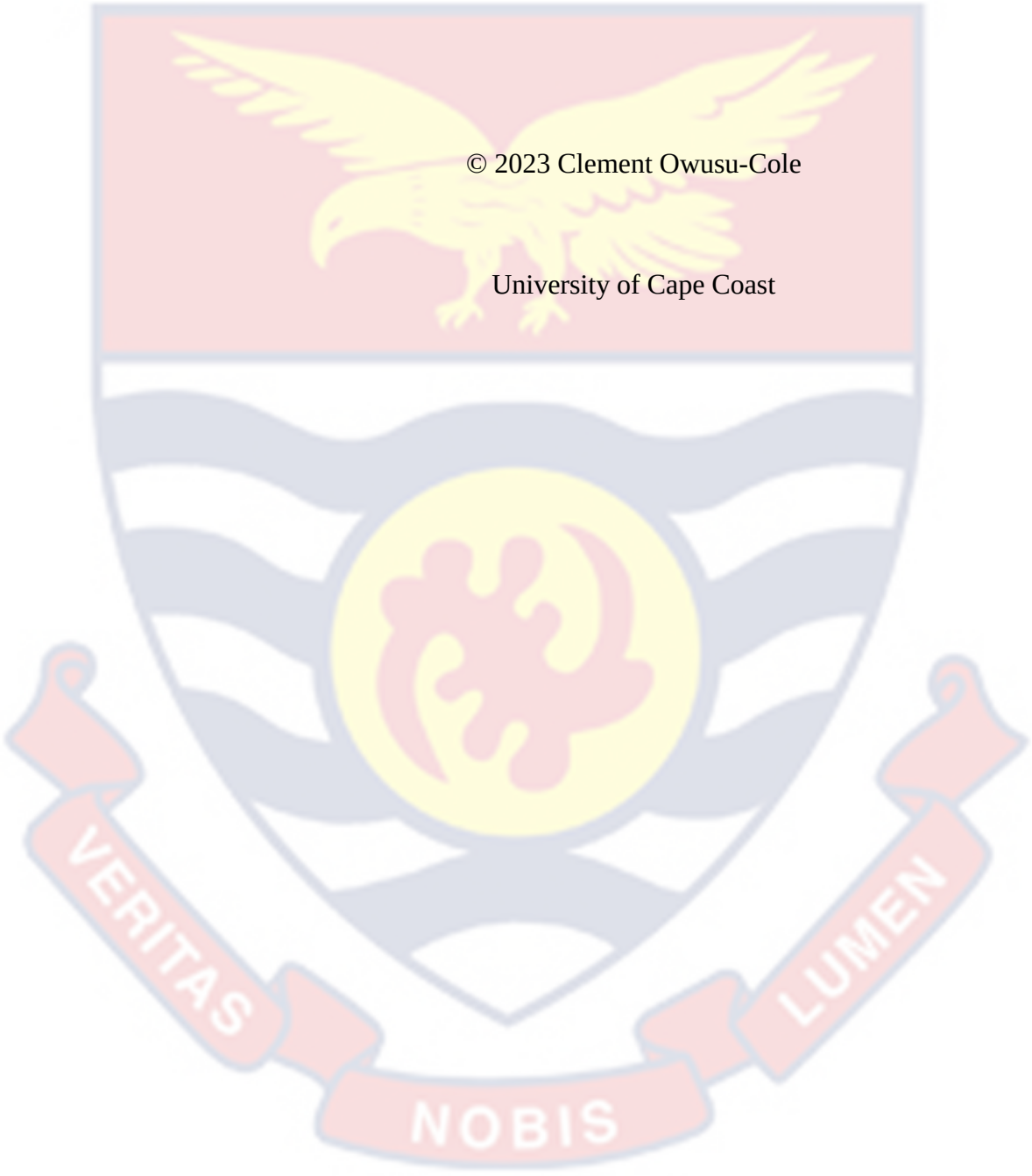
UNIVERSITY OF CAPE COAST

INFLUENCE OF CONTINUOUS PROFESSIONAL DEVELOPMENT PRACTICES ON TUTOR EFFECTIVENESS IN THE COLLEGES OF EDUCATION IN GHANA

CLEMENT OWUSU-COLE

2023



University of Cape Coast

UNIVERSITY OF CAPE COAST

INFLUENCE OF CONTINUOUS PROFESSIONAL DEVELOPMENT PRACTICES ON TUTOR EFFECTIVENESS IN THE COLLEGES OF EDUCATION IN GHANA

BY

CLEMENT OWUSU-COLE

Thesis submitted to the Department of Business and Social Sciences Education, College of Education Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Doctor of Philosophy Degree in Management Education

JUNE 2023

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature …… Date ……

Name: Clement Owusu-Cole

Supervisors' Declaration

We hereby 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 Cape Coast.

