year of the programme. The danger lies in the envisaged attempt to model an image of teaching which does little to ones aptitude to deal with variety of classroom situations and experiences that may occur hence many teachers often face enormous difficulty in providing safely planned and

structured lessons which has led to considerable criticism with many doubts about the status of the subject and the quality of teaching (Gard & Fry, 1997).

The thirty – eight public colleges of education are mandated to produce qualified teachers to the public basic education schools. These classroom teachers by mandate are best placed to teach the curriculum and have the total responsibility for the physical education instruction of their students, but several studies have described the lack of qualification of the teachers to deliver quality physical education programmes largely as a result of inadequate teacher training in physical education as noted by Moore, Webb and Dickson (1997).

The training of physical education teachers in Ghana was done outside the country before 1951 with the intended view that their return upon completion will boost the development of the subject. The training of Physical Education personnel began locally at Achimota College as a one year certificated course. In 1975 three colleges were tasked to prepare more Physical Education personnel when they were to run a post secondary Physical Education bias. The colleges assigned to this task were St. John Bosco‘s College of Education, Navrongo, St Francis College of Education Hohoe and later by Wesley College of Education, Kumasi. In the year 1990, Physical Education was made compulsory at the post secondary teacher training colleges in the country and was examined as one of the final part one courses. The subject has remained examinable to date in the colleges of education.

The researcher would not want to agree with the assertion that the teaching profession and for that matter physical education teacher preparation is reduced to a set of skills and abilities related to the practice, lacking the essentially technical dimension of content and pedagogical action, its best methods and techniques but recognise that the

educational experiences of pre-service teachers when school students plays a significant part in shaping and moulding their understanding of what it is to be a physical education teacher and how teaching should be enacted (McNeill, Fry, Wright, Tan, Tan & Schempp, 2004).

Physical education curriculum should engage student teachers directly with the role of teacher education in progressing curriculum innovation from pre service coursework into schools as they (pre-service teachers) translate the curriculum and pedagogical knowledge addressed in coursework into enacted curriculum while on professional teaching practice.

Tinning, Macdonald, Wright and Hickey (2001) noted that: ―With student teachers, it is no secret that it is during their pre service training that most teachers experience the most intensive training phase of their professional lives. It stands to reason that the pre service phase presents itself as an ideal forum through which new curriculum models can be efficiently and effectively introduced" (p. 230).

It is very surprising that different and various forms of approaches and practices are evident across the country in regards to physical education teacher's pre service preparation being characterised by diversity but with some elements of congruence in concepts and delivery.

Physical education is often advocated as a lifelong process characteristic from early childhood, perceived to be, throughout adulthood and epitomised in the notion of the ―physically educated person'.

Physical education provision during compulsory schooling years varies across regions and countries according to age or year stage of attendance. The start-end years'

continuum and associated access to physical education are significant for individual development and continuing participation in physical activity (NASPE).

The qualities of an effective teacher include one who is intellectually effective, uses various approaches while teaching and helps students to achieve high performance. These foremost teaching behaviours have been supported by Rosenshine &Frust (1971), Wang, Walberg & Haertal (1990), Good & Brophy (1994) and Borich (1988).

The extent to which students learn to pursue active, healthy lives depends substantially on the preparation on their teachers and in the teaching of physical education (commission on teacher credentialing, 1994).

Children lack the knowledge of adults in order to be mature and wise. They do not automatically develop the skills, knowledge, attitudes and behaviours that lead to regular and enjoyable participation in physical activity. They must be taught (Curry 2011). The responsibility of this instruction is vested primarily in physical education programmes in the schools. Cognizance is being taken of the argument that the provision of teachers of high quality should be given top priority.

Examples of physical education teaching from across the world show disparities between state policy legal requirements and implementation with clear indications of non-compliance with regulations and especially so in countries where curriculum responsibility lies with education districts or individual schools and are, therefore, subject to local interpretations:

–Legal status is the same, but in practice not. The inadequate knowledge effects of physical education curriculum at schools have led to situations where implementation

of physical education is not done according to the regulations concerning the weekly lessons‘ (Jennifer K. 2003).

In Ghana, colleges of education are classified into the arts and the sciences. Student teachers who are enrolled in these sciences oriented or bias institutions don‘t even undertake physical education as a course in their pre service preparation. However, these students upon completion are expected to teach physical education as subject at the basic education schools. The arts oriented colleges of education who enroll student teachers that undertake physical education as a general compulsory course do so by introducing them to solely the theoretical content knowledge of the subject. Student teachers who proceed to undertake the course as an elective course in the first semester of the second year are then introduced to the pedagogical content knowledge of the subject.

Given the importance of subject knowledge and subject-specific pedagogical knowledge (Schempp, Manross, Dan, & Fincher, 1998; Schulman, 1986), it makes sense that physical education teachers must be able to acquire the same intensive and subject-specific training which will enable them to be more likely to teach all areas of a physical education curriculum and deliver physical education confidently and accurately (DeCorby, Halas, Dixon, Wintrup, & Janzen, 2005).

Time devoted to physical education has often been lost due to pressures to meet literacy and numeracy targets (Harrison and Warburton, 1998). However, teachers typically receive limited time and course content [as little as two credit hours] in their teacher preparation (Oxley, 1998; Warburton, 2000) and the extent to which this input meets teachers‘ needs has been questioned (Carney and Chedzoy, 1998).

The concern that a number of a nation‘s teachers being under qualified has focused attention on their pre-service preparation. The nation‘s teacher preparation programmes are good at churning out teachers but far less successful at ensuring that those teachers meet the need of public schools and students (Aldeman, Carey & Erin, 1993). Teacher quality is no doubt one of the most important school related factors influencing students achievement hence improvement of teacher quality is not likely to be realised through the status quo rather teacher policies need to reflect the realities that, teaching is a complex activity influenced by the elements of teacher quality(Aldeman, Carey & Erin, 1993).

The National Center for Education Statistics – USA stated that ―the nation‘s educational system is increasingly being asked to provide our children with the knowledge, information and skills needed to compete in a complex international market place and as such credible teachers are the hallmark of such educational system because they are integral to children‘s intellectual and social development”.

Hardman and Marshall drew attention to an inescapable reality: Physical education, as a curricular subject, was facing a comprehensive threat to its existence. Hardman and Marshall‘s (2001) international survey research highlighted the deteriorating state of physical education in schools worldwide. From one jurisdiction to the next, status reports on physical education highlighted decreased time in the curriculum; inadequate financial, material, and personnel resources; low subject status and esteem; and marginalization by school authorities. Ghana is not an exception to this finding, where physical education is being observed by many basic education schools as games time.

In fact, the emergence of a strong body of qualitative research in the physical education literature has described, often in poignant detail, the abject failure of physical education to engage students positively in physical education class (e.g., see Carlson, 1995; Champagne & Halas, 2003; Ennis et al., 1997; Fitzpatrick, 2001; Hopple & Graham, 1995; Humbert, 1995; Portman, 1995).

Despite policy requirement towards physical education teaching in basic schools or as a matter of general practice, such provision is far from being realised. The observed state of affairs on official policy and regulations and actual practice in the teaching of physical education is geographically widespread.

Among the factors contributing to it are seen in devolvement of responsibilities for curriculum implementation, loss of time allocation to other competing prioritised subjects, lower importance of school physical education in general, lack of official assessment, financial constraints, diversion of resources elsewhere, inadequate material resources, deficiencies in numbers of qualified personnel and attitudes of significant individuals such as head teachers. Such a position led the researcher to undertake this study.

1.2 Statement of the Problem

Quality teachers are a priority to the educational needs of every country. In Ghana, colleges of education by policy have the mandate to produce quality teachers to man and implement the basic education curriculum. Physical education teachers are no exception to this mandate. Their preparation is cast in doubt because the subject has suffered considerable criticisms with many doubts about the status of the subject and the quality of the teaching (Gard & Fry, 1997). The teaching of physical education

within the Tano North and South districts basic education schools of the country is in a state of doubt.

As observed by the researcher through interviews on first year students, it came out that these students have little knowledge about physical education being taught as a course or subject. An attention was drawn to the national policy on the subject at the colleges of education within the country.

The national policy concerning physical education in the Colleges of Education stipulates that the subject becomes compulsory in the second semester of the first year but however becomes an elective course during the second semester of the second year of the programme. More of concern was the fact that the science oriented Colleges of Education, do not even undertake physical education as a course at all. However, products from the colleges of education are all expected to teach all basic education subjects of which physical education is not an exception.

The danger lies in the envisaged attempt to model an image of teaching which does little to ones aptitude to deal with variety of classroom situations and experiences that may occur (Hickson & Fishburne, 2001).

The demise of the subject is eminent as noted by Hardman and Marshall (2000) when they drew attention to an ―inescapable" reality that physical education as a curricula subject has been faced with comprehensive threats to its existence.

Teacher quality is no doubt one of the most important school related factors influencing students achievement hence improvement of teacher quality is not likely to be realised through the status quo rather teacher policies need to reflect the realities that, teaching is a complex activity influenced by the elements of teacher quality.

Physical education, a core subject in the first year in the programme of colleges of education in Ghana becomes an elective course in the second year accounting for a pre-service lapse among a number of teachers. The concern that a number of a nation‘s teachers being under qualified has focused attention on their pre-service preparation (Ravitch, 1998). Why must teachers be prepared differently yet they are expected to implement the same curriculum?

The nation‘s teacher preparation programmes are good at churning out teachers but far less successful at ensuring that those teachers meet the need of public schools and students (Aldeman, Carey & Erin, 1993).

It is worthwhile to study these two sets of teachers on what they do in the name of physical education on the field of work concerning quality physical education programme.

1.3 Purpose of the Study

The purpose of the study was to compare two sets of teachers; one set of which took physical education as an elective course during their pre service preparation while the other set only studied it as a general compulsory course during pre service preparation. The study will focus on what they do in the name of physical education on the field of work. The study also seeks to describe the association(s) that may exist between these two sets of teachers and the students‘ products from their schools.

1.4 Objectives of the Study

The objectives of the study are to;

- Examine the teaching effectiveness of the two sets of physical education teachers in the field of work.
- Examine the impact of instruction provided by the two sets of teachers in physical education on their students.
- Identify some of the reasons affecting the teaching of physical education as a subject to students at the basic education schools in the districts.

1.5 Hypotheses

The following two hypotheses and a research question were raised for the study:

1. **H_0:** There would be no significant difference between the teachers from the Colleges of Education who offered physical education as an elective course and those who didn't offer physical education as an elective course on their teaching effectiveness.
2. **H_0:** There would be no significant difference between the two sets of teachers from the colleges of education on the impact of student learning outcome.

1.6 Research question

1. What are the reasons affecting the two sets of teachers on the teaching of physical education as a subject to students at the basic education.

1.7 Significance of the Study

The study would examine the impact of instruction from two sets of physical education teachers who have had different training backgrounds and what impact these different training backgrounds will have on student learning outcome. It would also examine the critical issues pertaining to teacher preparation in physical education based on the policy on the subject at the colleges of education. The study would also

provide data which can serve as a springboard for further research into other areas of physical education.

1.8 Delimitations of the Study

The target population was physical education teachers and students in basic schools within the catchment area of Tano North and South Districts of the Brong-Ahafo Region of Ghana.

1.9 Limitation of the Study

Student‘s previous knowledge may play a major role in their performance outcome which is beyond the researcher‘s control.

1.10 Operational Definition of Terms

Teacher Effectiveness – teacher‘s educational activity that brings about desired student learning outcome. Teachers are viewed as effective in their teaching when students achieve intended learning outcomes (Berliner, 1987; Brophy, 1979; Gage, 1978; Harris, 1999; Rosenshine, 1987).

Teacher‘s Training - the content and pedagogical skills acquired during pre-service preparation.

Lesson Presentation - teacher activity in reference to all aspects of lesson organization and its implementation. The teacher‘s ability to carry out the task of teaching to warrant learning outcome.

Elective Course - an optional course of study.

General Compulsory Course - universal course of study to be pursued without

fail.

Elective Teacher – a teacher who offered physical education as an optional course of study.

Non – Elective Teacher – a teacher who didn‘t offer physical education as an optional course of study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter contains the summary of the writings of recognized authorities and of previous researches done on the problem under investigation. The review was organized under the following subheadings:

1. Conceptual framework
2. Implications for Teacher Education and Development
3. Effective Teacher
4. The Critical Importance of Well-prepared Teachers for Student Learning and Achievement
5. Schemes of Teacher Appraisal
6. Evaluating Teacher Effectiveness
7. Theory of Teaching
8. How Children Learn
9. Teacher Preparation and Student Performance at the School Level
10. Summary of Literature Reviewed

2.1 Conceptual Framework

The study is based on the Framework of Total Teacher Effectiveness which is also based on Cheng (1996a) and Cheng &Tsui (1996), the framework of total teacher effectiveness is proposed, as follows:

Levels of Teacher Effectiveness: As teachers work as teams or groups may not only use their energy effectively but also create new energy. It is obvious that when

teachers act as a whole, they may have a better chance to influence and change the constraints given by the external and internal teaching contexts. Therefore, the consideration of teacher effectiveness should include not only the individual level but also the group and school levels.

Domains of Effectiveness: The consideration of teacher effectiveness should include the quality of teacher competence and performance in various domains such as the behavioral domain, the affective domain, and the cognitive domain; and that this teacher quality may exert effects on students in various domains accordingly.

Total Teacher Effectiveness; Taking the three domains (affective, behavioral, and cognitive domains) and the three levels (individual, group, and school levels) into consideration, the nature and characteristics of teacher effectiveness should be studied at multi-levels and multi-domains. The conceptual framework of total teacher effectiveness for describing the complicated nature of teacher effectiveness is illustrated as shown in Figure 1. (Cheng &Tsui1996).

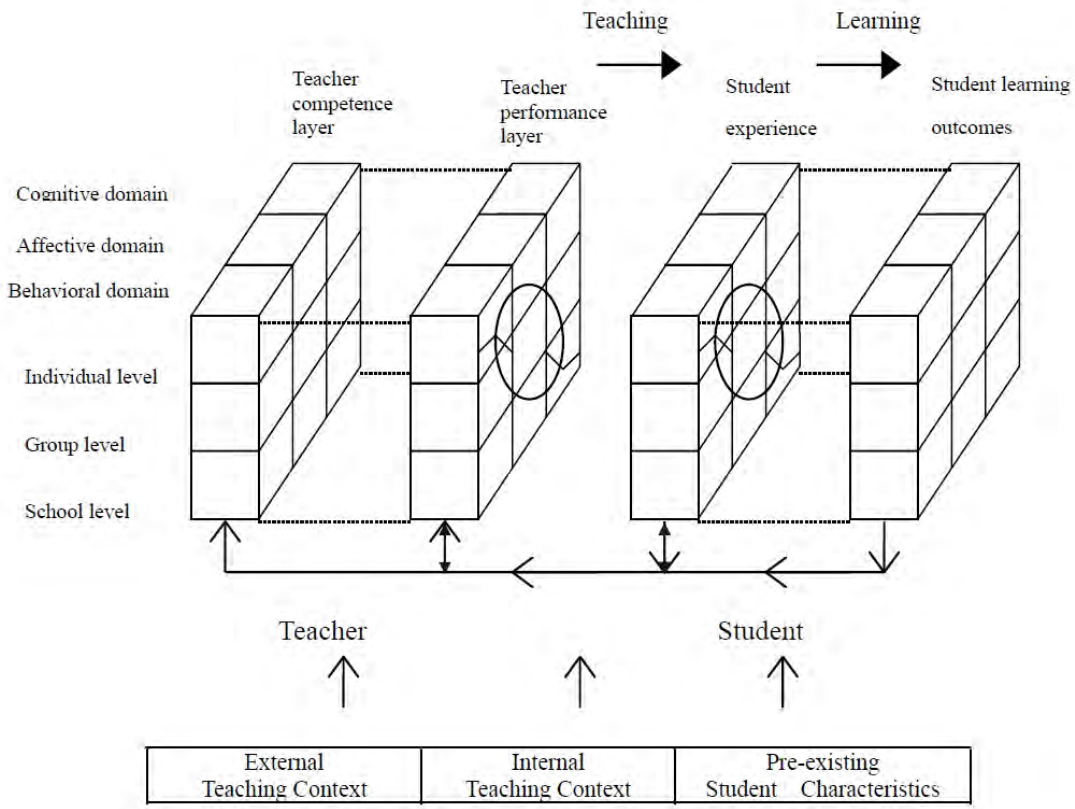

Figure 1: Conceptual Framework of Total Teacher Effectiveness

(Adapted from Cheng & Tsui,1996)

The conception of total teacher effectiveness involves two important categories of actors (teachers and students) at three different levels (individual, group, and school). The processes and effects of teaching and learning may happen in the behavior, affective, and cognitive domains of different actors at different levels. Specifically, teacher effectiveness should involve the behavioral, affective, and cognitive performance of all teachers and students at individual, group, and school levels. As shown in Figure 1, it is related to the teaching and learning process involving teacher competence layer, teacher performance layer, student experience layer, and student learning outcome layer. The teacher competence layer is the total behavioral,

affective, and cognitive competence of teachers at the individual, group, and school levels.