Principal Supervisor's Signature …… Date ……

Name: Rev. Prof. Seth Asare-Danso

Co-Supervisor's Signature …… Date ……

Name: Dr. Anthony Akwesi Owusu

ABSTRACT

This study analysed the influence of Continuous Professional Development (CPD) practices in the Colleges of Education (CoEs) on tutor effectiveness in Ghana. Tutor effectiveness was measured within a framework of three dimensions of the National Teachers' Standard (NTS) namely: professional values and attitudes (PVA); professional knowledge (PK); and professional practice (PP). The study used the explanatory sequential mixed-method with priority on quantitative data. A four-step multi-stage cluster sampling technique was used to select 565 tutors from 13 CoEs. Both close-ended questionnaire and semi-structured interview guide were used to collect data. Quantitative data were analysed using frequencies and percentages, mean and standard deviations, chi-square test of independence, multivariate multiple linear regression (MMLR), multiple analysis of variance (MANOVA) and the independent samples t-test. Qualitative data was also analysed through thematic description. The study revealed that both ONTJB (B = -.33, $p < .001$) and OFTJB training (B = -.17, $p < .001$) had significant negative influence on tutor effectiveness with respect to PVA and PK whereas OFTJB training positively predicted PP (B = .22, $p = .008$). It was concluded that CPD practices have not adequately improved tutor effectiveness in terms of PVA and PK and also tutors' engagement, motivation, and satisfaction with CPD activities play a pivotal role in determining their effectiveness. It was recommended that Management of the CoEs must review and adjust CPD programmes to better align with the core values, attitudes and foundational knowledge required for effective teaching. Tailoring CPD activities to meet the specific needs and context of CoE tutors in Ghana is prudent.

KEY WORDS

Colleges of Education

Continuous professional development

Continuous support

Effectiveness

Ghana

National teachers' standard

Off-the-job

On-the-job

Professional development

Professional knowledge

Professional practice

Professional values and attitudes

Tutor

ACKNOWLEDGEMENTS

I extend my profound gratitude to the esteemed individuals who have contributed significantly to the realisation of this study. My heartfelt thanks go to my supervisors, Rev. Prof. Seth Asare-Danso and Dr. Anthony Akwesi Owusu, for your meticulous supervision and valuable suggestions.

I am deeply appreciative of the unwavering support and guidance provided by the lecturers of the Department of Business and Social Sciences Education (DoBSSE) and the Department of Arts Education at the University of Cape Coast especially Dr. Eric Mensah, Dr. Samuel Acquah, Dr. Leticia Bosu and Dr. Prince Yeboah- Asare.

I am immensely grateful to my respondents who generously shared their time, expertise, and personal experiences, forming the foundation of this study. Your enthusiasm, devotion and commitment have contributed to the successful completion of this study. Your efforts are truly commendable.

Special recognition is due Mr. and Mrs. Entsie and Mrs. Victora Ghansah whose invaluable assistance have been indispensable. Indeed, your encouragement, friendship, and support have been instrumental in the successful completion of this study.

In conclusion, I express my deepest gratitude to all those who have played a part in making this study possible. Your contributions have been invaluable, and I am honuored to have worked with such exceptional individuals.

DEDICATION

To my children Yoofi, Araba, Aba, Kukua, Efe Senior and Efe Junior.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

CPD	Continuous Professional Development
PD	Professional Development
CS	Continuous Support
CoEs	Colleges of Education
MoE	Ministry of Education
IOE	Institute of Education
UCC	University of Cape Coast
UG	University of Ghana
KNUST	Kwame Nkrumah University of Science and Technology
UEW	University of Education, Winneba
UDS	University of Development Studies
HR/HRD	Human Resource Development
NCTE	National Commission of Tertiary Education
GTEC	Ghana Tertiary Education Commission
NAB	National Accreditation Board
GSS	Ghana Scholarship Secretariat
ONTJB	On-The-Job
OFTJB	Off-The-Job
SDRC	Staff Development and Research Committee
PTPDM	Pre-Tertiary Teacher Professional and Management
TTI	Teacher Training Institutions
GoG	Government of Ghana

PDF	Professional Development Fund
TSF	Transition Support Fund
TPL	Teacher Professional Learning
VP	Vive Principal

CHAPTER ONE

INTRODUCTION

The study basically seeks to examine the extent to which Continuous Professional Development (CPD) determine tutor effectiveness in the Colleges of Education (CoEs) in Ghana. It is no doubt that the relevance of the instructor in the entire instruction process cannot be underestimated (Mensah, 2016; Dandy, Antor & Eshun, 2018; Abubakari, 2020) and that incompetent and demoralised teachers account for a country's poor education system (Saleem, Rani & Dogar, 2021). Given the complex nature of the teaching environment, it is impossible for teachers to remain useful and relevant with their initial pre-service training. It is therefore imperative and prudent for teachers to constantly keep pace with current and rapid changes in their practice. Change is inevitable and as Ovard (as cited in Takyiwaa, 2010)) puts it, our values are replaced with science for which mankind has been forced to adjust to this dynamic revolution. Therefore, continuing professional development (CPD) is not only a good idea, but the single most important thing that workers can do to ensure they are always upholding the greatest levels of professionalism in their employment (Abonyi, Yeboah, & Laguterah, 2020; Abubakari, 2020). A number of constructs and variables as well as the methodological approach used in this study were adapted from existing studies conducted in CPD. This research will add to what is already known about CPD issues in Ghana especially in the CoEs as they metamorphosed into full-fledged universities. The study will also help in identifying inefficiencies in existing CPD programmes in the CoEs to ensure teacher effectiveness.

Background to the Study

Human resources, particularly teachers, are vital to organisational success (Dixon & Hamilton, 2006; Agyeim-Boateng, 2008; Desimone & Harris, as cited in Owusu, 2011). In the educational context, educators are acknowledged as the utmost influential variable in ascertainig learner performance (European Union, as cited in Newman, 2013). Teaching is considered a lifelong learning process that requires continuous development through training, experience, and practice (Atta & Mensah, 2015). Literature reveals that quality teachers are essential for national development and the delivery of quality education (Ayorogo, 2014). This follows that the success of education is contingent on the excellence of instructors and their continuous progress (Mensah, 2016).