This layer represents the total static quality of teachers. The teacher performance layer is the total performance of teachers in the three domains at the three levels. It represents the total dynamic quality of teachers in teaching process.

In general, the quality of teacher performance layer is positively associated with the quality of teacher competence layer.

In addition, the relationship between these two layers can be moderated by the influence of external teaching context (e.g. organizational factors, leadership, and school environment, etc.).

The student experience layer represents the total learning experience of students in the three domains at the individual, group, and school levels. And the student learning outcomes layer represents the total learning outcomes of students in the three domains at the three levels. In general, the quality of teacher performance layer as a whole has a positive impact on the quality of student learning experience layer and the latter has a positive relationship with the quality of student learning outcomes layer. Again, these relationships may be affected by the characteristics of internal teaching context (including student subculture, classroom climate, student ability grouping, learning environment, etc.).

2.2 Implications for Teacher Education and Development

In order to maximize teacher effectiveness, teacher education should aim to develop whole teacher competence layer and whole teacher performance layer in addition to

individual teacher competence or performance. In other words, teacher education or staff development should cover the affective, behavioral, and cognitive domains at the individual, groups, and school levels.

According to the concept of congruence in system (Cheng, 1996a), whether teacher competence is congruent across the affective, behavioral, and cognitive domains and across the individual, group, and school levels (i.e. congruence within the teacher competence layer) can affect the contribution of the teacher competence layer to the teacher performance layer. The more the congruence of teacher competence across domains and across levels, the more the contribution of teacher competence layer to teacher performance layer. The congruence across domains represents the extent to which affective competence, behavioral competence, and cognitive competence of teachers are mutually supported and reinforced in contributing to teachers‘ action and performance. The congruence across levels represents the extent to which the competence of individual teachers, groups of teachers, and whole school teachers is mutually supported and reinforced in contributing to teachers‘ action and performance. Similarly, the more the congruence of teacher performance across domains and across levels (i.e. congruence within the teacher performance layer), the more the contribution of the teacher performance layer to the student learning experience layer. Also the more the congruence of student learning experience across domains and across levels (i.e. congruence within the student learning outcomes layer), the more the contribution of the student learning experience layer to the student learning outcomes layer.

Based on the concept of congruence within layer, the approach to developing teachers and their effectiveness should include assurance of congruence within the teacher competence layer and within the teacher performance layer.

This holistic approach is very different from the traditional thinking of teacher development that focuses only on fragmentary and overt aspect of teacher performance without taking totality and congruence into consideration.

According to Tam and Cheng (1994) and Cheng (1996a, b), development cycle can be used to strengthen the quality of teacher layers and ensure congruence within teacher layers. Specifically, a long-term program of teacher education and development may be established at the individual, group, and school levels to facilitate their reflection on the congruence between values and beliefs of education and management in school and the congruence of performance in their affective, behavioral or technical, and cognitive domains. And the development program supports them to make a continuous self learning cycle for their own development and improvement. This is in line with literature in the field of teacher development and school changes (Cheng, 2001; Fullan, 1992; Hargreaves, 1994; Mok& Cheng, 2001; Rosenholtz, 1989; Rosenholtz & Simpson, 1990; Whitaker, 1993).

The development cycle may start at individual teacher level and focus on overt performance, mastering teaching and classroom management techniques. Then, teachers should be supported to have opportunities at the individual, group, and school levels to reflect on their values, beliefs and meanings of education and school management. From the reflection by themselves or among themselves, they can reorganize their cognitive structure, re-shape their teaching styles and re-establish their professional confidence and commitment. Through self-learning as an individual

or as a group, they are more willing to cooperate and capable to achieve better teaching performance (Fullan, 1992; Mok & Cheng, 2001; Sergiovanni and Starratt, 1993). A substantial literature supports that no matter whether at individual level, the group level, or the whole school level, teachers' performance is linked with their beliefs, attitudes, satisfaction, commitment, sense of achievement (Cheng, 1996c). Therefore, the development cycle should include a strong component on the affective and cognitive domains in addition to the behavioral or technical component for teachers at multi-levels. Various forms of activities for teacher education and development can be designed to achieve different development objectives for teachers as well as administrators at different levels.

In sum, from the implications of total teacher effectiveness, teacher education and development should be conceptualized as a continuous life-long process involving not only pre-service but also in-service education; not only individual teachers but also groups of teachers and the whole school; and developing not only skills or behavioural competence but also affective and cognitive domains as a community of teaching professionals.

2.3 Effective Teacher

In recent years, national, state, and local policymakers and educators in the USA have launched efforts to improve education by creating a fundamental shift in what children learn and how they are taught. If children are to achieve at levels demanded by the high standards that states and districts have adopted, however, teachers will have to help them do so. Teachers are necessarily at the center of reform, for they must carry out the demands of high standards in the classroom (Cuban, 1990). Thus, the success of ambitious education reform initiatives hinges, in large part, on the

qualifications and effectiveness of teachers. As a result, teacher professional development is a major focus of systemic reform initiatives (Corcoran, 1995; Corcoran, Shields, & Zucker, 1998).

To carry out the demands of education reform, teachers must be immersed in the subjects they teach, and have the ability both to communicate basic knowledge and to develop advanced thinking and problem-solving skills among their students (Loucks-Horsley, Hewson, Love, & Stiles, 1998; National Commission on Teaching and America's Future, 1996). The central elements of systemic reform-high standards, curriculum frameworks, and new approaches to assessment aligned to those standards-generate new expectations for teachers' classroom behaviors, as well as for student performance (Bybee, 1993; National Council of Teachers of Mathematics, 1991; National Research Council, 1996; Webb & Romberg, 1994).

However, although teachers generally support high standards for teaching and learning, many teachers are not prepared to implement teaching practices based on high standards (Cohen, 1990; Elmore & Burney, 1996; Elmore, Peterson, &McCarthey, 1996; Grant, Peterson, &Shojgreen-Downer, 1996; Sizer, 1992). Many teachers learned to teach using a model of teaching and learning that focuses heavily on memorizing facts, without also emphasizing deeper understanding of subject knowledge (Cohen, McLaughlin, &Talbert, 1993; Darling-Hammond & McLaughlin, 1995; Porter & Brophy, 1988). Shifting to a more balanced approach to teaching, which places more emphasis on understanding subject matter, means that teachers must learn more about the subjects they teach, and how students learn these subjects.

The continual deepening of knowledge and skills is an integral part of any profession. Teaching is no exception (Shulman & Sparks, 1992; National Board for Professional

Teaching Standards, 1989). Research indicates that teacher preparation/knowledge of teaching and learning, subject matter knowledge, experience, and the combined set of qualifications measured by teacher licensure are all leading factors in teacher effectiveness (Darling-Hammond, 2006).

Recently, some critics have questioned the role of teacher preparation as a key to teacher effectiveness. It‘s time to separate fact from fiction, truth from myth about teacher preparation. Most of the research findings on pre-service teacher preparation are consistent with common sense and the experience of those in the classroom. Presented below are five key findings from the existing research on teacher preparation as presented by the National Council for Accreditation of Teacher Education (NCATE):

1. Teacher preparation helps candidates develop the knowledge and skill they need in the classroom
2. Well prepared teachers are more likely to remain in teaching
3. Well prepared teachers produce higher student achievement
4. Leading industrialized nations invest heavily in pre-service teacher preparation
5. NCATE makes a difference in teacher preparation

Available research supports the idea that high quality teacher preparation is important. Well prepared teachers outperform those who are not prepared. No credible research reveals any advantage to students of having teachers without preparation.

Two components are critically important in teacher preparation: teacher knowledge of the subject to be taught, and knowledge and skill in how to teach that subject. Research and common sense tell us that subject matter knowledge is necessary for

effective teaching. But there is a second part of the equation: knowledge and skill in how to teach is also a must. Effective teachers understand and are able to apply strategies to help students increase achievement. They understand and apply knowledge of child and adolescent development to motivate and engage students. They are able to diagnose individual learning needs. They know how to develop a positive climate in the classroom in order to make it a stimulating learning environment.

While content knowledge is important and necessary, it alone cannot determine whether the teacher is able to teach so that students learn. That is why the National Council for Accreditation of Teacher Education (NCATE), the professional teacher preparation accrediting body, requires the parallel development of teaching knowledge that is specific to the content being taught, as well as general pedagogical knowledge and knowledge of child and adolescent development as applied to teaching.

The National Academy of Education, a blue-ribbon group of education scholars, asked its Committee on Teacher Education to answer the question: what do new teachers need to know and be able to do? The resulting report, Preparing Teachers for a Changing World, sets forth a common core of knowledge and skills that a beginning teacher should have.

Critics of education have used disagreements about standards and best practice to claim that since there was little consensus, education schools were marginal in their effectiveness. The National Academy of Education report has helped dispel that argument. With this volume, experts across the country came together across

philosophical lines and reached general agreement on the foundational knowledge and the skills that new teachers need.

However, the knowledge base in all professional fields changes over time. With advances in educational research, and the rapidly changing demographics of students in America, the knowledge base in education will never be _complete' or finished. Instead it will always be a work in progress, as it is in all other professions. Professional standards strive to incorporate research and best practice as it is known currently.

The scholars of the Academy:

1. conclude that –there is a base of verifiable evidence [and] knowledge"...on –effective teaching" and outline it in their report (Darling-Hammond, 2005).
2. recognize the need for adequate preparation in understanding and applying the knowledge base: –Practice must be based on what is known by the profession as a whole…which requires of professionals that they be aware of the current knowledge base" .
3. recognize that effective teachers—those who know the knowledge base on teaching and learning and are able to apply it—help raise student achievement: —..measuring the value added by pedagogical training …[is] a strong predictor of student achievement gains".
4. recognize that content knowledge alone does not adequately prepare teachers for the challenges they will face in today's classrooms, where –teachers need to be prepared for learning differences and disabilities that are prevalent".

Effective teaching requires teachers with a deep knowledge of the subject, an understanding of how people learn, and an ability to use principles of learning and teaching to stimulate student learning and achievement.

The U.S. Department of Education summarizes what research says about five key issues in teacher preparation: subject matter preparation, pedagogical preparation, clinical training, pre-service teacher education policies, and alternative certification.

On subject matter, research shows a positive connection between teachers' preparation in subject matter and their performance in the classroom. The report also says that the way subject matter is taught for those entering teaching may need to be restructured to give them a better understanding of concepts. The report concludes –the solution is more complicated than simply requiring a major or more subject matter courses.

Regarding the _how to teach,' or pedagogical preparation, subject specific methods courses in education have a positive impact. The report concludes –the pedagogical aspects of teacher preparation matter, both for their effects on teaching practice and for their ultimate impact on student achievement

They further concluded that though knowledge of how to teach particular subjects is important, content knowledge alone –does not necessarily develop understanding of how…concepts related to that subject are best learned."

Studies on unprepared and underprepared teachers versus fully prepared teachers consistently show that the students of teachers who are prepared show stronger learning gains. A study by Goldhaber (2006) analyzed ten years of student test scores linked to individual classrooms and teachers. He examined over 700,000 student

records in grades 4–6, and the licensing records for almost 24,000 teachers. Goldhaber found that teacher education makes a difference. He concludes that –students of teachers who graduate from an approved training program outperform those whose teachers do not". The effect is significant though not large. It does mean that schools of education in North Carolina are effective. A distinguishing characteristic of North Carolina institutions is a 1980s state requirement that all be NCATE accredited; only two states have had such a longstanding requirement.

2.4 The Critical Importance of Well-Prepared Teachers for Student Learning and Achievement

Nearly everyone now accepts the premise that teachers make a difference in the lives of their students. One report (Coleman et al., 1966) briefly cast doubt on the direct importance of teachers in student achievement. This report seemed to indicate that the impact of teachers and the quality of teaching were less important to student learning and achievement than other factors, such as students' socioeconomic status. However, subsequent research in classrooms has demonstrated that teachers do make a tangible difference in student achievement. For example, variation in student achievement has been systematically related to variation in the classroom behaviors of teachers.

Reflecting these findings, King and Newman (2000) stated, –Since teachers have the most direct, sustained contact with students and considerable control over what is taught and the climate for learning, improving teachers' knowledge, skills and dispositions through professional development is a critical step in improving student achievement." The National Commission on Teaching and America's Future (NCTAF, 1996) and other national groups, such as the Education Trust (1998), earlier reached similar conclusions based on research that tracked the academic achievement

of individual students over long time periods. This survey revealed, in addition, a strong belief by the public that prospective teachers need special training and skills, not simply a good general education.

It is important to examine the veracity of the conclusion that well-prepared teachers and high quality teaching matter. It also is important to document and understand what specific characteristics of teachers, and the school settings in which they work, contribute to successful student outcomes. This information can then be used to help determine how better to educate and support successful teachers. If high-quality teaching is essential to success in student learning and if the academic success and achievement of students can be linked to specific characteristics of teaching—such information might be used to argue against a recent trend in many districts toward dilution of requirements for teacher education and certification in response to teacher shortages, class-size reductions, and growing K-12 student populations.

In a study intended to gauge the cumulative and residual effects of teacher qualifications on student achievement, Sanders and Rivers (1996) gathered test or achievement data for a cohort of students from the time they were second-graders to the time they had completed fifth grade. By disaggregating the data, the researchers were able to see the impact of quality teaching on each child over time (Sanders and Rivers, 1996).Sanders and Rivers reported that student achievement at each grade level correlated positively with the quality of the teachers who taught those students. Also of interest was the researchers‘ discovery of residual effects; that is, they found that the individual children they studied tended not to recover after a school

Sanders, Rivers, and their colleagues did not define teacher quality *a priori*. Rather they sought to identify ―quality" teachers based on how well students achieved in one

year of school. Using the Tennessee achievement tests as a measure, they determined if the students in a given teacher‘s class achieved a normal year of growth in various subject matter fields such as mathematics or more or less than a normal year‘s academic growth. Using these criteria, they then identified teachers as ―below average quality,‖ ―average quality,‖ or ―above average quality.‖

Druva and Anderson (1983) uncovered a number of important and statistically significant positive correlations that shed light on the variable of teacher quality in science instruction. Teaching background, teacher behavior in the classroom, and student outcomes were examined. Findings included that teachers with greater content knowledge in a given subject and those with more teaching experience were more likely to ask higher level, cognitively based questions. Teachers with more content knowledge also had a greater orientation toward seeking information from students through questioning and discussion in their teaching compared to teachers with less content knowledge. This was particularly significant in the case of biology teachers. Students‘ ability to understand the essentials of the scientific method was positively correlated with the number of science courses (both in biology and in other science disciplines) that their teachers had taken. The degree to which students reported that they ―liked science‖ correlated positively with the number of science courses taken by the teachers.

In 1989, McDiarmid et al. concluded, on the basis of research extant at the time, that teachers‘ subject matter understanding and their pedagogical orientations and decisions critically influence the quality of their teaching. ―Teachers‘ capacity to pose questions, select tasks, evaluate their pupil‘s understanding, and to make curricular decisions all depend on how they themselves understand the subject matter.‖ And in

1995, Chaney demonstrated a relationship between middle-school science and mathematics teachers‘ professional preparation and student performance.

These consistently positive correlations appear to support the importance of high levels of preparation for teachers in both content and pedagogy. This preparation and subsequent teaching experience also appear to enhance student achievement.

The word policy is used to mean a governmental plan stipulating goals and acceptable procedures for pursuing those goals.

What do these requirements within ESEA suggest with regard to the framers' assumptions about teacher preparation and professional development, and to what degree are those assumptions supported by research?

These are assumptions extracted from the ESEA provisions:

1. Teachers matter (otherwise why focus on teachers at all)
2. Teachers vary in their quality (otherwise why distinguish highly qualified teachers from others)
3. Quality is affected by
    a. General knowledge and ability (otherwise why require a bachelor's degree)
    b. Certification and licensure (otherwise why make that a defining feature of being highly qualified)
    c. Experience (otherwise why distinguish beginning from experienced teachers)

d. Subject matter knowledge (otherwise why require that beginning teachers have demonstrated through their college major or an examination that they have knowledge of the subject matter they teach)
e. Intensive and focused in-service training (otherwise why provide funds to support such activities)
f. Alignment between teacher training and standards-based reforms (otherwise why require evidence of such alignment in state applications for funding)

4. The Coleman study
5. Contrary to our intuitions and anecdotes about the importance of teachers, the landmark 1966 study, *Equality of Educational Opportunity*, by sociologist James Coleman, suggested that differences in teachers did not matter much. This was a huge study employing 60,000 teachers in grade 6 and beyond in over 3,000 schools. The principal finding was that nearly all of the variability in how students achieved was attributable to their socioeconomic background rather than to the schools they attended. On the subject of teacher attributes, Coleman wrote, "A list of variables concerning such matters as teachers' scores on a vocabulary test, their own level of education, their years of experience, showed little relation to achievement of white students, but some for Negroes.... Even so, none of these effects was large."