While pre-service training is important, it is not sufficient to address the hurdles tutors may face throughout their careers (Luneta, 2012; Dandy, Antor & Eshun, 2018; Owusu-Cole, Yaqub & Bosu, 2021). Continuous Professional Development (CPD) is crucial in supporting the lifelong professional practice of teachers (Chikari, Rudhumbu & Svotwa, 2015). Undoubtedly, CPD enhances teachers' knowledge, skills, and competencies, enabling them to contribute meaningfully to education (Yaqub et al., 2020). Thus, CPD is widely recognised as an essential part of teachers' professional lives (Chikari et al., 2015).

Having established the need for teachers' CPD, I would like to throw more light on the idea CPD as used in the educational context. The concept of CPD in education is characterised by ambiguity and lacks a universally accepted definition (Friedman & Phillips, 2004; Mphale, 2014). CPD encompasses both formal

processes, such as conferences, seminars, and workshops, as well as informal activities like discussions, independent reading, and research (Donnelly, Dove & Morales as cited in Chikari et al., 2015). In Ghana, CPD programmess have predominantly aligned with formal practices, including institutional training models like open, sandwich, and distance learning opportunities (Cobbold, Ghartey, Mensah & Ocansey, 2009) Cobbold et al's findings seem to suggest that CPD programmes in Ghana are more aligned to the formal practices and corroborate the views of only one school of thought. However, the statutes of the CoEs in Ghana highlight the importance of informal PD practices, such as community of practice, individual erudition, and action research (Act 847, 2012).

The different perspectives of CPD make the conceptualisations of the phenomenon a difficult concept to understand and appreciate. Nonetheless, there is a common denominator that is not in contention which acknowledges CPD as any form of learning activity aimed at employee's growth and development that go beyond pre-service training. For the drive of this enquiry, 'CPD' is conceptualised as any form of continuing learning that seeks to update tutors knowledge, develop skills and influence attitude in order to remain relevant in a more complex dynamic society. CPD is also contextualised as formal activities, informal activities, on-the-job working as well as off-the-job training activities.

The scope of CPD in the educational field is subject to theoretical and conceptual controversies, particularly regarding the inclusion of post-graduate courses (Friedman & Phillips, 2004; Kaija, Heijden & Lewis, 2017). In Ghana, the CoEs have undergone significant reforms driven by government policies over the

past two decades, transitioning from certificate-awarding establishments to diploma-awarding institutions in 2004, and subsequently to degree-awarding establishments in 2017. These policy changes have raised the bar for tutors, particularly in terms of the minimum qualification required for teaching as determined by the National Accreditation Board (NAB). It has become mandatory for CoE tutors to possess advanced qualifications such as research-based Master's and Ph.D degrees. This has sparked debates among academics regarding the appropriateness of advanced degrees as part of CPD practices. In light of the evolution of CoEs into University Colleges in Ghana, I align with Kennedy's (2005, 2015) conceptualisation of advanced degrees obtained by teachers while on the job as a component of CPD practices.

Recognising the crucial role of CPD in teacher effectiveness, the Ministry of Education (MoE) in Ghana implemented various reforms and policies to promote the concept. The Pre-Tertiary Teacher Professional Development and Management (PTPDM) policy framework for example was introduced to prepare teachers at the pre-tertiary level for the changing educational landscape based on established standards and competencies. Under the PTPDM framework, tutors in CoEs are also included, receiving a minimum number of CPD hours (content, methodological, and applied research) every two years, as determined by the National Council for Tertiary Education (NCTE) and the National Teaching Council (NTC). Other policy reforms include the Education Act in 2008 (Act 778) and the elevation of Teacher Training Institutes (TTIs) to tertiary status through the Colleges of Education Act 847 (NCTE, 2012).

The field of research on CPD practices has witnessed significant historical developments that have shaped the current understanding of the phenomenon. Early studies in the literature focused on aspects such as: perceptions of CPD; environmental factors that influence CPD; teachers' attitude to CPD; approaches to CPD; CPD frameworks and policies; designing CPD programmes; availability of CPD programmes; gender and age influence on CPD; as well as evaluation of CPD programmes. All these perspectives of CPD provided initial insights into the various dynamics and laid the foundation for further exploration and understanding of CPD in organisations. As research progressed, scholars and researchers delved deeper into the topic, building upon the early findings and expanding the theoretical frameworks that explain CPD practices in organisations. Indeed, the exploration of these aspects of CPD have revealed important relationships and correlations, contributing to a more nuanced understanding of the concept in organisations. Additionally, the development of both learning and motivational theories have provided valuable frameworks for conceptualising and studying this research study.

Despite these advancements, gaps in knowledge and understanding persisted, highlighting the need for further research and investigation. A review of literature related to tutor effectiveness through CPD practices in the education sector found one study in Asia (Saleem, Gul & Dogar, 2021); five studies in Europe (Davies & Preston, 2006; Muijs & Lindsay, 2008; O'Sullivan, McConnell & McMillan, 2012; ETI, 2015; Borg, 2018); one study in North America (Bartleton, 2018); one in South America (Acar & Erozan, 2021); and ten studies in Africa (Takyiwaa, 2010; Nkrumah, 2012; Ayorogo, 2014; Chikari et al., 2015; Mensah, 2016; Tamanja,

2016; Dampson, Eshun & Antor, 2018; Sulley, 2018; Melesse & Gulie, 2019; Abubakari, 2020). Review of these studies revealed contextual gaps, conceptual, methodological gaps and analytical gaps.

While the CoEs had been in existence for over a century, they garnered significant attention from stakeholders only after the enactment of Act 847 in 2012, which conferred legal status on their transition from certificate-awarding institutions to degree-awarding institutions. The sector grappled with several challenges including poor governance and management issues, regulations, autonomy and infrastructural deficits as well as poor conditions of service (Newman, 2013). These institutional bottlenecks did not make the sector attractive enough for practitioners. Hence, not much was known of CPD in the CoEs in spite of their crucial contribution to the advancement of teacher education in Ghana. Thus, in recognition of CPD as an essential activity in a competitive and dynamic global village, the last decade has seen a significant evolution of CPD programmes in the CoEs. For example, the introduction of the Bachelor of Education (B.Ed) programmes in the CoEs since 2017 necessitated the MoE through the Ghana Scholarship Secretariat (GSS) to establish an annual Professional Development Fund (PDF) for the staff of the CoEs for CPD practices. Similarly, the MoE with help from the UK aid, Transforming Teacher Education and Learning (T-TEL) had in place a Transitional Support Fund (TSF) purposely meant for CPD of staff of the CoEs who did not meet the minimum requirement for teaching upon the CoEs transformation to a University status. T-TEL since 2017, has in place an institutionalised weekly teacher professional learning (TPL) sessions that seeks to

improve classroom practices. Also, the Institute of Education (IOE) of Cape Cape University (UCC) indicated that about twenty workshops and other forms of PD programmes were organised for tutors between 2015/16 and 2019/20 academic years (IOE, 2020). Data from the various Staff Development and Research Committees (SDRC) in all the thirteen (13) CoEs used for this study, indicate that as of the end of the 2019/20 academic year, 407 (65.43%) tutors out of the total staff strength of 622 were on various forms of CPD programmes ranging from short to long term university courses. The central point of all these CPD intervention practices is to get more attention for tutors to be fortified with the requisite abilities and desirable pedagogical skills useful to make positive impact on tutor effectiveness to face new challenges and reforms in education. Indeed, the discourse show that there have been conscious progress made by all key participants in teacher education in ensuring that 'a learning habit' is cultivated in the CoEs. The unanswered question however still remains as to the extent to which these efforts have reflected in tutor effectiveness in the CoEs.

It is still unknown how the several PD practices that have evolved in the CoEs over the years have yielded the desirable changes required. Many stakeholders have lamented on the lack of improved performance of tutors after CPD (Owusu, 2011; NAB, 2017, Yaqub et al, 2020, Owusu-Cole, Yaqub & Bosu, 2021). This leaves the evaluation of tutor effectiveness of on-going CPD practices in the CoE in question. Yaqub et al. (2020) found that one major structural challenge in PD programmes in the CoEs was lack of regular and systematic evaluation of their programmes. Odoom et al. (2016) and Yaqub et al. study found that most CPD practices in the

CoEs were conducted without any proper needs assessment. The implication of these findings is that PD programmes in the CoEs have evolved in the past without any form of proper needs assessment and feedback to tutors. Abreh (2018) adds another dimension to the problems associated with CPD practices when he argued that the provision of PD opportunities for teachers did not follow any structured procedures including motivating factors. He maintains for instance that, in some jurisdictions, teachers engagement in PD practices earn them extra cumulative points that are considered for promotions amongst other benefits. However, an initial pilot-test showed that the fate of tutors in the CoEs after PD practices is unknown. The issue of tutors' reaction to PD practices therefore invariably arises. Thus, these deficiencies do not only undermine tutor improvement efforts through PD practices in the CoEs, but also affect the national educational agenda of ensuring that CoEs produce the most competent and motivated teachers at the basic level. It is crucial to focus attention on the interacting variables which are critical in laying the foundations for efficient and effective CPD practices in the CoEs. Yaqub et al. (2020) and Odoom et al. (2016) findings, make it imperative to pay attention to the influence of PD programmes on tutor effectivenes. It is however, more critical to examine some interacting variables that influence tutor effectiveness through CPD practices. The variables subsequently being investigated by my study include: the type of needs analysis that inform the selection of tutors for PD programmes; methods used in identifying these needs; suitability of various PD practices available in the CoEs (contingent how best tutors learn, frequency of the PD activity and the relevance of the PD activity); tutors reactions to PD programmes (relative

to trainee characteristics, training design and work environment factors; gender influence on the choice of PD programmes and its subsequent effect on tutor effectiveness; and finally how the various forms of PD practices influence the overall tutor effectiveness. No known study, if any has scrutinised the degree to which these permeating variables influence tutor effectiveness in the CoEs. The sttudy therefore assessed CPD practices in the CoEs to determine their influence on tutor effectiveness.

Another distinct focus of the study is the indicators used in determining tutor effectiveness. Establishing criteria for teacher effectiveness has been an age-long controversial issue for lack of professionally acceptable standards by all stakeholders in education. This vacuum created was furnished for by the representation of the National Teachers' Standards (NTS) to guide the determination of practice that constitute teacher effectiveness in Ghana. Hitherto, codifying who and what constitutes a 'good teacher' was subject to different standards and interpretations by stakeholders (MoE, 2017). The NTS has a legal status enshrined in Act 778 of 2008 and provides ideals for both beginning and practicing tutors. The NTS has three domains as: professional values and attitudes (PVA); professional knowledge (PK); and professional practice (PP). The study therefore used the three dimensions of the NTS determining tutor effectiveness.