2.5 Schemes of Teacher Appraisal

Everyone acknowledges that the essence of teaching is displayed in the classroom. That's why almost all countries use classroom observations as part of their appraisal processes. Most teacher-appraisal models also require teachers and school leaders to agree on performance goals against which teachers are then evaluated. Having

teachers evaluate their own performance was considered essential too, as self-appraisal encourages teachers to reflect on factors that impact on their teaching. In some countries, students, parents and other teachers are surveyed for their views on teachers' performance. These perspectives can have a significant impact since behavior is often influenced by what peers and leaders think, do and consider acceptable. As one minister put it, appraisals need to go beyond teachers talking to other teachers and government officials; they must include other stakeholders' perspectives.

Participants also presented evidence that the main players in a school tend to share similar views as to who is highly respected for their professional behavior, even if they may not be able to define exact criteria that characterize that behaviour. Such mismatches between the messages conveyed to teachers and the actual performance of education systems underline why it is so important to build student outcomes into the critical path of teacher appraisal instruments. Some participants suggested that there are more practical ways to leverage knowledge on student learning outcomes than census-based student testing regimes and that further developing those alternatives should be a priority.

There was also concern that the link between what teachers do and what students learn is difficult to establish, since student learning outcomes are shaped by many teachers and contextual factors.

As the rapporteur put it, such a shared vision will need to guide the collaboration of government and teachers' union leaders in the ambitious task of improving schools, and all policies and initiatives to support improvement in education systems need to be aligned with that shared vision. Although measurement remains imperfect,

perfection is often the enemy of the good. As one speaker noted, there is now considerable knowledge about effective teaching practices available, and it is time to start to acting on that knowledge.

Of course, the effectiveness of appraisals depends critically on the knowledge and skills that evaluators have to assess teachers -- and on the extent to which teachers are prepared to use the results for improvement

That means extending appraisal and quality-assurance systems to include social accountability for the governance and leadership of the education sector, including assessing the soundness and effectiveness of education policies and, in particular, accountability for whether societies and governments are investing educational resources effectively.

Clearly, appraisal is only effective if the results are used effectively. That means feeding information on performance back to teachers and school leaders; designing professional-development activities to improve teaching practices; establishing rewards, support systems and consequences that flow from appraisal; and also developing channels through which the information gathered feeds into policy development.

A clear and transparent link between performance appraisal and professional-development opportunities is key for improving teaching practice. . Indeed, recognizing and rewarding teaching excellence was widely seen as central for retaining effective teachers and for making teaching an attractive career choice.

There was a time when the public turned to teachers to make judgements about educational quality. Now the public seeks to make judgements about the quality of

teachers. At the core of educational improvement is learning -- learning by students, by teachers, by administrators and by policy makers.

2.6 Evaluating Teacher Effectiveness

Schools have begun using student achievement gains as indicated by annual test scores (adjusted for prior achievement and other student characteristics) as a direct measure of individual teacher performance. , test-based measures by themselves offer little guidance for redesigning teacher training or targeting professional development; they allow one to identify particularly effective teachers, but not to determine the specific practices responsible for their success. Third, there is the danger that a reliance on test-based measures will lead teachers to focus narrowly on test-taking skills at the cost of more valuable academic content, especially if administrators do not provide them with clear and proven ways to improve their practice.

Student-test-based measures of teacher performance are receiving increasing attention in part because there are, as yet, few complementary or alternative measures that can provide reliable and valid information on the effectiveness of a teacher‘s classroom practice. The approach most commonly in use is to evaluate effectiveness through direct observation of teachers in the act of teaching. But as ―The Widget Effect" reports, such evaluations are a largely perfunctory exercise.

We find that evaluations based on well-executed classroom observations do identify effective teachers and teaching practices. Teachers‘ scores on the classroom observation components of Cincinnati‘s evaluation system reliably predict the achievement gains made by their students in both math and reading. These findings support the idea that teacher evaluation systems need not be based on test scores alone

in order to provide useful information about which teachers are most effective in raising student achievement.

2.7 Theory of Teaching

1. Theories of Teaching Introduction Kerlinger (1965) has defined the terms theory of teaching: ―A theory of teaching is a set of interrelated constructs, definitions, propositions which present a systematic view of teaching by specifying relations among variables with the purpose of explaining and predicting".
2. A theory of teaching answers three questions: how do teachers behave, why do they behave as they perform and with what effect. It applies for all teachers, for all students and for all situations in which teaching occurs. It considers the teacher-behaviour, the cause and student's learning effect. It explains, predicts and controls the ways in which the teacher-behaviours affects the learning of students. A theory of teaching must answer the questions of the teaching for efficient learning. 1

A teaching theory has the following advantages:

1. Teaching theory explains the relationship between teaching and learning and indentifies common factors.
2. Teaching theory gives the knowledge about the assumptions of teaching activities which provide guideline for organizing teaching
3. The instructional designs can be developed with the help of theory of teaching.
4. Teaching theory provides the scientific basis for planning, organizing, leading and evaluation the teaching.

5. The classroom teaching problems may be studied scientifically through the knowledge of teaching theory.

Descriptive Theory of Teaching: The theory which is based upon empirical evidence and observation is called descriptive theory. The purpose of descriptive theory is to predict the relationship and effectiveness of variables of teaching.

Descriptive theory of teaching Descriptive theory of teaching is based upon certain propositions and certain observations. (a) Theories of Instructions A theory of instruction consists of a set of propositions stating the relationship between, on the one hand, measures the outcome of education and on the other hand, measure both the conditions to which the learner is exposed and variables representing characteristics of the learner.

- Bruner‘s Cognitive Developmental Theory of Instruction.

  Burner advocates that a theory of instruction is prescriptive in that it proposes rules for achieving knowledge of skills and provides techniques evaluating learning outcomes. It is also normative in that it sets goals to be achieved and deal with conditions for meeting then. _A Theory of instruction‘ in short is concerned with how what one wished to teach can best be learned, with improving rather than describing learning. This is not to say that learning and developmental theories are irrelevant for theory of instruction. In fact, a theory of instruction must be concerned with both learning and development and must be congruent with those theories of learning and development to which it subscribes. Burner is insistent on the empirical steps necessary before the theory can prescribe the practice. Burner has specified four features that a theory of instruction must involve: Predisposition to learn, structure of

knowledge, sequence of instruction and reinforcement. Bruner has specified four features that a theory of instruction must involve: Predisposition to learn, structure of knowledge, sequence of instruction and reinforcement.

- Predisposition to learn – A theory of instruction must be concerned with the experiences and context that will tend to make the child willing and able to learn when he enters the school
- Structure of knowledge - A theory of instruction should specify the ways in which body of knowledge should be structured so that it can be most readily grasped by the learner.
- Sequence of instruction – A theory of instruction should specify the most effective sequences to present the material.

The scientific study of teaching is a relatively new development; until the 1950s, little systematic observation and experimentation took place. The research on teaching has been consistent in its implications for academic achievement. The variables that educational psychologists have found to be important in classroom teaching include the time teachers allocate to instruction, the amount of content they cover, the percent of time that students are engaged in learning, the congruence between what is taught and what is tested, and the ability of the teacher to give clear directions, provide feedback, hold students accountable for their behavior, and create a warm, democratic atmosphere for learning.

2.8 How Children Learn

- Active involvement – learning requires the active, constructive involvement of the learner.
- Social participation – learning is primarily a social activity and participation in the social life of the school is central for learning to occur.
- Meaningful activities- people learn best when they participate in activities that are perceived to be useful in real life and are culturally relevant.
- Relating new information to prior knowledge – new knowledge is constructed on the basis of what is already understood and believed.
- Being strategic – people learn by employing effective and flexible strategies that help them to understand, reason, memorize and solve problems.
- Engaging in self-regulation and being reflective – learners must know how to plan and monitor their learning, how to set their own learning goals and how to correct errors.
- Restructuring prior knowledge – sometimes prior knowledge can stand in the way of learning something new. Students must learn how to solve internal inconsistencies and restructure existing conceptions when necessary.
- Aiming towards understanding rather than memorization –learning is better when material is organised around general principles and explanations rather than when it is based on the memorization of isolated facts and procedures.
- Helping students learn to transfer – learning becomes more meaningful when the lessons are applied to real life situations
- Taking time to practice – learning is a complex cognitive activity that cannot be rushed. It requires considerable time and periods of practice to start building expertise in an area.

- Developmental and individual differences – children learn best when their individual differences are taken into consideration.
- Creating motivated learners – learning is critically influenced by learner motivation. Teachers can help students become more motivated learners by their behaviour and the statements they make.

2.9 Teacher Preparation and Student Performance at the School Level

Teacher Preparation and Student Performance

The policy direction and value of teacher training are hotly debated topics. Much of this debate is fuelled by comparisons of teachers who hold either a traditional or alternative license.

Findings that suggest there is often little difference between teachers who enter the profession through different routes (and usually have a different licensure status) have led some to conclude that there is little value in traditional teacher training (Gatlin, 2009; Stotko, Ingram & Beaty- O'Ferrall, 2007; Wilson, et al., 2002; Rochester, 2002; Gansle et al., 2010). There is some evidence to support this proposition. For example, both experimental and non-experimental research on Teach for America (TFA) — probably the best-known alternative route into the classroom — suggests TFA teachers compare favorably, in terms of student achievement, with other teachers in schools which employ TFA members (Decker et al. 2004; Xu et al. 2007). TFA, however, represents a very selective group of teachers in terms of academic preparation; one might guess that a different comparison group would yield different results, but a more recent study (Constantine et al., 2009) on less selective alternative routes to the classroom also shows little difference in the test achievement of students

whose teachers received traditional training and those who entered teaching through alternative routes. Findings like those described above are not surprising given that there is likely significant variation in effectiveness amongst teachers who received training in either traditional or alternative programs. The broad classification of teachers by route of entry into the profession may mask the fact that when it comes to teacher preparation, programs themselves may be more different than they are alike. Corcoran, for example, describes a chaotic pre-service training system in which ―visions of good teaching, standards for admission, rigor and amount of subject matter preparation, clinical experiences…and quality of assessments" differ widely among and within traditional training programs (2007, p. 314). Levine (2006) presents a similar picture, for instance, Darling-Hammond (1999), Goldhaber and Brewer (2000), Glazerman et al. (2006).

The study also found little evidence that either the content or extent of teacher training coursework completed by alternative route teachers was associated with the achievement of their students.

Highlighting the vast ―disparities in institutional quality" across teacher preparation programs, the notion that focusing on within-route differences in training programs might be the best way to determine what kinds of selection processes or training experiences predict teacher effectiveness is buttressed by two recent research studies. Specifically, both Boyd et al. (2009) and Kane et al. (2007) investigate teachers employed in New York City who entered the profession through different routes. Each finds there is far more quality variation within a certification category than there is between certification categories of teachers. But there are relatively few studies that look at the connection between individual teacher training programs and student

achievement. Harris and Sass (2007), for example, investigate the relationship between teacher training characteristics and teacher productivity in Florida. Their data link student test scores, teachers‘ professional development programs, pre-service teacher training programs, college coursework, and pre-college entrance exam scores (which allows them to address selection effects in training programs). In addition, Noell et al.‘s (2008) work in Louisiana also capitalizes on the ability to link student demographic, attendance, and test score data to teacher demographic, attendance, and certification data through a curriculum database (as well as classroom and school characteristics). These data allow them to run value-added analyses to assess the effectiveness of new versus more experienced teachers from various teacher preparation programs based on a five-point performance band rating system. Based on these comparisons, they find considerable variability in effectiveness across teacher preparation programs. These findings appear to be fairly consistent over time (Noell et al., 2009; Kane et al. (2007) find, for example, that the gap in teacher effectiveness (measured by value-added) within each certification category is about ten times larger than the average gap between certification categories.

Harris and Sass find that teacher training generally has little effect on teacher productivity. Content-focused teacher professional development programs positively influences teacher effectiveness, but only in middle and high school math. They find no evidence of a relationship between teacher pre-service (undergraduate) training and teacher productivity no matter what type of undergraduate degree the teacher holds.

More recent work by Henry et al. (2011), using data from North Carolina, look at differences between teachers trained in-state versus out-of-state. They find teachers

trained in state tended to be slightly more effective than those trained in out-of-state institutions, but they also find considerable overlap in the estimated effectiveness of North Carolina institutions: students taught by teachers trained at in-state institutions outperformed students taught by out-of state programs in 14 comparisons, under-performed in 9, and were not significantly different for 74 comparisons.

Boyd et al.'s (2009) examination of the distribution of teacher performance from different training programs in New York City more clearly suggests that there is significant variation in the effectiveness of teachers graduating from different programs and, moreover, that some program characteristics (e.g., timing of student teaching) predict program effectiveness.

The difference between teachers from the average institution and highest performing institution is about as large as the average difference between students who are eligible for free or reduced lunch and students who are not. This degree of variation is similar for both math and language arts. Furthermore, institutions that produce effective math teachers also tend to produce effective language arts teachers. And yet, to the degree that the quality of training institutions is contingent on where a teacher works (i.e., that some institutions may serve districts with certain student populations particularly well), a study of a singular district like New York begs important questions about teacher preparation in other types of schools and districts (e.g., in rural and suburban areas).

While each of the above studies focuses on teacher training, it is important to note it is not possible to entirely disentangle the extent to which differences are a result of the type of teacher candidates selected by programs or the training that individuals receive while in a program.

School-level studies have found significant relationships between the percentage of teachers on emergency permits and student scores on state exams. A few are mentioned here, but many studies support these findings (Darling-Hammond, 2006).

Fetler (1999) notes, ―The experience and education of mathematics teachers predicts Schools with more experienced and more highly educated mathematics teachers tended to have higher achieving students. Schools with higher percentages of teachers on emergency permits tended to have lower achieving students."

Goe (2002) had similar findings. ―Generally, the more emergency permit teachers there are in a school, the lower the school's achievement. This phenomenon is examined in the context of other contributors to student achievement, such as socio-economic status and school size….Researchers and policymakers can now clearly connect student achievement (at the school level) with a number of other variables, including the percentage of under qualified teachers. Seeing these connections…can be shocking."

In a study of fully versus alternatively prepared teachers in New York City by Boyd, Grossman, Lankford, Loeb, & Wyckoff (2006), the fully prepared teachers outperformed those who were alternatively prepared in the first years of teaching. The students of alternatively prepared teachers showed smaller initial student gains in math and English language arts than the gains of students who had fully prepared teachers. Differences between students of fully prepared and alternatively prepared teachers diminished as the teacher cohorts matured. This is not coincidental; the alternatively prepared teachers in New York City are required to gain master's degrees to gain professional knowledge about teaching and learning, and complete the same licensure requirements as those teachers who were fully prepared upon entry.

In a study on mathematics teaching, Goldhaber and Brewer (2002) concluded that the effects of teacher licensure on student achievement is greater than that of a content major in the field, suggesting that what licensed teachers learn in methods/education coursework/practice adds to their abilities in the classroom. ―We find [that] students of teachers who are either not certified in their subject…or hold a private school certification do less well than students whose teachers hold a…certification in math."

Likewise, using data for more than 2,800 students, Monk (1994) found not only that content preparation was positively related to student achievement in math and science, but courses in methods of teaching math and science also shared the same positive relationship to student achievement. In mathematics, additional teaching methods courses had ―more powerful effects" than additional preparation in the content area. Monk concludes ―it would appear that a good grasp of one's subject area is a necessary but not a sufficient condition for effective teaching."

Examining state policies that potentially improve teacher preparation, Darling-Hammond (2000) also found that measures of teacher preparation and certification are by far the strongest correlates of student achievement in reading and mathematics, both before and after controlling for student poverty and language status. The analysis suggests that policies adopted by state regarding teacher education may make an important difference for teaching and learning in the state.

International surveys of student achievement have sparked interest in the educational systems of other countries, since their students often outperform students in America. In 2002, the Council for Basic Education undertook a comparative analysis of teacher preparation, induction, roles, and rewards in nine industrialized nations including the U.S.

All of the countries surveyed require formal undergraduate or graduate training in content and pedagogical knowledge, and all require student teaching/practicum experiences prior to licensing. Several of the other countries have significantly more rigorous requirements than the U.S.