Addressing the identified gaps in the literature holds immense significance for stakeholders in teacher education. Conducting further research on the understudied variables of 'influence of CPD practices on tutor effectiveness in the CoEs amount to an additional inclusive comprehension of the notion. This enhanced

understanding can inform the development of targeted interventions, policies, or strategies that effectively address the specific needs and challenges associated with this problem. For example, filling the gaps related to tutors of the CoEs is vital for promoting inclusivity and equity in research. By encompassing diverse populations, the findings provide insights into the unique experiences and practices within different sociocultural context. This knowledge is crucial for tailoring interventions and initiatives that are sensitive to the specific needs of these populations. For example: knowledge of how best tutors learn as well the relevance of available PD activities used will help management of the CoEs to fashion out home-made programmes tailored to suit its institutional goals; the findings will inform GTEC, NAB, Affiliated universities and the CoEs about the extent to which available CPD programmes determine tutor effectiveness which will influence policy decisions on CPD to ensure the huge investments by various stakeholders are not waste. Lastly, addressing methodological limitations will strengthen the overall quality and reliability of research findings. By employing rigorous methodologies and considering alternative approaches, the research community can enhance the validity of the findings, promote replication of studies, and facilitate the accumulation of evidence that supports or refines existing theories and models.

The novelty notwithstanding, the study is related to existing studies in many ways. Most of the constructs used were developed from already existing literature in the field. For instance, methods and criterion used in needs assessment procedure were developed from existing literature; types of PD practices and models were adapted from Kennedy's work; constructs measuring tutors reactions to PD

practices were adapted from the various evaluative levels of Guskey and Kirkpatrick's models; and tutor effectiveness was measured using the NTS for Ghana.

Statement of the Problem

Tutors in the CoEs in Ghana bear diverse duties and responsibilities, encompassing teaching, student supervision, research, publication, and community engagement (NCTE, 2012, Act 847). However, with rapid social and educational changes, reliance solely on pre-service training proves inadequate for tutors to effectively fulfill their roles in sustaining a lifetime of professional practice (Luneta, 2012; Dandy, Antor, & Eshun, 2018). CPD is not merely a matter of modest participation for tutors but is recognised as crucial for enhancing teacher quality and addressing challenges within the education system (Falola, Osibanjo, & Ojo, 2014; Jull, Swaffield, & MacBeath, 2014; World Bank, 2018). The instructional implication of this observation underscores the indispensability of teachers' CPD practices as a prerequisite for an improved education system.

In response, CPD has emerged as the most pervasive means of enhancing tutors' professional practice in the CoEs. Consequently, there is a pressing need for better design, organisation and implementation of CPD practices within Ghana's CoEs. Various reports and policy recommendations have underscored the necessity for a policy framework to effectively guide CPD for teachers (NCTE, 2012; MoE, 2018; UCC Affiliation Document, 2018). However, despite several interventions that have augmented CPD opportunities in the CoEs since 2016, there is a prevailing perception among practitioners that CPD programmes have not resulted in the

desired behavioural changes and improved professional competence (Odoom, et. a., 2016; Yaqub et. al., 2020; Owusu-Cole, Yaqub and Bosu, 2021). This suggests a gap between the envisioned and real competence of tutors. Thus, the problem of poor teacher quality still appears to persist despite their engagement in CPD activities. Undoubtedly, several factors could account for this problem, but it is crucial to explore the constructs and variables that will help practitioners establish the influence of CPD programmes on tutor effectiveness.

Numerous studies have delved into the effectiveness of CPD practices across various sectors globally (Davies & Preston, 2006; Muijs & Lindsay, 2008; O'Sullivan, McConnell & McMillan, 2012; Takyiwaa, 2010; Nkrumah, 2012; Ayorogo, 2014; Chikari et al., 2015; Mensah, 2016; Tamanja, 2016; Borg, 2018; Bartleton, 2018; Dampson, Eshun & Antor, 2018; Sulley, 2018; Melesse & Gulie, 2019; Abubakari, 2020; Acar & Erozan, 2021; Saleem, Gul & Dogar, 2021).. However, for the purpose of this inquiry, the literature predominantly focuses on examining CPD practices and tutor effectiveness within the education sector. Research conducted in different regions has yielded a study in Asia (Saleem, Gul, & Dogar, 2021), five studies in Europe (Davies & Preston, 2006; Muijs & Lindsay, 2008; O'Sullivan, McConnell, & McMillan, 2012; ETI, 2015; Borg, 2018), one study in North America (Bartleton, 2018), one in South America (Acar & Erozan, 2021), and ten studies in Africa (Takyiwaa, 2010; Nkrumah, 2012; Ayorogo, 2014; Chikari et al., 2015; Mensah, 2016; Tamanja, 2016; Dampson, Eshun, & Antor, 2018; Sulley, 2018; Melesse & Gulie, 2019; Abubakari, 2020).

However, findings from studies conducted outside Ghana cannot adequately describe teacher effectiveness through CPD in Ghana due to variations in conceptual frameworks and cultural contexts. Within Ghana, research has primarily focused on assessing the role of CPD in basic school practices, the effect of sandwich programmes in basic schools, and the impact of distance education on basic school teachers. Only four studies examined teacher effectiveness resulting from CPD, but these mainly concentrated on pre-tertiary level teachers and often focused on specific components of teacher effectiveness, neglecting other aspects. The absence of a standardised policy document to define an effective teacher and the use of descriptive analytical tools in these studies limited their ability to establish statistical relationships between CPD practices and teacher effectiveness. Notably, Chikari et al. (2015) conducted a study in Botswana, while Mensah (2016) focused on Ghana, and Melesse & Gulie (2019) conducted their research in Ethiopia, all investigating teacher effectiveness. However, these studies only revealed correlational relationships with contradictory findings, showing both high and moderate impact. Notably, Mensah's study alone in Ghana does not provide sufficient evidence for establishing a correlational relationship between CPD practices and teacher effectiveness in Ghana. Consequently, no regression analysis has been conducted to inspect the relationship between CPD practices and teacher effectiveness.

In the realm of CoEs in Ghana, a limited number of studies exist, with most focusing on staff development needs, challenges faced by tutors in accessing CPD, and the assessment of continuing education programmes (Acquah, 2012; Odoom et

al., 2016; Yaqub et al., 2020). These inquiries exhibit conceptual, contextual, methodological, and analytical gaps, lacking evidence on how CPD practices determine teacher effectiveness, particularly in the CoEs using standardised indicators. Given the recent transformation of the CoEs into University Colleges, it is indispensable to comprehend the nature of CPD programmes and their influence on tutor effectiveness. However, there is a scarcity of research-based evidence in this area. Therefore, it is crucial to verify the influence of CPD practices on tutor effectiveness to gain a better understanding and advance the general excellence of CPD evolution in the CoEs. Building upon the historical developments, existing knowledge, and identified gaps, the present study aims to: identify the factors that inform needs assessment as well as the methods used in identifying these needs; examine the suitability of CPD programmes for tutors in the CoEs; examine the extent of tutors' reactions to PD programmes relative to trainee characteristics, training design, and work environment factors; examine the extent to which PD programmes determine tutors' effectiveness; and examine gender influence on tutor effectiveness in the CoEs.

Purpose of the Study

The study examined the influence of CPD practices on tutor effectiveness across thirteen (13) CoEs in Ghana, with a focus on measuring specific constructs. This approach aimed to provide a comprehensive understanding of CPD issues within the CoEs.

Research Objectives

The research objectives collectively guide the research towards a comprehensive exploration of the relationship between CPD practices and tutor effectiveness in CoEs, addressing various dimensions and contextual factors that contribute to professional development and performance in the educational landscape. They include:

1. Factors considered in CPD programmes: The first objective identify the factors considered by CoEs prior to implementing their CPD programmes. This objective seeks to understand the criteria and considerations involved in the planning and design of CPD initiatives within CoEs.
2. Methods used in needs assessment: The second objective focuses on identifying the methods used in the needs assessment process within CoEs. By examining the methodologies employed to assess the training needs of tutors, this objective aims to shed light on the systematic approaches used in determining CPD priorities.
3. Suitability of CPD programmes: The third objective examine the suitability of CPD programmes for tutors within CoEs. This objective evaluate the alignment between CPD offerings and the learning needs, preferences, and professional development goals of tutors.
4. Tutor reactions to CPD programmes: The fourth objective explore tutor reactions to CPD programmes in terms of trainee characteristics, training characteristics, and work design factors. By examining tutors' responses and

perceptions, this objective uncover insights into the effectiveness and appropriateness of CPD initiatives.

5. Influence of CPD programmes on tutor effectiveness: The fifth objective assess the influence of CPD programmes on tutor effectiveness. This objective measures the influence of CPD initiatives on enhancing tutors' professional competencies, skills, and overall effectiveness in their roles.
6. Gender influence on tutor effectiveness: The final objective examines how gender influences tutor effectiveness in CoEs. By considering gender dynamics and disparities, this objective seeks to understand how gender-related factors may shape tutors' experiences with CPD practices and their effectiveness in educational settings.

The specific objectives therefore were to:

1. identify the factors considered by the CoEs prior to their CPD programmes.
2. identify the methods used in the needs assessment process in the CoEs.
3. examine the suitability of CPD programmes for tutors within the CoEs.
4. examine tutor reactions to CPD programmes in terms of trainee characteristics, training characteristics and work design factors.
5. assess the influence of CPD programmes on tutor effectiveness.
6. examine how gender influences tutor effectiveness in the CoEs.

Research Questions

The following research questions delve into the essential variables shaping CPD practices within the CoEs in Ghana.

1. What factors inform needs assessment conducted prior to CPD practices in the CoEs?
2. What assessment methods are used in identifying training needs of tutors in the CoEs?
3. To what extent are available CPD programmes in the CoEs suitable for tutors in the CoEs?

The responses to these inquiries illuminate both the strengths and weaknesses of CPD practices, providing valuable insights into areas for potential improvement to enrich tutor development and educational outcomes.

Hypotheses

The hypotheses derived from objectives four, five, and six explore the relationships between different PD practices and tutor effectiveness within the CoEs in Ghana.

1. $H_0$1: On-the-job and off-the-job programmes have no significant influence on tutor effectiveness in the CoEs;
2. $H_0$2: Tutors reactions to PD practices have no statistically significant influence on their effectiveness;
3. $H_0$3: There is no statistically significant gender difference in tutor effectiveness.

Through these hypotheses, the study sought to provide empirical evidence on the impact of PD practices on tutor performance, thereby informing policy and practice enhancements within the CoEs.