The report concludes, ―the emphasis [in other countries] remains on teacher training and support. Teachers are required to know more and to be well qualified. In turn, ―this emphasis may be a reason for stronger student achievement and less public concern with teacher effectiveness".

[The] teachers asserted that they did not feel adequately prepared to teach…They had a difficult time with curriculum development…and classroom management. All...ascribed their inadequacy [to the lack of] a formal teacher education program before entering the profession.

The research findings from the above cited sources present solid evidence that high quality teacher preparation produces increased student achievement. Many of the works cited are exhaustive compendiums of research that span the current collective knowledge base on teaching and learning.

The research and facts presented in this booklet support the following:

1. High quality pre-service teacher preparation provides beginning teachers with the knowledge and skills needed for effective teaching in today's heterogeneous classrooms. The findings from the research are clear.
2. Programs that circumvent high quality pre-service teacher preparation place the beginning teachers—and the students they serve—at a disadvantage. Many unqualified beginners leave the field; those who remain and acquire

professional knowledge and skills through required master's programs eventually catch up. However, in the meantime, vulnerable children suffer and the achievement gap persists.

3. Based on the conclusions above, high quality pre-service preparation should enjoy strong support from federal, state and local policy.
4. All preparation programs—not just those being studied for research purposes—should provide evidence that they prepare candidates with the foundational knowledge and skills to positively affect student learning, or they should be closed. NCATE accredited institutions must provide such evidence.
5. All pathways to teaching should undergo review according to national standards. Unless there are agreed-upon standards, there is no way to determine whether candidates following alternate pathways measure up. NCATE is the teaching profession's quality assurance mechanism and is prepared to review all preparation programs.
6. Professional development schools should become the norm for teacher induction. Teachers, like other professionals, do not emerge from universities and colleges as fully formed professionals—but they do have a foundation of knowledge on which to base their practice. Under competent supervision, they become increasingly effective.
7. To help solve the most egregious failure of our current system, many hard-to-staff schools should be re-configured as professional development schools. Such schools should be staffed by master teachers who have a track record of successful teaching in similar settings. States and districts should coordinate approaches and form partnerships with teacher preparation programs so that many teacher candidates gain clinical experience in hard-to-staff schools.

PDSs increase the ratio of adults to students in hard-to-staff classrooms in a setting that helps students and novice teachers learn.

8. More comprehensive assessments of teacher knowledge and performance are needed for teacher licensing. Foundations and the federal government should invest in the development of assessment instruments to strengthen state licensing.

Findings from the research on teacher preparation are consistent with educators' experience and common sense. After all, school districts hire only qualified teachers when they can. Only districts that cannot attract qualified teachers hire unqualified personnel. Much more empirical research is needed, but the research that we do have supports the idea that high quality pre-service teacher preparation is important.

All members of the established professions in the U.S. graduate from an accredited program of study, pass rigorous examinations, and continue to receive professional development on the job. Likewise, other developed nations provide for extensive teacher education prior to entry to the classroom and thereafter.

Literature was reviewed in the following related areas: Conceptual framework, Implications for Teacher Education and Development, What makes a teacher effective?, The critical importance of well-prepared teachers for student learning and achievement, Schemes of teacher appraisal, Evaluating teacher effectiveness, Theory of teaching, How children learn and Research related to teacher preparation and student performance at the school level.

After reviewing the literature and theories of teacher preparation and student performance the researcher can say that high quality pre-service teacher preparation is

important. The research findings from the above cited sources present solid evidence that high quality teacher preparation produces increased student achievement. Many of the works cited are exhaustive compendiums of research that span the current collective knowledge base on teaching and learning.

The current study assesses or seeks to compare the effectiveness of physical education elective teacher and non-physical education elective teacher from the colleges of education towards student learning outcomes.

Unlike the studies reviewed above which looked at other subject areas like English, Mathematics, Science, this study will use Physical Education as a subject area to compare the effectiveness of physical education elective teachers and non-physical education elective teachers from the colleges of education towards student learning outcomes.

The Importance behind Concept Learning

A concept is a mental image, generalization, of certain characteristics and aspects that make up an item. This list of characteristics is not a label, but can be used to describe all examples of items under that category and separate them from non-examples.

Commonly referenced in curriculum of all grades, concept learning is valuable and necessary in a student‘s education and growth. However, no matter how often the teaching of concepts may be emphasized by the educator, concept-centered curriculum is often a challenge for students to learn. A common challenge for teachers is that while students may retain principles and facts, understanding of concepts and how to apply that knowledge often goes overlooked.

Children as young as three years old begin to take notice of the patterns and characteristics of objects and people around them. Even at this young age, they begin to conceptualize and establish connections. After the age of three, concept development begins to include language–questions are asked, new relationships are discovered between old and new concepts and deeper comprehension develops(Mona Westhaver, 2011).

Characteristics of effective teachers

Given that teachers are important, the important research task is to identify the characteristics that distinguish quality teachers and to determine how those characteristics can be enhanced. Let's go through the characteristics assumed to be important in ESEA and take a look at the related research.

Certification and licensure

The issue of certification has generated more heat than light. You would think it would be simple to compare student achievement for certified versus uncertified teachers, but it is not. One reason is that states typically require some form of certification or licensure for a teacher in the public schools within some period of time after the teacher begins employment. Thus teachers without certification are typically inexperienced beginners. That means that simple comparisons of certified versus uncertified teachers are biased by differences in experience and age. Second, the issue of certification is often confused with the issue of alternative certification, which is a route to a teaching license that bypasses some of the undergraduate coursework requirements in education. Sometimes arguments for or against alternative certification are made on the basis of comparisons of teachers with certificates, including alternative certificates, with teachers working with provisional or temporary

licenses. Third, the issue of certification is often confused with the issue of out-of-field teaching. Generally, out-of-field teachers, e.g., someone with a degree in English who is teaching math, are certified. Arguments for or against certification based on comparing out-of-field and in-field teaching are thus inappropriate. Fourth, the definitions and requirements for licensure and certification differ substantially from state to state, and sometimes within jurisdictions within the same state. These differences make it difficult to know exactly what is being compared when data are aggregated across states and jurisdictions.

With those caveats in mind, my reading of the research is that the evidence for the value of certification in general is equivocal at best. For example, Goldhaber and Brewer (1998) analyzed data from over 18,000 10th graders who participated in the National Education Longitudinal Study of 1988. After adjusting for students' achievement scores in 8th grade, teacher certification in 10th grade was not significantly related to test scores in 10th grade. In another study, notable because it uses experimental logic rather than the correlational approaches that dominate study of this topic, Miller, McKenna, and McKenna (1998) matched 41 alternatively trained teachers with 41 traditionally trained teachers in the same school. There were no significant differences in student achievement across the classrooms of the two groups of teachers.

A study by Darling-Hammond (1999) stands in contrast to the many studies that find no effects or very small effects for teacher certification. She related scores on the National Assessment of Educational Progress at the state level to the percentage of well qualified teachers in each state. "Well qualified" was defined as a teacher who was fully certified and held the equivalent of a major in the field being taught. For

generalist elementary teachers, the major had to be in elementary education; for elementary specialists, the major had to be in content areas such as reading, mathematics, or special education. Darling-Hammond reported that teacher qualifications accounted for approximately 40 to 60 percent of the variance across states in average student achievement levels on the NAEP 4th and 8th grade reading and mathematics assessment, after taking into account student poverty and language background.

Although this study is frequently cited, the approach of aggregating data at the level of the state is seriously problematic. It goes backwards in terms of aggregation from the work of Coleman whose findings are considered suspect because the analyses were of data at the school level. Students do not experience a teacher with the average level of certification in a state; they experience a teacher who is or is not certified. The aggregation bias may account for Darling-Hammond's estimates of the effects of certification being light years out of the range of effects that have been reported by all other studies of this topic.

Subject matter knowledge

The effects of teacher training on academic achievement become clearer when the focus becomes subject matter knowledge as opposed to certification per se. The research is generally consistent in indicating that high school math and science teachers with a major in their field of instruction have higher achieving students than teachers who are teaching out-of-field (e.g., Brewer & Goldhaber, 2000; Monk, 1994; Monk & King, 1994; Rowan, Chiang, & Miller, 1997). These effects become stronger in advanced math and science courses in which the teacher's content knowledge is presumably more critical (Monk, 1994; Chiang, 1996).

The best studies, including the ones cited here, control for the students' prior achievement and socio-economic status. Studies that simply report the association between teachers' undergraduate majors and student achievement are difficult to interpret. For instance the year 2000 National Assessment of Educational Progress in math reports that eighth-graders whose teachers majored in mathematics or mathematics education scored higher, on average, than 8th graders whose teachers did not major in these fields. However, there are many interpretations of this simple association, including a well-documented rich-get-richer process in which students with higher math abilities are assigned to classes taught by better trained teachers.

Interestingly, the 2000 NAEP finds no relationship between math scores at 4th grade and teachers' major. Likewise, Rowan (2002) using a different dataset found no relationship in elementary school between certification in math and student achievement in math, and no relationship between having a degree in English and student achievement in reading. These findings suggest that subject matter knowledge in these areas as currently transmitted to teachers-in-training by colleges of education is not useful in the elementary school classroom.

General knowledge and ability

The most robust finding in the research literature is the effect of teacher verbal and cognitive ability on student achievement. Every study that has included a valid measure of teacher verbal or cognitive ability has found that it accounts for more variance in student achievement than any other measured characteristic of teachers (e.g., Greenwald, Hedges, & Lane, 1996; Ferguson & Ladd, 1996; Kain & Singleton, 1996; Ehrenberg & Brewer, 1994).

This is troubling when joined with the finding that college students majoring in education have lower SAT and ACT scores than students majoring in the arts and sciences. For example, among college graduates who majored in education, 14% had SAT or ACT scores in the top quartile, compared to 26% who majored in the social sciences, compared to 37% who majored mathematics/computer science/natural science. In addition, those who did not prepare to teach but became teachers were much more likely to have scored in the top quartile (35 percent) than those who prepared to teach and became teachers (14 percent) (NCES, 2001).

Experience

In general, studies of the effects of teacher experience on student achievement suggest a positive effect. For instance, Rowan (2002) found a significant effect of teaching experience on reading and math outcomes in elementary school, with larger effects for later elementary school than early elementary school. Likewise, Greenwald, Hedges, and Laine (1996), in their large meta-analysis of the literature on school resources and student achievement, found significant effects of teacher experience.

Intensive and focused in-service training

Although the literature on professional development is voluminous, there are only a few high quality studies relating teacher professional development experiences to student outcomes. Recommendations for "high quality" professional development tend to emphasize the importance of more intense, content-focused experiences (i.e., not one-day generic workshops), as well as more opportunities for peer collaboration and more structured induction experiences for new teachers. These recommendations are reasonable, but are supported by little more than anecdotal evidence, inferences

based on theories of learning, and survey data indicating that teachers feel they get more from such experiences than from typical workshops.

One relatively strong study supporting the value of focused professional development is by Cohen and Hill (2000). These investigators compared the effects of teacher participation in professional development specifically targeted to a mathematics education reform initiative in California compared to teacher participation in special topics and issues workshops that were not linked to the content of the mathematics initiative (e.g., workshops in techniques for cooperative learning). The more time teachers spent in targeted training on the framework and curriculum of the mathematics reform, the more their classroom practice changed in ways that were consistent with the mathematics reform, and the more they learned about the content and standards for that reform. Teachers who participated in special topics and issues workshops showed no change in their classroom practice or knowledge related to the reform. Teachers who participated in the focused training and whose classroom practice moved towards incorporating the framework of the new math initiative had students who scored higher on a test of the math concepts imparted by the new curriculum.

This study and a couple of others (Wiley and Yoon, 1995; Brown, Smith, and Stein, 1996; and Kennedy, 1998) suggest that when professional development is focused on academic content and curriculum that is aligned with standards-based reform, teaching practice and student achievement are likely to improve.

2.10 Summary of Literature Reviewed

Taking the three domains (affective, behavioral, and cognitive domains) and the three levels (individual, group, and school levels) the consideration of teacher effectiveness

should include not only the individual level but also the group and school levels. It should therefore relate to the teaching and learning process involving teacher competence layer, teacher performance layer, student experience layer, and student learning outcome layer.

Shifting to a more balanced approach to teaching, which places more emphasis on understanding subject matter, means that teachers must learn more about the subjects they teach, and how students learn these subjects because nearly everyone now accepts the premise that teachers make a difference in the lives of their students.

Everyone acknowledges that the essence of teaching is displayed in the classroom. That's why almost all countries use classroom observations as part of their appraisal processes and as such schools have begun using student achievement gains as indicated by annual test scores (adjusted for prior achievement and other student characteristics) as a direct measure of individual teacher performance.

A theory of teaching answers three questions: how do teachers behave, why do they behave as they perform and with what effect. This suggests that learning is a complex cognitive activity that cannot be rushed. It requires considerable time and periods of practice to start building expertise in an area.

While each of the above studies focuses on teacher training, it is important to note it is not possible to entirely disentangle the extent to which differences are a result of the type of teacher candidates selected by programs or the training that individuals receive while in a program. Examining state policies that potentially improve teacher preparation, Darling-Hammond (2000) also found that measures of teacher

preparation and certification are by far the strongest correlates of student achievement.

Therefore the effects of teacher training on academic achievement become clearer when the focus becomes subject matter knowledge as opposed to certification per se.

CHAPTER THREE

METHODOLOGY

This chapter discusses the methods used in collecting data for the study. These include the research design, population, sample and sampling procedure, instruments as well as method of data analysis and problems encountered during the administration of the processes, interviews and techniques.

3.1 Research Design

The study adopted the descriptive survey and correlational design methods. The descriptive method design has been adopted because it involves data collection from a fraction of the population (the sample), to generalize the findings to the population. Also this design was used since no treatment was administered as the study only sought to gather and analyze information on a situation that already exist, making the descriptive survey design most appropriate for the topic under study.

Furthermore, using the descriptive survey design enabled the researcher to gather data from a good number of responses from a wide range of respondents and at the same time provide a meaningful picture of events and sought to explain people's perceptions, feelings and behaviours on the basis of data that will be gathered. This design enabled the researcher to pose follow-up questions by way of focus group interview to get an in-depth explanation to certain ambiguous responses observed or encountered for better clarification.

The justification for the use of the descriptive survey design in this particular study is supported by Ary, Jacobs and Razavich (1990), with the assertion that the descriptive survey research is designed to obtain information concerning the current status of a

phenomenon and that, this design is directed towards finding out about a naturally occurring phenomenon as it exist at the time of the study. They again pointed out that it focuses on determining the status of a defined population with respect to certain variables. Similarly, Fraenkel and Wallen (2006) stated that, obtaining answers from a large group of people to set of carefully designed and administered observational checklist or form lies in the heart of the survey research.

On his part, Osuala (1991) believes that descriptive survey is versatile and practical, especially to the researcher. He adds that descriptive survey research is basic for all types of research in assessing the situation as a prerequisite for conclusion and generalization.

A correlational study according to William M.K. (2006) determines whether or not two variables are correlated. This means to study whether an increase or decrease in one variable corresponds to an increase or decrease in the other variable. He further expressed that correlation is a single number that describes the degree of relationship between two variables.

He described the types of correlations to be:

Positive correlation: Positive correlation between two variables is when an increase in one variable leads to an increase in the other and a decrease in one leads to a decrease in the other.

Negative correlation: Negative correlation is when an increase in one variable leads to a decrease in another and vice versa.

No correlation: Two variables are uncorrelated when a change in one doesn't lead to a change in the other and vice versa. For example, among millionaires, happiness is

found to be uncorrelated to money. This means an increase in money doesn't lead to happiness.

A correlation coefficient is usually used during a correlational study. It varies between +1 and -1. A value close to +1 indicates a strong positive correlation while a value close to -1 indicates strong negative correlation. A value near zero shows that the variables are uncorrelated (Thompson, B. l984). It is very important to remember that correlation doesn't imply causation and there is no way to determine or prove causation from a correlational study. Correlational studies are quantitative, multi-subject designs in which participants have not been randomly assigned to treatment conditions (Huberty, 2002). A correlational study might investigate differential achievement levels of students enrolled in classes of different sizes, where the students were not randomly assigned to classes of given sizes (Thompson, B. l984). Correlational designs do not provide the best evidence regarding causal mechanisms (Brennan, 2001). And as Duncan (1975), has noted, "correlation evidence, like other non experimental evidence, is relevant to evidence-based practice.

The combination of the qualitative and quantitative approach adopted in this study enabled the researcher to use instruments for both paradigms. One instrument was used to support other in the process of data collection for authentic and an in-depth database. For instance unclear responses that may come up when scoring the observational forms were captured in the focus group discussion for further clarification.

According to Jones (1990) the mixed methodology provides greater strength to the researcher and may enhance both the quality and perception of the research. Patton (1990) states, that when investigating human behaviours and attitudes such as in the

present study, it is prudent to use a variety of data collection methods. In justifying the case for the use of the mixed approach Nau (1995) states that using different sources and methods in the research process, helps the researcher to build on the strength of each type of data collection and minimizes the weakness of any single approach and therefore maximizes the strength of the quantitative and qualitative methods used together this is not to suggest that a mixed methodology was the only suitable research design for this topic, rather it was considered appropriate and desirable approach by considering the overall choice needs to be the most suitable approach to achieve the objectives of the research. Combining quantitative and qualitative method in this study will help the researcher to build on the advantages of each type of data collection approach and minimize the disadvantages in each paradigm. Using the two approaches in this research also enable each of the method to complement one another thereby ensuring triangulation.

3.2 Population

Population according to Avoke (2005) is the group of interest to a researcher for a study. Population mostly comprises the entire aggregation of elements in which the researcher is interested.

The population consisted of physical education teachers and students in basic primary schools within the catchment area of Tano North and South Districts of the Brong-Ahafo Region of Ghana.

3.3 Sample and Sampling Technique

Sample is usually the subset of the entire population of interest to the researcher. In research, it is usually not feasible to involve all the entire population and therefore the

need to select some of them. The sample should have identical characteristics with the rest of the population (Avoke 2005).

The population was made up of physical education teachers within the catchment area of Tano North and South Districts of the Brong-Ahafo Region of Ghana numbering about 500. The population was made up of 20 physical education elective teachers and 480 non physical education elective teachers. Purposive and simple random sampling techniques were used in selecting the teachers and students to form the sample for the study. In all forty teachers were selected for the study consisting of twenty elective physical education teachers and twenty non-elective physical education teachers.

For the non-elective physical education teachers, a simple random sampling method was employed to select them. In all twenty non- elective physical education teachers were selected. Papers were folded with YES or NO inscription and those who picked YES were selected.

Purposive sampling is a non-random sampling technique. The elective physical education teachers were purposively selected based on the fact that they had been taught physical education in their respective colleges of education as an elective course. Thus all twenty (20) elective physical education teachers were selected along with the twenty (20) non-elective physical education teachers to form the sample. The total number amounted to forty (40) teachers.

For the student respondents, a simple random sampling method was employed for their selection. In all 200 students were selected from the participating teachers

classes (i.e. 5 students from each teacher‘s class). Papers were folded with YES or NO inscription and those who picked YES were selected.

3.4 Instrumentation

The instrumentation depicts tools used in the collection of data. This study used class observation form and class test scores of students.

3.4.1 Class Observation Form

A class observation form was adapted from the Community College of Aurora‘s Mentor Program Handbook and Staffordshire University‘s Guidelines for the observation of teaching. This was a standardized instrument that had been piloted and tested over and over again. This instrument took the form of a checklist of items that were graded on a scale of 1 – 5 to show teachers effectiveness in lesson preparation and delivery.

3.4.2 Class Test

The class test is made up of an assessment exercise on the lesson given to students after the lesson has been taught. The scores for selected students from each class taught would be summed up and the mean score of the class would be calculated and used for the comparison. The topics to be used for the study would be physical fitness (Theory), Underarm service and forearm pass (Practical lesson).

The goal of the exercise is to find out the effectiveness of the two sets of teachers teaching on students. The tests would be designed to measure students understanding of the lesson and to ascertain whether they could meet the goals and objectives of the practical lesson. The tests would be administered for both sets of teachers after they have taught the specified lesson and scores would be compared against each other.

3.5 Validity and Reliability of the Study

Validity refers to the appropriateness, meaningfulness, and usefulness of the specific inferences made from test scores (APA, 1995:9) cited in (Crowl, Kaminsky and Podell 1997). They stated that a test is valid only for measuring a particular characteristic of a particular group of people under a particular set of circumstances.

In testing for the validity of the observation checklist and class tests, they were given to experts who in this case were lecturers in the Department of Health, Physical Education, Recreation & Sports (HPERS) who are well versed in research work for their perusal. Some of the question items were modified and worked on, thus the face validity of the observation checklist and tests was put in order to assess the differences in answering the questions and identified the inconsistencies and ambiguities in order to enhance its validity.

In testing for the reliability of the instruments, the observational form was piloted on 10 teachers and 20 students sampled from the Effutu Municipality in the Central Region of Ghana which was not part of the study area. Reliability is the extent to which a test or procedure produces similar result under constant conditions on all occasions (Bell, 1993). The pilot testing approach was used to establish the reliability Chronbach co-efficient of r =0.81, 0.83 respectively for the instruments.

3.6 Administration of the Instruments

The researcher first secured an introductory letter from the Department of Health, Physical Education, Recreation & Sports (HPERS) of the University of Education, Winneba to enable him gain access to the respondents. Copies of this letter were given to the various heads of the Schools involved to officially introduce the researcher. Upon approval, the teachers involved were briefed by the researcher on

the topic and given copies of the topic outline to study and prepare to deliver the lesson at a pre-arranged time. At the agreed upon time the researcher was present to observe the lesson delivery and administer the tests after the lesson to both the teacher and selected students. Respondents were educated on the rationale of the study and the need for honesty was emphasized. The students and teachers were given enough time to answer the questions.

3.7 Procedure for Data Analysis

The completed observation checklist/forms were gathered, coded and arranged to facilitate easy identification. The Statistical Package for Social Services (SPSS) was used in the analysis. The data was analysed using simple frequency counts, simple percentage, descriptions, correlations, as well as t-test analysis. Coding is the process of segmenting and labeling text to form description and broad themes in data (Cresswell 2005 cited in Avoke 2005). This strategy helped to reduce redundancies found within the data. Themes and sub themes that emerged in relation to the group interviews were used for the discussion. Direct quotations and related literature were used to support and enrich the discussion.

Quantitative interpretations were adopted and backed by the literature to make the interpretation authentic. In this regard, tables and charts were used to support the analyses to make it clearer.

CHAPTER FOUR

RESULTS, DATA ANALYSIS AND DISCUSSIONS

4.0 Introduction

This chapter was divided into three sections. The first section presents the demographic characteristics of the respondents. The second section presents general information concerning the teaching practices of teachers and the third section presents the findings based on the hypotheses for the study.

4.1 Demographic Characteristics of Student Respondents
Demographic Characteristics of Teacher Respondents

Table 1: Sex distribution of the Respondents

Sex	Frequency	Percentage (%)
Male	32	80
Female	8	20
Total	**40**	**100**

Table 1 presented the distribution of the teacher respondents by their sex. Table 1 above showed that for the respondents 80% (n=32) were males and 20% (n=8) were females.

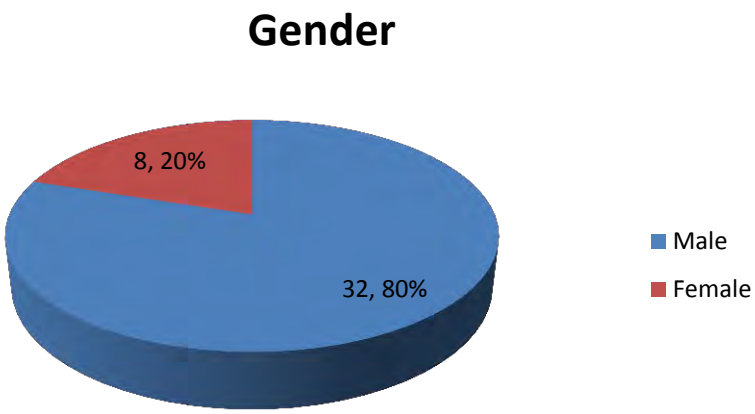

Figure 2: Gender of Teacher Respondents

Table 2Age distribution of the teacher Respondents

Age (Years)	Frequency	Percentage (%)
20 - 29	12	30
30 - 39	22	55
40 - 49	6	15
Total	**40**	**100**

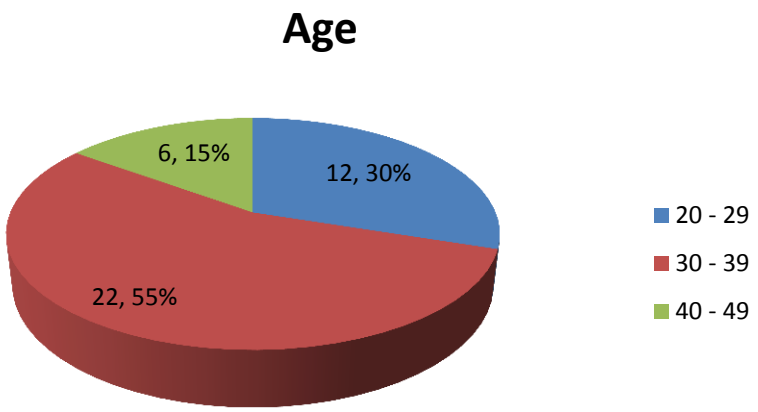

Figure 3: Age Distribution of Respondents

Table 2 provided the age distribution of the teacher respondents as presented in the study. The dominant age group of the respondents according to table 2 above ranges between 30 – 39 years (55%, n=22) followed by 20 – 29 years (30%, n=12) and followed by ages 40 – 49 years (15%, n=6).

Table 3: Educational Status of Teachers

Educational Status	Frequency	Percentage (%)
4yr. Cert. ‗A'	8	20
Diploma Degree	20	50
3yr. Cert ‗A'	12	30
Total	**40**	**100**

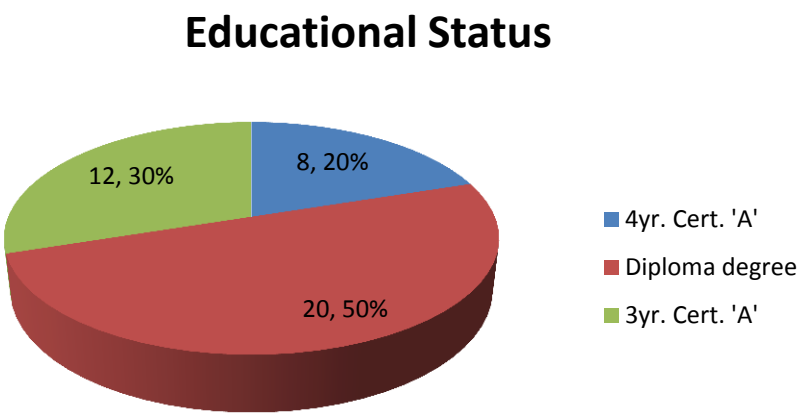

Figure 4: Educational Status of Respondents

Table 3 above illustrated that 50% (n=20) of the respondents were Diploma degree holders, while 30% (n=12) were 3yr. Cert _A' holders and 20% (n=8) were 4yr. Cert. _A' holders.

Table 4: Work Experience of Respondents

Working Experience	**Frequency**	**Percentage (%)**
1 – 5 years	12	30
6 – 10 years	20	50
11 – 15 years	4	10
16- 20 years	4	10
Total	**40**	**100**

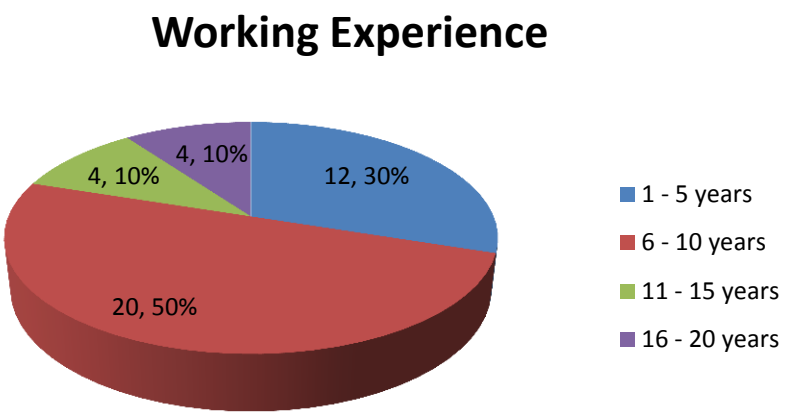

Figure 5: Working Experience Respondents

With regards to their working experience, 30% (n=12) of the teachers reported that they had worked between the years 1 to 5, 50% (n=20) indicated that they have worked for 6 to 10 years, 10% (n=4) also reported that they have worked for 11 to 15 years and 16-20 years respectively whiles none of the respondents indicated that they had worked for 20 years and above.

4.2 Demographic Characteristics of Student Respondents

Table 5: Sex distribution of the Student Respondents

Sex	**Frequency**	**Percentage (%)**
Male	115	57
Female	85	43
Total	**200**	**100**

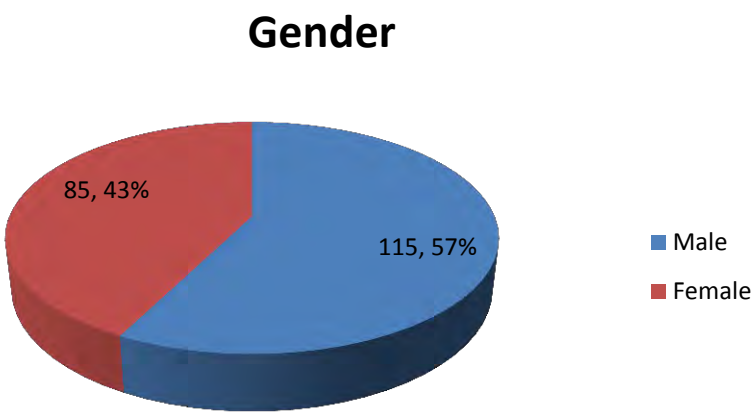

Figure 6: Gender of Student Respondents

Table 5 presented the distribution of the respondents by their sex. Table 1 above shows that for the respondents 115 (57%) were males and 85 (43%) were females.

Table 6: Age distribution of the student Respondents

Age (Years)	**Frequency**	**Percentage (%)**
Below 10	0	0
10 – 11	44	22
12 – 13	120	60
14 - 15	22	11
16 and above	14	7
Total	**200**	**100**

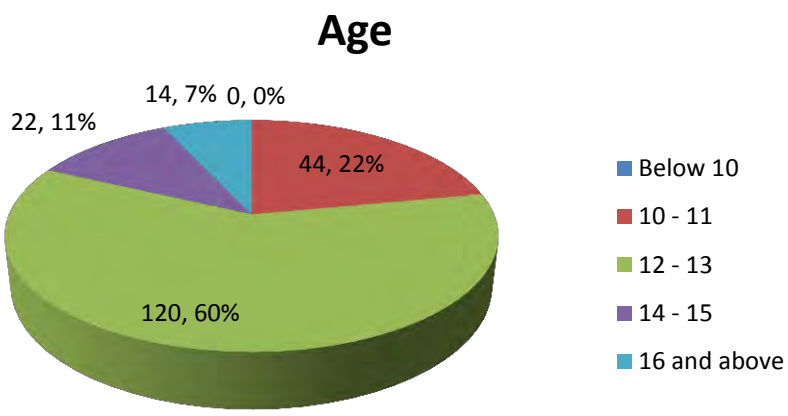

Figure 7: Age distribution of Student Respondents

Table 6 presented the age distribution of the student respondents as presented in the study. The dominant age group of the respondents according to table 6 above ranges between 12 – 13 years (60%, n=120) followed by 10 – 11 years (22%, n=44), followed by ages 14 - 15years (11%, n=22), followed by ages 16 and above (7%, n=14) and finally ages below 10 years which had no respondent.

It is worth noting that all of the respondents were students in basic education (100%, n=200).

4.3 Hypothesis 1:

H_0: There would be no significant difference between the teachers from the Colleges of Education who offered physical education as an elective course and those who didn‘t offer physical education as an elective course on their teaching effectiveness.

Fifty percent (50%, n=20) of the teachers sampled offered physical education as an elective course from the colleges of education whiles 50% (n=20) stated that they did not offer physical education as an elective course at the college of education. All the teachers (100%, n=40) teach physical education at their various schools.

All of the teachers sampled (100%, n=40) were colleges of education trained teachers and they ensured that as teachers, they always came to class adequately prepared for the subjects they were to teach.

Table 7: Teacher Effectiveness Scores Table (Non-physical education elective teachers)

Teacher	Total Score
1	156
2	153
3	154
4	151
5	159
6	150
7	151
8	153
9	156
10	155
11	155
12	152
13	154
14	156
15	157
16	157
17	153
18	151
19	152
20	150
Mean Score of	**154**

Physical Education Elective Teachers

Table 8 Teacher Effectiveness Scores Table (Physical education elective teachers)

Teacher	Total Score
1	168
2	170
3	172
4	173
5	168
6	179
7	190
8	178
9	177
10	200
11	171
12	168
13	169
14	180
15	189
16	200
17	199
18	178
19	176
20	180
Mean Score of	**179**

The mean scores for each question was summed and divided by the total number of questions for the mean score of the observational form to be derived. The mean for the teachers was 154 for non-elective physical education teachers and 179 for elective physical education teachers and this was compared to measurement criteria for the observation guide as stated as follows:

A score of less than 150 means the teacher did not demonstrate effectiveness in class which resulted in low quality presentations.