Significance of the Study

This study significantly contributes to the understanding of CPD practices in learning organisations, particularly in CoEs. By emphasszing the importance of needs assessment, the research establishes a foundational understanding that informs the design and implementation of effective PD programmes. This ensures that Management within CoEs can contextualise PD initiatives within the institution's strategic framework, aligning them with the identified needs of tutors and the available support systems.

Furthermore, the study sheds light on the suitability and effectiveness of PD programmes within CoEs, considering factors such as learning preferences of tutors, the frequency of available PD practices, and their relevance to improving tutor effectiveness. This insight enables Management to tailor home-made PD programmes that align with the institutional culture, thus fostering a more conducive environment for professional growth and development among tutors.

Additionally, the findings regarding OFTJB PD practices establish crucial insights into the relationship between CoEs and providing institutions. Understanding the nature of this relationship allows for the validation of programmes that address practical training needs identified through needs assessment. Consequently, CoEs can leverage validated programmes to enhance tutor effectiveness, informing their quality assurance practices and optimising the benefits derived from OFTJB PD initiatives.

Moreover, the study's exploration of the indispensability of CPD in CoEs elucidates the significant investments made by various stakeholders, including

government bodies and educational organisations. By assessing the influence of available PD programmes on tutor effectiveness, the research informs policy decisions aimed at ensuring these investments yield the intended outcomes. This not only benefits the tutors directly supported by initiatives like the professional development fund but also enhances the overall quality of education within CoEs.

Finally, the study fills a gap in the discourse on CPD effectiveness by focusing specifically on tutor effectiveness within CoEs. Through its unique conceptual and contextual framework, the research enriches existing knowledge and understanding of CPD practices in the educational sector. This contribution is valuable for professionals, practitioners, and academicians, enhancing their ability to design and implement effective CPD initiatives tailored to the needs of tutors within CoEs.

Delimitations

The study's scope was delimited to thirteen CoEs in Ghana, encompassing a sample of 565 academic staff members. Despite this focused sample, the research ensured representativeness by including all five universities affiliated with the CoEs, thereby encompassing the broader landscape of CoEs across the country. This deliberate selection aimed to capture a comprehensive understanding of CPD practices within the context of affiliated institutions.

Furthermore, the study narrowed its focus to academic staff members who had been in their positions since 2017, thereby establishing a consistent timeframe for data collection and analysis. This decision helped ensure a degree of stability in

the sample, enabling more reliable insights into CPD experiences and their influence on tutor effectiveness.

In terms of constructs under investigation, the study concentrated on several key aspects related to CPD practices within CoEs. These included the assessment needs practices conducted prior to CPD programmes, the suitability of available CPD programmes for tutors, reactions to PD initiatives, the role of CPD in determining tutor effectiveness, and the potential influence of gender on effectiveness outcomes. By delimiting the study to these specific constructs, researchers could focus their efforts on comprehensively exploring these critical dimensions of CPD within the CoE context.

Moreover, to maintain consistency and standardisation in assessing tutor effectiveness, the study limited its examination to the three domains outlined in the National Teachers' Standards (NTS, 2017). This approach ensured a common framework for evaluating effectiveness across CoEs, facilitating meaningful comparisons and insights into the influence of CPD initiatives on tutors' professional capabilities.

Methodologically, the study adopted the explanatory sequential design, prioritising quantitative data analysis to address research questions and test hypotheses effectively. This sequential approach allowed the establishment of patterns and relationships through quantitative analysis before delving deeper into understanding and explaining these findings through qualitative insights garnered from the semi-structured interviews.

Finally, the choice of data collection instruments, namely survey questionnaires for tutors and semi-structured interviews for vice-principals (VPs), was deliberate. While focus group discussions and observations could offer additional perspectives, the selected instruments were deemed most appropriate for gathering the necessary data efficiently and effectively within the study's constraints, ensuring rigour and depth in the research process.

Limitations

The study encountered several limitations that necessitated careful consideration and mitigation strategies to ensure the validity and reliability of the findings. The use of the explanatory sequential design had constraints in fully capturing the complexity of tutors' PP. Constructs related to PP in the questionnaire, while statistically analysed, could not fully capture the complexity of professional behaviours. An observational method was more appropriate which was not feasible under the circumstance. However, pilot testing and standardised interview protocols ensured the validity and credibility of qualitative data that further explained identified grey areas that were not convincing through the quantitative analysis.

Moreover, the data collection instruments, although carefully developed and pre-tested, relied on self-reported responses, which can be influenced by social desirability bias. Tutors may provide responses that align with perceived expectations rather than their true attitudes and experiences. While measures were taken to ensure the anonymity of responses, this limitation should be acknowledged due to the human component factor. Mitigating this, the study emphasised the importance of honest and candid responses during informed consent procedures and

questionnaire administration. Respondents were assured that their anonymity and confidentiality would be strictly maintained. Additionally, the use of closed-ended Likert scale questions aimed to reduce the potential for biased responses, as it provided a structured format for expressing responses.

Additionally, the data analysis, incorporating various statistical methods such as chi-square, multivariate multiple linear regression (MMLR), and multiple analysis of variance (MANOVA), is contingent upon assumptions of normality, homoscedasticity, and linearity. Deviations from these assumptions have the potential to impact result accuracy. Consequently, meticulous statistical checks were undertaken to rectify and accommodate any such deviations. Specifically, tests for linearity, normality (such as Shapiro-Wilk test), and homoscedasticity (including Levene's test) were conducted to ensure the validity and robustness of the analysis. Despite these precautionary measures, it is essential to acknowledge this inherent limitation in the study.