A sum score of 150 and above means that the teacher demonstrated effectiveness in class which resulted in high quality presentations. A score of less than 150 means the teacher did not demonstrate effectiveness in class which resulted in low quality presentations.

From the two tables above, it can be seen that all individual teachers scored above the 150 score mark. The mean mark for all teachers on the Teacher Effectiveness Checklist was 166.5 which was also higher than the 150 scores which when translated means that the teachers demonstrated effectiveness in class which resulted in high quality presentations.

However, it is worth mentioning that the teachers who had studied physical education as an elective course presented better quality lessons than those who offered it as a non-elective course. This can be seen in the mean scores for non-elective and elective teachers.

The teachers who offered physical education as an elective had a mean score of 179 and those who offered it as a non elective had a mean score of 154.This implies that there was an observed difference in the checklist scores obtained by the non-elective physical education teachers and the elective physical education teachers. Thus, a t-test was used to test if the observed difference was statistically significant or not.

Table 9: T-test table

	N	$\bar{x}$	Sd	df	t-cal	P. Value
Elective Physical education teachers	**40**	**25**	**1.55**	**39**	**-12.26**	**.000**
Non-elective physical education teachers						

Table 9 shows the individual t-test scores for the teachers observed. The computed t-test value for mean scores of the elective physical education teachers and mean scores of the non-elective physical education teachers was also presented. The table above shows that the mean score difference between the mean scores of the elective physical education teachers and the non-elective physical education teachers was 25 and the

standard deviation was 1.55. The results show that there is a statistically significant difference in the performance of the elective and non-elective physical education teachers t (39) = -12.26, p < .05. This therefore shows that the elective physical education teachers actually performed better than the non-elective physical education teachers. Based on this we reject the null hypothesis $H_0$1 and accept the alternate hypothesis H_1 which states that ―There would be a significant difference between the trainees from the Colleges of Education who offered physical education as an elective course and those who didn't offer physical education as an elective course".

Interviews conducted for the teachers yielded among others the following comments:

One teacher made the following statement:

> *"It was because of the colleges of education educational methodology component of teaching, which ensure that they would be adequately prepared for the life of teaching".*

Another teacher also stated

> *"Colleges of education does not just prepare you to teach the content, but it also helps you develop your methodology in teaching, hence making sure that you use appropriate strategies in presenting the content and making sure that students benefit at the end of the lesson".*

Some of the teaching strategies adopted by the teachers are as follows:

Teachers ensured that they developed learning objectives for each class session.

One teacher passed the following comment:

> *"In most cases I ensure that the objectives for the class are given verbally and written on the board".*

The teachers made sure that there was appropriate selection and use of instructional materials

Another teacher made the following comment during an interview session:

> *"I make sure that my lessons include instructional materials and I take my time to select them so that when they are used the instructional materials purpose is clear for all to see".*

Another teacher also commented that

> *"I also give help with reading and using the text when necessary".*

A suitable educational climate for learning was established by the teacher.

One teacher made the following comment:

> *"The teachers were very enthusiastic about the topic and this rubbed off on the students as well".*

Another teacher commented:

> *"I make sure that I addressed students by their names and rapport was used in an appropriate manner to enhance the class climate. This created a participative atmosphere in the classroom".*

Teachers used a Variety of instructional activities which were properly timed to consider the attention spans of students in the class and the teachers also involved the students in deciding what issues to discuss.

Appropriate Preparation for class session by teachers

One teacher commented

> *"I use appropriate Instructional methods as taught us in the college of education. In most cases I use the opening or introductory part of the class to gain the class"s attentionand established rapport".*

Another teacher also made the following comment

"I also outline the topic and purpose of the lesson by introducing the topic, stating goals, presenting material or activities effectively, summarizing, and giving assignment or suggesting an idea to consider before the next class".

Another teacher made the following statement:

"As a teacher the key to lesson presentation is to make sure that I am seen and heard by the students and also making sure that key points of the lesson are emphasized. Also I make sure that I confidently understand the content and make sure that explanations are clear to students".

Opportunity for student participation was provided

One teacher stated

"I achieve this by encouraging students to summarize the lesson at the end of the class and also encourage them to add to other "students" summaries".

Another teacher also stated that

"I usually help the quieter students interact with others in class". Another teacher also stated that "Individualization of instruction is the key and I achieve this by making sure the emotional, physical, and intellectual needs of students are met and prompt the awareness of students" prior learning and experiences".

Another stated that:

"I Offer "real world" application of concepts taught in class by relating class to course goals, students" personal goals, or societal concerns".

Responsiveness to student feedback

One teacher commented:

> *"As an instructor from the college of education, I was taught to pay attention to cues of boredom and confusion; I encourage questions and provide students the opportunity to mention problems/concerns with the class, either verbally or in writing"*

4.4 Hypothesis 2

H_0: There would be no significant difference between the two sets of teachers from the colleges of education on the impact of student learning outcome.

Non – Physical Education elective Teacher

Table 10: Correlation Table – Non-physical education elective teachers

Teacher	x-score (Teacher Effectiveness test score)	x	X^2	Y – Score (Average score of students)	y	Y2
1	156	6	36	6	1	1
2	153	3	9	7	2	4
3	154	4	16	6	1	1
4	151	1	1	6	1	1
5	159	9	81	7	2	4
6	150	0	0	7	2	4
7	151	1	2	5	0	0
8	153	3	9	6	1	1
9	156	6	36	7	2	4
10	155	5	25	8	3	9
11	155	5	25	6	1	1
12	152	2	4	5	0	0
13	154	4	16	6	1	1
14	156	6	36	6	1	1
15	157	7	49	6	1	1
16	157	7	49	6	1	1
17	153	3	9	7	2	4
18	151	1	1	6	1	1
19	152	2	4	7	2	4
20	150	0	0	7	2	4
Mean	**154**			**6.3**		

Physical Education elective Teacher

Table 11: Correlation Table – Physical education elective teachers

Teacher	x-score (Teacher Effectiveness test score)	x	X^2	Average score of students (Y)	y	Y2
1	168	18	324	9	4	16
2	170	20	400	8	3	9
3	172	22	484	9	4	16
4	173	23	529	9	4	16
5	168	18	324	10	5	25
6	179	29	841	9	4	16
7	190	40	1600	8	3	9
8	178	28	784	8	3	9
9	177	27	729	10	5	25
10	200	50	2500	8	3	9
11	171	21	441	8	3	9
12	168	18	324	9	4	16
13	169	19	361	9	4	16
14	180	20	400	9	4	16
15	189	29	841	9	4	16
16	200	50	2500	9	4	16
17	199	49	2254	8	3	9
18	178	28	784	8	3	9
19	176	26	676	9	4	16
20	180	30	900	8	3	9
Mean	**179**			**8.7**		

Table 12: Correlation of Teacher Effectiveness Score and Students Test Scores

		Teacher Effectiveness Checklist score	Students Test Score
Teacher Effectiveness Checklist score	Pearson Correlation	1	
	Sig. (2-tailed)		
Average Students Test Score	Pearson Correlation	.585**	1
	Sig. (2-tailed)	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

From table 12 above, R value is 0.585 with a significance of 0.000 which is statistically significant at 0.01. However, since the R value is close to 1 and greater

than 0.03, there is a relatively strong relationship between teachers effectiveness and students test scores. Since the R value is positive we have a positive correlation. This means that as teachers effectiveness test scores increases in value, the second variable i.e. students test scores also increases in value. Similarly, as one variable decreases in value, the second variable also decreases in value. Thus we can conclude that our variables were strongly correlated. Thus we can confidently say that teacher's teaching effectiveness has a positive impact on the student learning outcomes and results in better performances by students. The null hypotheses **$H_0$2** is thus rejected and we accept the alternate hypotheses **H2** which states that there would be significant difference between the two sets of teachers from the colleges of education on the impact of student learning outcome.

4.5 Research Question

1. What are the reasons affecting the two sets of teachers on the teaching of physical education as a subject to students at the basic education.

Table 13: Reasons affecting physical education teaching

Reasons	Frequency	Percentage (%)
Poor Content Knowledge	10	25
Poor Teacher Training and teaching practices	11	27
Lack of refresher courses	5	12
Inadequate Instructional Materials	7	18
Lack of appropriate training equipment	7	18
Total	**40**	**100**

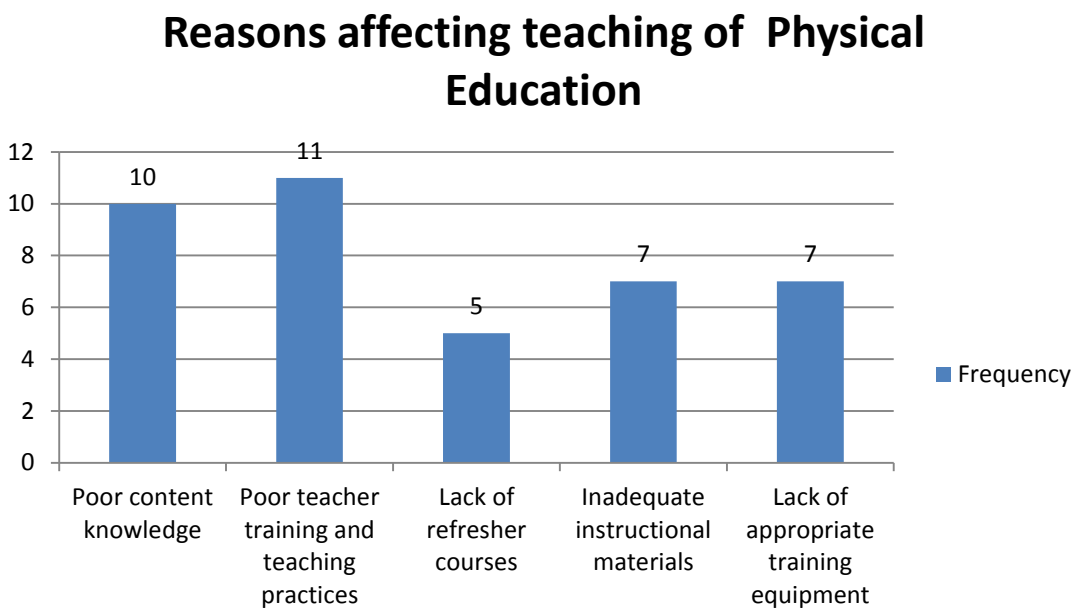

Figure 8: Reasons affecting physical education teaching

From table 13 above, respondents stated that the reasons affecting the teaching of physical education at the basic education are as follows: 25% (n=10) mentioned that poor content knowledge on the part of teachers was a factor, 27% (n=11) mentioned poor teacher training and practices, 12% (n=5) mentioned lack of refresher courses for teachers, 18% (n=7) mentioned inadequate instructional materials and lack of appropriate training equipment respectively.

4.6 Discussions

4.6.1 Findings on Hypotheses 1

All of the teachers sampled (100%, n=40) were colleges of education trained teachers and they ensured that as teachers, they always came to class adequately prepared for the subjects they were to teach with respect to methodology and teaching practices which includes development of learning objectives for each class session, appropriate selection and use of instructional materials, appropriate, provision of opportunities for

student participation and responsiveness to student feedback. These more or less affect the affective, behavioral and cognitive domains of the teacher.

The findings of this study are in line with the various studies on teacher education. In order to maximize teacher effectiveness, teacher education should aim to develop whole teacher competence layer and whole teacher performance layer in addition to individual teacher competence or performance. In other words, teacher education or staff development should cover the affective, behavioral, and cognitive domains at the individual, groups, and school levels.

According to the concept of congruence in system (Cheng, 1996a), whether teacher competence is congruent across the affective, behavioral, and cognitive domains and across the individual, group, and school levels (i.e. congruence within the teacher competence layer) can affect the contribution of the teacher competence layer to the teacher performance layer. The more the congruence of teacher competence across domains and across levels, the more the contribution of teacher competence layer to teacher performance layer. The congruence across domains represents the extent to which affective competence, behavioral competence, and cognitive competence of teachers are mutually supported and reinforced in contributing to teachers‘ action and performance. The congruence across levels represents the extent to which the competence of individual teachers, groups of teachers, and whole school teachers is mutually supported and reinforced in contributing to teachers‘ action and performance. Similarly, the more the congruence of teacher performance across domains and across levels (i.e. congruence within the teacher performance layer), the more the contribution of the teacher performance layer to the student learning experience layer. Also the more the congruence of student learning experience across

domains and across levels (i.e. congruence within the student learning outcomes layer), the more the contribution of the student learning experience layer to the student learning outcomes layer.

Based on the concept of congruence within layer, the approach to developing teachers and their effectiveness should include assurance of congruence within the teacher competence layer and within the teacher performance layer.

This holistic approach is very different from the traditional thinking of teacher development that focuses only on fragmentary and overt aspect of teacher performance without taking totality and congruence into consideration.

According to Cheng and Tam (1994) and Cheng (1996a, b), development cycle can be used to strengthen the quality of teacher layers and ensure congruence within teacher layers. Specifically, a long-term program of teacher education and development may be established at the individual, group, and school levels to facilitate their reflection on the congruence between values and beliefs of education and management in school and the congruence of performance in their affective, behavioral or technical, and cognitive domains. And the development program supports them to make a continuous self learning cycle for their own development and improvement. This is in line with literature in the field of teacher development and school changes (Cheng, 2001; Fullan, 1992; Hargreaves, 1994; Mok & Cheng, 2001; Rosenholtz, 1989; Rosenholtz & Simpson, 1990; Whitaker, 1993).

The development cycle may start at individual teacher level and focus on overt performance, mastering teaching and classroom management techniques. Then, teachers should be supported to have opportunities at the individual, group, and

school levels to reflect on their values, beliefs and meanings of education and school management. From the reflection by themselves or among themselves, they can reorganize their cognitive structure, re-shape their teaching styles and re-establish their professional confidence and commitment. Through self-learning as an individual or as a group, they are more willing to cooperate and capable to achieve better teaching performance (Fullan, 1992; Mok&Cheng, 2001; Sergiovanni and Starratt, 1993). A substantial literature supports that no matter whether at individual level, the group level, or the whole school level, teachers‘ performance is linked with their beliefs, attitudes, satisfaction, commitment, sense of achievement (Cheng, 1996c). Therefore, the development cycle should include a strong component on the affective and cognitive domains in addition to the behavioral or technical component for teachers at multi-levels. Various forms of activities for teacher education and development can be designed to achieve different development objectives for teachers as well as administrators at different levels.

In sum, from the implications of total teacher effectiveness, teacher education and development should be conceptualized as a continuous life-long process involving not only pre-service but also in-service education; not only individual teachers but also groups of teachers and the whole school; and developing not only skills or behavioural competence but also affective and cognitive domains as a community of teaching professionals.

4.5.2 Findings on Hypotheses 2

The findings of hypotheses 2 showed that there is a relatively strong relationship between teachers effectiveness and students test scores. Since the R value was positive we had a positive correlation. This means that as teachers effectiveness test

scores increased in value, the second variable i.e. students test scores also increased in value. Similarly, as one variable decreases in value, the second variable also decreases in value. Thus we can conclude that our variables were strongly correlated. Thus the researcher can confidently say that teachers training at the college of education have a positive impact on the student learning outcomes and results in better performances by students.

Nearly everyone now accepts the premise that teachers make a difference in the lives of their students. The findings of this study was in contrast to the study by Coleman et al. (1966) which briefly cast doubt on the direct importance of teachers in student achievement. This report seemed to indicate that the impact of teachers and the quality of teaching were less important to student learning and achievement than other factors, such as students' socioeconomic status. However, subsequent research in classrooms has demonstrated that teachers do make a tangible difference in student achievement. For example, variation in student achievement has been systematically related to variation in the classroom behaviors of teachers (as summarized in a review of the literature by Good et al., 1975).

Reflecting these findings, King and Newman (2000) stated, –Since teachers have the most direct, sustained contact with students and considerable control over what is taught and the climate for learning, improving teachers' knowledge, skills and dispositions through professional development is a critical step in improving student achievement." The National Commission on Teaching and America's Future (NCTAF, 1996) and other national groups, such as the Education Trust (1998), earlier reached similar conclusions based on research that tracked the academic achievement of individual students over long time periods. This survey revealed, in addition, a

strong belief by the public that prospective teachers need special training and skills, not simply a good general education.

It is important to examine the veracity of the conclusion that well-prepared teachers and high quality teaching matter. It also is important to document and understand what specific characteristics of teachers, and the school settings in which they work, contribute to successful student outcomes. This information can then be used to help determine how better to educate and support successful teachers. If high-quality teaching is essential to success in student learning and if the academic success and achievement of students can be linked to specific characteristics of teaching—such information might be used to argue against a recent trend in many districts toward dilution of requirements for teacher education and certification in response to teacher shortages, class-size reductions, and growing K-12 student populations.

In a study intended to gauge the cumulative and residual effects of teacher qualifications on student achievement, Sanders and Rivers (1996) gathered test or achievement data for a cohort of students from the time they were second-graders to the time they had completed fifth grade. By disaggregating the data, the researchers were able to see the impact of quality teaching on each child over time (Sanders and Rivers, 1996).Sanders and Rivers reported that student achievement at each grade level correlated positively with the quality of the teachers who taught those students. Also of interest was the researchers‘ discovery of residual effects; that is, they found that the individual children they studied tended not to recover after a school

Sanders, Rivers, and their colleagues did not define teacher quality *a priori*. Rather they sought to identify ―quality" teachers based on how well students achieved in one year of school. Using the Tennessee achievement tests as a measure, they determined

if the students in a given teacher‘s class achieved a normal year of growth in various subject matter fields such as mathematics or more or less than a normal year‘s academic growth. Using these criteria, they then identified teachers as ―below average quality,‖ ―average quality,‖ or ―above average quality.‖

Druva and Anderson (1983) uncovered a number of important and statistically significant positive correlations that shed light on the variable of teacher quality in science instruction. Teaching background, teacher behavior in the classroom, and student outcomes were examined. Findings included that teachers with greater content knowledge in a given subject and those with more teaching experience were more likely to ask higher level, cognitively based questions. Teachers with more content knowledge also had a greater orientation toward seeking information from students through questioning and discussion in their teaching compared to teachers with less content knowledge. This was particularly significant in the case of biology teachers. Students‘ ability to understand the essentials of the scientific method was positively correlated with the number of science courses (both in biology and in other science disciplines) that their teachers had taken. The degree to which students reported that they ―liked science‖ correlated positively with the number of science courses taken by the teachers.

In 1989, McDiarmid et al. concluded, on the basis of research extant at the time, that teachers‘ subject matter understanding and their pedagogical orientations and decisions critically influence the quality of their teaching. ―Teachers‘ capacity to pose questions, select tasks, evaluate their pupil‘s understanding, and to make curricular decisions all depend on how they themselves understand the subject matter.‖ And in

1995, Chaney demonstrated a relationship between middle-school science and mathematics teachers‘ professional preparation and student performance.

These consistently positive correlations appear to support the importance of high levels of preparation for teachers in both content and pedagogy. This preparation and subsequent teaching experience also appear to enhance student achievement.

The word policy is used to mean a governmental plan stipulating goals and acceptable procedures for pursuing those goals.

What do these requirements within ESEA suggest with regard to the framers' assumptions about teacher preparation and professional development, and to what degree are those assumptions supported by research?

These are assumptions extracted from the ESEA provisions:

1. Teachers matter (otherwise why focus on teachers at all)
2. Teachers vary in their quality (otherwise why distinguish highly qualified teachers from others)
3. Quality is affected by
    a. General knowledge and ability (otherwise why require a bachelor's degree)
    b. Certification and licensure (otherwise why make that a defining feature of being highly qualified)
    c. Experience (otherwise why distinguish beginning from experienced teachers)

d. Subject matter knowledge (otherwise why require that beginning teachers have demonstrated through their college major or an examination that they have knowledge of the subject matter they teach)
e. Intensive and focused in-service training (otherwise why provide funds to support such activities)
f. Alignment between teacher training and standards-based reforms (otherwise why require evidence of such alignment in state applications for funding)

4. The Coleman study
5. Contrary to our intuitions and anecdotes about the importance of teachers, the landmark 1966 study, *Equality of Educational Opportunity*, by sociologist James Coleman, suggested that differences in teachers did not matter much. This was a huge study employing 60,000 teachers in grade 6 and beyond in over 3,000 schools. The principal finding was that nearly all of the variability in how students achieved was attributable to their socioeconomic background rather than to the schools they attended. On the subject of teacher attributes, Coleman wrote, "A list of variables concerning such matters as teachers' scores on a vocabulary test, their own level of education, their years of experience, showed little relation to achievement of white students, but some for Negroes.... Even so, none of these effects was large."

It was also observed that teachers demonstrated effectiveness in class which resulted in high quality presentations. However, those teachers that offered physical education as an elective performed better than those who did not offer it as an elective.

In recent years, national, state, and local policymakers and educators in the USA have launched efforts to improve education by creating a fundamental shift in what children learn and how they are taught. If children are to achieve at levels demanded by the high standards that states and districts have adopted, however, teachers will have to help them do so. Teachers are necessarily at the center of reform, for they must carry out the demands of high standards in the classroom (Cuban, 1990). Thus, the success of ambitious education reform initiatives hinges, in large part, on the qualifications and effectiveness of teachers. As a result, teacher professional development is a major focus of systemic reform initiatives (Corcoran, 1995; Corcoran, Shields, & Zucker, 1998).

To carry out the demands of education reform, teachers must be immersed in the subjects they teach, and have the ability both to communicate basic knowledge and to develop advanced thinking and problem-solving skills among their students (Loucks-Horsley, Hewson, Love, & Stiles, 1998; National Commission on Teaching and America's Future, 1996). The central elements of systemic reform-high standards, curriculum frameworks, and new approaches to assessment aligned to those standards-generate new expectations for teachers' classroom behaviors, as well as for student performance (Bybee, 1993; National Council of Teachers of Mathematics, 1991; National Research Council, 1996; Webb & Romberg, 1994).

However, although teachers generally support high standards for teaching and learning, many teachers are not prepared to implement teaching practices based on high standards (Cohen, 1990; Elmore & Burney, 1996; Elmore, Peterson, & McCarthey, 1996; Grant, Peterson, & Shojgreen-Downer, 1996; Sizer, 1992). Many teachers learned to teach using a model of teaching and learning that focuses heavily

on memorizing facts, without also emphasizing deeper understanding of subject knowledge (Cohen, McLaughlin, &Talbert, 1993; Darling-Hammond & McLaughlin, 1995; Porter & Brophy, 1988). Shifting to a more balanced approach to teaching, which places more emphasis on understanding subject matter, means that teachers must learn more about the subjects they teach, and how students learn these subjects.

The continual deepening of knowledge and skills is an integral part of any profession. Teaching is no exception (Shulman & Sparks, 1992; National Board for Professional Teaching Standards, 1989).

Research indicates that teacher preparation/knowledge of teaching and learning, subject matter knowledge, experience, and the combined set of qualifications measured by teacher licensure are all leading factors in teacher effectiveness (Darling-Hammond, 2006).

Recently, some critics have questioned the role of teacher preparation as a key to teacher effectiveness. It‘s time to separate fact from fiction, truth from myth about teacher preparation. Most of the research findings on pre-service teacher preparation are consistent with common sense and the experience of those in the classroom. Presented below are five key findings from the existing research on teacher preparation as presented by the National Council for Accreditation of Teacher Education (NCATE):

6. Teacher preparation helps candidates develop the knowledge and skill they need in the classroom
7. Well prepared teachers are more likely to remain in teaching
8. Well prepared teachers produce higher student achievement

9. Leading industrialized nations invest heavily in pre-service teacher preparation
10. NCATE makes a difference in teacher preparation

Available research supports the idea that high quality teacher preparation is important. Well prepared teachers outperform those who are not prepared. No credible research reveals any advantage to students of having teachers without preparation.

Two components are critically important in teacher preparation: teacher knowledge of the subject to be taught, and knowledge and skill in how to teach that subject. Research and common sense tell us that subject matter knowledge is necessary for effective teaching. But there is a second part of the equation: knowledge and skill in how to teach is also a must. Effective teachers understand and are able to apply strategies to help students increase achievement. They understand and apply knowledge of child and adolescent development to motivate and engage students. They are able to diagnose individual learning needs. They know how to develop a positive climate in the classroom in order to make it a stimulating learning environment.

While content knowledge is important and necessary, it alone cannot determine whether the teacher is able to teach so that students learn. That is why the National Council for Accreditation of Teacher Education (NCATE), the professional teacher preparation accrediting body, requires the parallel development of teaching knowledge that is specific to the content being taught, as well as general pedagogical knowledge and knowledge of child and adolescent development as applied to teaching.

The National Academy of Education, a blue-ribbon group of education scholars, asked its Committee on Teacher Education to answer the question: what do new teachers need to know and be able to do? The resulting report, Preparing Teachers for a Changing World, sets forth a common core of knowledge and skills that a beginning teacher should have.

Critics of education have used disagreements about standards and best practice to claim that since there was little consensus, education schools were marginal in their effectiveness. The National Academy of Education report has helped dispel that argument. With this volume, experts across the country came together across philosophical lines and reached general agreement on the foundational knowledge and the skills that new teachers need.

However, the knowledge base in all professional fields changes over time. With advances in educational research, and the rapidly changing demographics of students in America, the knowledge base in education will never be _complete' or finished. Instead it will always be a work in progress, as it is in all other professions. Professional standards strive to incorporate research and best practice as it is known currently.

The scholars of the Academy:

5. conclude that –there is a base of verifiable evidence [and] knowledge"...on –effective teaching" and outline it in their report (Darling-Hammond, 2005).
6. recognize the need for adequate preparation in understanding and applying the knowledge base: –Practice must be based on what is known by the profession as a whole…which requires of professionals that they be aware of the current knowledge base" .

7. recognize that effective teachers—those who know the knowledge base on teaching and learning and are able to apply it—help raise student achievement: —..measuring the value added by pedagogical training …[is] a strong predictor of student achievement gains".
8. recognize that content knowledge alone does not adequately prepare teachers for the challenges they will face in today's classrooms, where –teachers need to be prepared for learning differences and disabilities that are prevalent".

Effective teaching requires teachers with a deep knowledge of the subject, an understanding of how people learn, and an ability to use principles of learning and teaching to stimulate student learning and achievement.

The U.S. Department of Education summarizes what research says about five key issues in teacher preparation: subject matter preparation, pedagogical preparation, clinical training, pre-service teacher education policies, and alternative certification.

On subject matter, research shows a positive connection between teachers' preparation in subject matter and their performance in the classroom. The report also says that the way subject matter is taught for those entering teaching may need to be restructured to give them a better understanding of concepts. The report concludes –the solution is more complicated than simply requiring a major or more subject matter courses.

Regarding the _how to teach,' or pedagogical preparation, subject specific methods courses in education have a positive impact. The report concludes –the pedagogical aspects of teacher preparation matter, both for their effects on teaching practice and for their ultimate impact on student achievement

They further concluded that though knowledge of how to teach particular subjects is important, content knowledge alone ―does not necessarily develop understanding of how…concepts related to that subject are best learned."

Studies on unprepared and underprepared teachers versus fully prepared teachers consistently show that the students of teachers who are prepared show stronger learning gains. A study by Goldhaber (2006) analyzed ten years of student test scores linked to individual classrooms and teachers. He examined over 700,000 student records in grades 4–6, and the licensing records for almost 24,000 teachers. Goldhaber found that teacher education makes a difference. He concludes that ―students of teachers who graduate from an approved training program outperform those whose teachers do not". The effect is significant though not large. It does mean that schools of education in North Carolina are effective. A distinguishing characteristic of North Carolina institutions is a 1980s state requirement that all be NCATE accredited; only two states have had such a longstanding requirement.

4.5.4 Findings on the Research Question

The finding for the research question revealed that the reasons affecting the teaching of physical education at the basic education were poor methodological content knowledge on the part of teachers, poor teacher training and practices, lack of refresher courses for teachers, inadequate instructional materials and lack of appropriate training equipment respectively.

Everyone acknowledges that the essence of teaching is displayed in the classroom. That's why almost all countries use classroom observations as part of their appraisal processes. Most teacher-appraisal models also require teachers and school leaders to

agree on performance goals against which teachers are then evaluated. Having teachers evaluate their own performance was considered essential too, as self-appraisal encourages teachers to reflect on factors that impact on their teaching. In some countries, students, parents and other teachers are surveyed for their views on teachers' performance. These perspectives can have a significant impact since behavior is often influenced by what peers and leaders think, do and consider acceptable. As one minister put it, appraisals need to go beyond teachers talking to other teachers and government officials; they must include other stakeholders' perspectives. Participants also presented evidence that the main players in a school tend to share similar views as to who is highly respected for their professional behavior, even if they may not be able to define exact criteria that characterize that behavior.

Such mismatches between the messages conveyed to teachers and the actual performance of education systems underline why it is so important to build student outcomes into the critical path of teacher appraisal instruments.

Some participants suggested that there are more practical ways to leverage knowledge on student learning outcomes than census-based student testing regimes and that further developing those alternatives should be a priority.

There was also concern that the link between what teachers do and what students learn is difficult to establish, since student learning outcomes are shaped by many teachers and contextual factors.

As the rapporteur put it, such a shared vision will need to guide the collaboration of government and teachers' union leaders in the ambitious task of improving schools,

and all policies and initiatives to support improvement in education systems need to be aligned with that shared vision. Although measurement remains imperfect, perfection is often the enemy of the good. As one speaker noted, there is now considerable knowledge about effective teaching practices available, and it is time to start to acting on that knowledge.

Of course, the effectiveness of appraisals depends critically on the knowledge and skills that evaluators have to assess teachers -- and on the extent to which teachers are prepared to use the results for improvement

That means extending appraisal and quality-assurance systems to include social accountability for the governance and leadership of the education sector, including assessing the soundness and effectiveness of education policies and, in particular, accountability for whether societies and governments are investing educational resources effectively.

Clearly, appraisal is only effective if the results are used effectively. That means feeding information on performance back to teachers and school leaders; designing professional-development activities to improve teaching practices; establishing rewards, support systems and consequences that flow from appraisal; and also developing channels through which the information gathered feeds into policy development.

A clear and transparent link between performance appraisal and professional-development opportunities is key for improving teaching practice. Indeed, recognizing and rewarding teaching excellence was widely seen as central for retaining effective teachers and for making teaching an attractive career choice.

There was a time when the public turned to teachers to make judgements about educational quality. Now the public seeks to make judgements about the quality of teachers. At the core of educational improvement is learning -- learning by students, by teachers, by administrators and by policy makers.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Summary and Conclusion

The purpose of the study was to compare two sets of teachers; one set of which took physical education as an elective course during their pre service preparation while the other set only studied it as a general compulsory course during pre service preparation.

Specifically the study focused on what they did in the name of physical education on the field of work. The study also sought to describe the association(s) that may exist between these two sets of teachers and the students' products from their schools which may throw more light on the reasons affecting the teaching of physical education at the basic education in the country.

This chapter summarizes the research findings and looks at the conclusions and recommendations made by the researcher.

5.1 Summary

The research was conducted, using a class observation checklist to find the effectiveness of teachers in lesson presentation, a class test to measure student learning outcomes and a focus group interview to elicit information from the teachers. The sample was made up of 20 physical education elective teachers and 20 non physical education elective teachers. A total of 200 students sampled for the study which was made up 5 students from each teacher's class who were selected based on Simple random sampling.

All of the teachers sampled (100%, n=40) were colleges of education trained teachers and they ensured that as teachers, they always came to class adequately prepared for the subjects they were to teach with respect to methodology and teaching practices which includes development of learning objectives for each class session, appropriate selection and use of instructional materials, provision of opportunities for student participation and responsiveness to student feedback. The findings of the study also showed that there was a relatively strong relationship between teachers effectiveness and students test scores. There was a positive correlation between teacher effectiveness and students performance. This means that as teachers effectiveness test scores increased in value, the second variable i.e. students test scores also increased in value. Similarly, as one variable decreases in value, the second variable also decreases in value. Thus, we can conclude that our variables were strongly correlated. Thus the researcher can confidently say that teacher‘s training at the college of education has a positive impact on the student learning outcomes and results in better performances by students. The study also revealed that both sets of teachers demonstrated effectiveness in class which resulted in high quality presentations. However, those teachers that offered physical education as an elective performed better than those who did not offer it as an elective. The findings of the study also revealed that the reasons affecting the teaching of physical education at the basic education schools within Tano north and south districts were poor content knowledge on the part of teachers, poor teacher training and practices, lack of refresher courses for teachers, inadequate instructional materials and lack of appropriate training equipment respectively.

5.2 Conclusion

The purpose of the study was to compare two sets of teachers; one set of which took physical education as an elective course during their pre service preparation while the other set only studied it as a general compulsory course during pre service preparation.

Specifically, the study focused on what they did in the name of physical education on the field of work. The study also sought to describe the association(s) that may exist between these two sets of teachers and the students' products from their schools which may throw more light on the low physical education knowledge in the country.

The findings of the study also showed that there was a relatively strong relationship between teachers effectiveness and students test scores. There was a positive correlation between teacher effectiveness and students performance. This means that as teachers effectiveness test scores increased in value, the second variable i.e. students test scores also increased in value. The study also revealed that even though both sets of teachers presented high quality presentations, those teachers that offered physical education as an elective performed better than those who did not offer it as an elective.

This research work is a contribution to knowledge on comparing the effectiveness of physical education elective teacher and non-physical education elective teacher from the colleges of education towards student learning outcomes. This study has documented a process of ascertaining the effectiveness of physical education elective and non elective teachers from colleges of education towards student learning outcomes. This is indeed necessary and consequently in Ghana where the

effectiveness of teachers on students learning outcomes is a very big issue worth talking about.

Finally, the researcher anticipates that this thesis has provided a useful framework and built a foundation for research across different approaches to solving the menace of teacher‘s effectiveness on students learning outcomes.

5.3 Implications

As previous and current studies have established, teacher‘s effectiveness plays an important role in academic work of students and influences their learning outcomes. The results of this study have further indicated that there is indeed a positive correlation between teacher‘s effectiveness and students learning outcomes.

The quality of teacher education is critical if education is to enhance development. It is not, therefore, surprising that teacher training is on the priority list of the national educational programmes of Ghana. The key role of teachers in the development of educational systems and policies of the country cannot be underestimated. It has become a worldwide recognition that the quality of teachers and teaching are among the most important factors shaping the learning and growth of students. Teachers come with a variety of abilities, standards and specializations to their field of work, each with the intention to work and achieve the educational goals of the nation. Teachers stand out as a key factor to realising the high standards that are increasingly emphasized in schools and school systems across the country.

The resource-intensive nature of teachers coupled with the empirical evidence documenting the critical role of teacher quality in realising student achievement implies that teacher policy is a promising avenue toward better realising goals of efficiency, equity, and adequacy in public education (U.S. Department of Education).

Students teaching and related school experiences have emerged as an entrenched and widely accepted component of teacher preparation as noted by Guyton and McIntyre (1998). School experiences has been described by many as the most important element in professional education and student teaching as the most universally approved education course as noted by Conant (1963) and Andrews (1964).

A teacher not only affects but also modifies the teaching-learning environment through personal factors like nature, interest, and code of conduct.

The above statement signifies that there is a real challenge for teachers creating an environment in the classroom where reshaping and redesigning of knowledge, stimulation of intellectual curiosity, and innovative and independent thinking can take place. To inculcate these attributes in teachers, teacher training programmes must put utmost stress on developing such skills among student teachers. One factor remains that during teaching practice, as part of their pre service preparation, the novice student teacher uses teaching skills strictly per guidelines given by the teacher educator, but this state of affairs become different in real classroom situations.

Improving the effectiveness of teachers will go a long way to ensure that students receive the required support and motivation they need to ensure that they perform better in academics. This will go a long way to improve the quality of education students receive and ensure that they give off their best in their various roles in the nation at large.

It is also believed that this study has provided an insight into the effectiveness of physical education elective teacher and non-physical education elective teacher from the colleges of education towards student learning outcomes.

This study was limited to teachers and students of Tano North and South Districts of the Brong Ahafo Region of Ghana. Hence, it is felt that further research needs to be carried out in the area and expanded to include other municipalities in other regions on the effectiveness of physical education elective teachers and non-physical education elective teachers from the colleges of education towards student learning outcomes.

5.4 Recommendations

Based on the findings from the study, the researcher would like to make the following recommendations with the view that when properly adhered could impact positively towards student achievement in the subject:

- There is need to create awareness of the impact that the effectiveness of teachers has on the student learning outcomes and performance of students in various schools, institutions, and colleges in Ghana.
- There is the need for physical education to be taught as a compulsory course to all teacher trainees in the colleges of education throughout their course of study. This will ensure that they are more effective in teaching the content to students.
- There is the need for the subject to be taught as any other subject in the school curriculum and not taken as a time for games or play. Hence, students should be examined in physical education as part of their termly examinations in their schools.
- In addition, workshops and seminars should be organized for physical education teachers in the various schools to ensure that their skills are

upgraded and they are abreast with modern development and trends in the subject.

5.5 Suggestion(s) for Further Research

1. It would be appropriate if this study is done in other municipalities and other regions of the country to assess the effectiveness of physical education teachers on students learning outcomes and come out with their conclusion(s).
2. Future studies could also look at student attitudes towards the subject when taught by elective and non- elective physical education trained teachers and come out with their perceptions about it.

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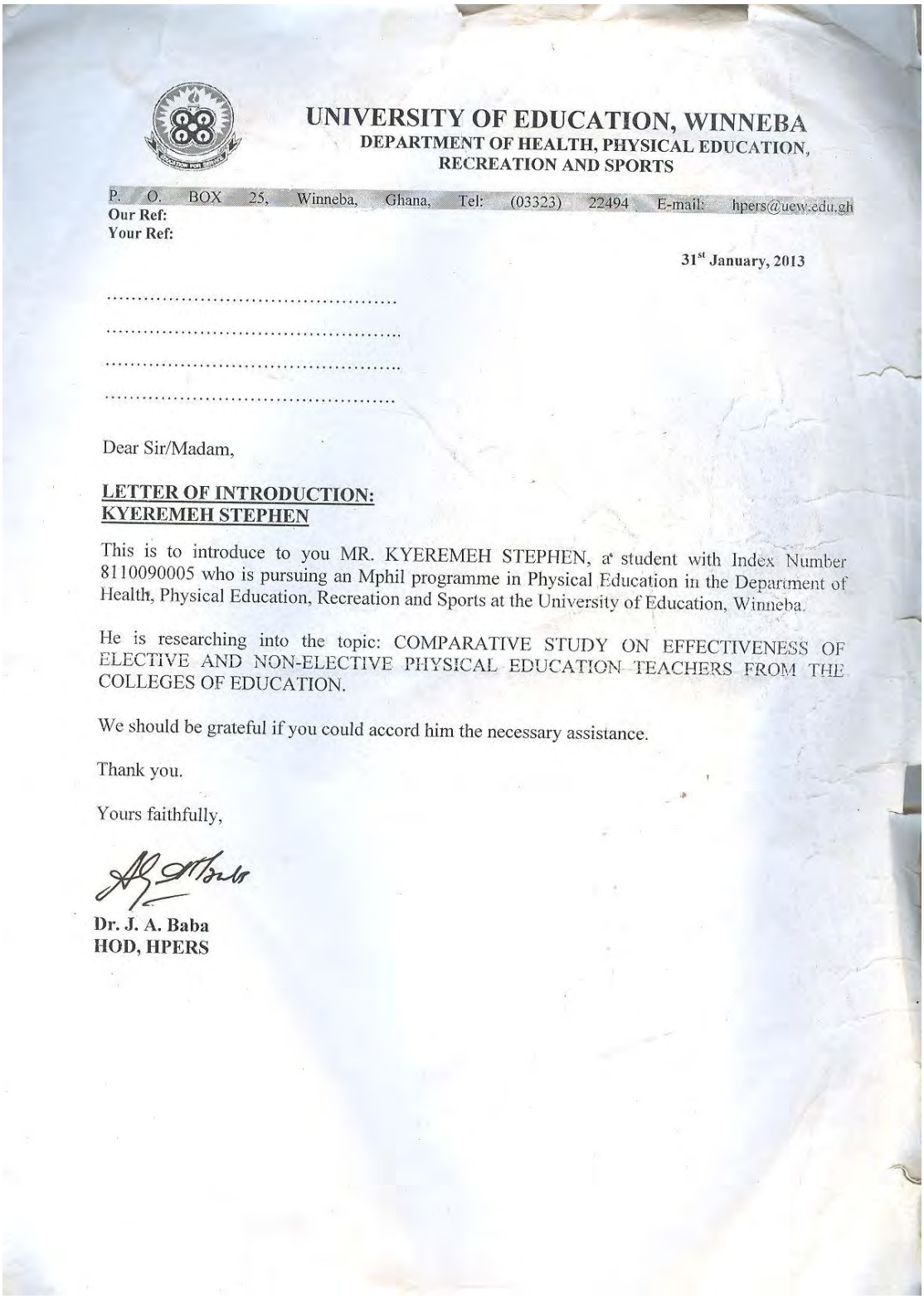
APPENDIX A



UNIVERSITY OF EDUCATION, WINNEBA
DEPARTMENT OF HEALTH, PHYSICAL EDUCATION, RECREATION AND SPORTS

P. O. BOX 25, Winneba, Ghana, Tel: (03323) 22494 E-mail: hpers@uew.edu.gh
Our Ref:
Your Ref:

31st January, 2013

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.....
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Dear Sir/Madam,

LETTER OF INTRODUCTION:
KYEREMEH STEPHEN

This is to introduce to you MR. KYEREMEH STEPHEN, a student with Index Number 8110090005 who is pursuing an Mphil programme in Physical Education in the Department of Health, Physical Education, Recreation and Sports at the University of Education, Winneba.

He is researching into the topic: COMPARATIVE STUDY ON EFFECTIVENESS OF ELECTIVE AND NON-ELECTIVE PHYSICAL EDUCATION TEACHERS FROM THE COLLEGES OF EDUCATION.

We should be grateful if you could accord him the necessary assistance.

Thank you.

Yours faithfully,

Dr. J. A. Baba
HOD, HPERS

Appendix B

Classroom Observation Form (Scaled)

Instructor _____Observer _____

Course _____Number of students present _____

Date/time of observation _____Location _____

NOTE:

This form provides 10 areas for observation, and may be used by the observer to record feedback during the classroom visit. Each area includes prompts regarding what should be observed.

Please respond to each statement using the scale below.

Outstanding	Well-Demonstrated	Satisfactory	Merits Further Development	Not Demonstrated	Not Applicable
5	4	3	2	1	N/A

Development of learning objectives:

_____ 1. Are objectives for the class given verbally, written, or not at all?

_____ 2. Are specific instructional outcomes used?

_____ 3. Are objectives discussed at the end of class?

Selection and use of instructional materials:

_____ 1. Do T/ L/M‘s have a clear purpose?

_____ 2. Are T/L/M‘s appropriate in number and subject?

_____ 3. Since the text may be pre-selected, does instructor give help with reading or using the text if necessary?

Educational climate for learning:

_____ 1. Are students AND teacher interested and enthusiastic?

_____ 2. Does the instructor use student names?

_____ 3. Is humor used appropriately?

_____ 4. Does instructor not embarrass or belittle students in any way?

_____ 5. Is the atmosphere of the classroom participative?

_____ 6. Did the instructor have eye contact with students?

Variety of instructional activities:

_____ 1. Does timing of classroom activities consider attention spans?

_____ 2. Does instructor involve students in deciding what issues to discuss?

Preparation for class session:

Provide examples that show preparation by instructor:

_____ 1. Do students know what preparation (reading or other assignments they should have completed prior to class?

Instructional methods:

List *instructor* activities:

_____ 1. Did the opening gain the class‘ attention? Did it establish rapport?

_____ 2. Did the opening outline the topic and purpose of the lecture?

_____ 3. Is the delivery paced to students‘ needs?

_____ 4. Does the instructor introduce topic, state goals, present material or activity effectively, summarize, and give assignment or suggest an idea to consider before next class?

_____ 5. Could the instructor be seen and heard?

_____ 6. Were key points emphasized?

_____ 7. Were explanations clear to students?

_____ 8. Were examples, metaphors, and analogies appropriate?

_____ 9. Was the lecture stimulating and thought provoking?

Opportunities for student participation:

_____ 1. Does instructor encourage students to summarize and add to others' summaries?

_____ 2. Does instructor help quieter students interact with other?

Individualization of instruction:

_____ 1. Are the emotional, physical, and intellectual needs of students met?

_____ 2. Does the instructor prompt awareness of students' prior learning and experience?

_____ 3. Does the instructor offer ~~"r~~eal world" applications?

_____ 4. Is the instructor available before or after class?

_____ 5. Does the instructor relate class to course goals, students' personal goals, or societal concerns?

Responsiveness to student feedback:

_____ 1. Is the instructor paying attention to cues of boredom, confusion?

_____ 2. Does the instructor encourage or discourage questions (dissension)?

_____ 3. Does the instructor provide students opportunity to mention problems/concerns with the class, either verbally or in writing?

Learning difficulties:

_____ 1. Does a student need assistance for a temporary or permanent disability?

_____ 2. Are one or more students not motivated or unable to follow the class?

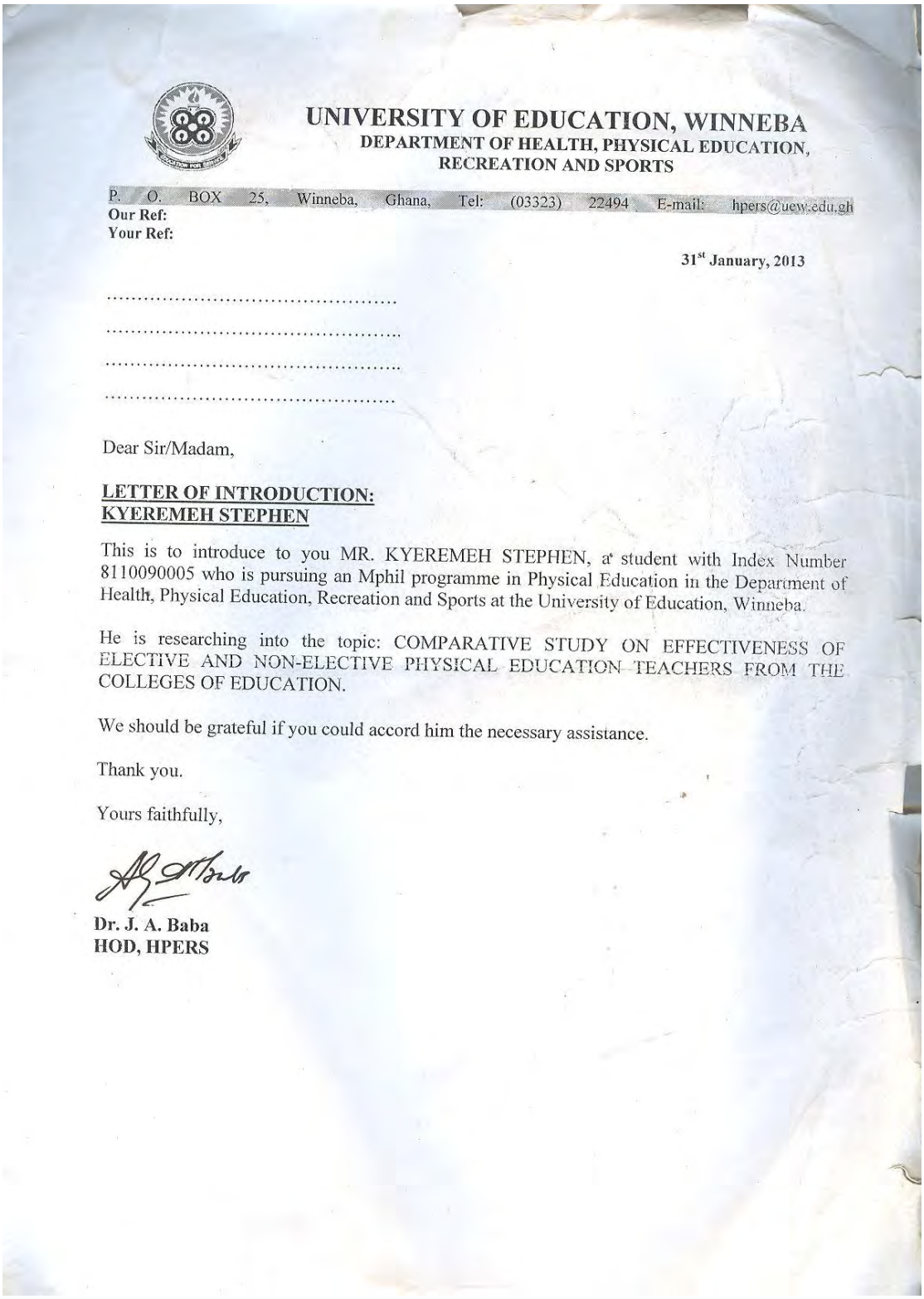
_____ 3. Does the instructor show favoritism?

_____ 4. Are students able to see visual aids?

_____ 5. Does one group dominate discussion and hinder others‘ participation?

Instrument adapted from the Community College of Aurora‘s Mentor Program Handbook and Staffordshire University‘s ―Guidelines for the Observation of Teaching.”

APPENDIX A



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