Furthermore, while the inclusion of only five VPs for interviews in the study might initially seem limiting, it is important to highlight that this constraint did not undermine the validity of the results. The study primarily centered on quantitative data, with qualitative insights providing supplementary explanations. Thus, while the smaller number of VPs may have restricted the depth of qualitative perspectives, it certainly did not diminish the overall validity of the research findings.

Finally, while the study comprehensively investigated the relationship between CPD practices and tutor effectiveness, it is essential to acknowledge that CPD is not the sole determinant of tutor effectiveness. Several factors beyond CPD

contribute to the overall effectiveness of tutors in educational settings. These factors could be personal characteristics that is attitudinal in nature, management problems, nature of the work design and the availability instructional materials which are difficult to address using CPD practices.

Organisation of the Study

The study is organised into five chapters, each serving a distinct purpose. Chapter One addressed the foundational aspects of the research, including the background, problem statement, and the rationale behind the study. It outlined the purpose and objectives, articulated through well-defined research questions and hypotheses. Additionally, this chapter highlighted the significance of the study, emphasising its potential contributions to CPD practices. It also delineates the delimitations and limitations, providing a clear scope and acknowledging any constraints. Operational definitions of key terms are provided to ensure clarity and consistency throughout the study. This comprehensive overview established a solid framework and context for the subsequent chapters, setting the stage for an in-depth exploration of the research topic.

Chapter Two synthesises existing literature on CPD issues relevant to the study, providing a comprehensive review of scholarly discourse in CPD. This literature review contextualised the research within broader academic discussions, highlighting key themes and trends in CPD practices. It also identified significant gaps that the current study address, thus justifying the research's necessity and relevance. Additionally, the chapter explored the theoretical and conceptual frameworks underpinning the study, offering a solid foundation for understanding

the dynamics and implications of CPD practices in the context of tutor effectiveness in Ghana's CoEs. This thorough examination ensured a well-rounded perspective, enriching the study's analytical depth and theoretical grounding.

Chapter Three outlined the research methods employed for data collection and analysis, detailing the systematic approach adopted to gather and interpret the data. It described the research paradigm, design, setting, participants, and sampling methods. The chapter also provided a comprehensive overview of the data collection tools and sources, as well as the analytical techniques used. The thorough explanation offered insight into the structured methodology that ensured the reliability and validity of the study's findings.

Chapter Four presented and discussed the study's results, organised according to the research questions and hypotheses. The data were analysed using both descriptive and inferential statistical methods. Results from the questionnaire were displayed in tables, providing a clear and detailed view of the quantitative data. Additionally, textual discussions from a semi-structured interview complemented the questionnaire analysis, offering qualitative insights that enriched the understanding of the research outcomes. This dual approach ensured a comprehensive interpretation of the findings, addressing all aspects of the research questions and hypotheses effectively.

Chapter Five concluded the research study, offering a succinct summary of the research process and highlighted key findings from the data analysis. It drew upon these findings to present conclusive statements, leading to recommendations in line with the research questions and hypotheses. The recommendations provided

suggestions to address the identified gaps to enhance CPD programmes so as to improve tutor effectiveness in the CoEs. This chapter also provided valuable insights for future research and practice in the field of CPD.

Operational Definition of Terms

Colleges of Education (CoEs): This refers to institutions entrusted with the vital role of preparing and producing teachers for Ghana's elementary education system. They begun as certificate awarding institutions and since 2019, have transitioned to degree-awarding institutions.

Tutor: This refers to teacher educators in the CoEs, whose competence is of paramount importance and cannot be left to chance.

Continuous Professional Development (CPD): The term has been used to describe all kinds of learning activities (formal, informal, on-the-job, off-the-job) that teachers engage in to advance and update their expertise (expertise, abilities, and attitudes), in order to remain useful and relevant across all areas of their professional practice.

Human Resource Development (HRD): The term is used to include education, training and development. It excludes health care, nutrition as well as population control.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This study looked at how CPD practices have influenced tutor performance in the CoEs in Ghana. In view of this, the review provides a wide range of themes covering the various constructs being measured. To do this, this chapter consists of an interplay of the variables in relation to CPD practices and begins with theoretical review (adult learning theory; reinforcement theory; and expectancy theory) followed by the empirical studies, conceptual framework and finally a summary of the entire literature review.

Theoretical Review

Katz and Kahn (as cited in Cole, 2019) identified an organisation as a system that can be ‘open’ and ‘close’. American academics Lawrence and Lorsch (as stated in Cole, 2019) propose a 'Contingency theory' that emerges from the open systems approach and contends that no one theory can at present ensure an organization's efficacy. This means that the analytical abilities of the system approach are utilised further by the contingency theory to find the optimal organisational structure and management strategy for each given situation. According to the contingency theory of continuing professional development (CPD), selecting the optimal combination of relevant aspects such as outside influences, innovations in technology, human abilities, and inspiration is key to solving style and design problems.

Unlike the classical and human relations theories, the goal of the theory of contingent events is not to generate rules that apply in every situation. It primarily

concerns with dependances and not absolutes hence otherwise known as situational approach to institutions management. This theory does not frown on earlier theories and approaches to management but adapts them as part of a 'mix' which could be useful to institutions under specific set of conditions. The study was therefore guided by some 'mix' theories that include: the adult learning theory; the reinforcement theory; and the expectancy theory.

Adult Learning Theory (ALT)

CPD practices in institutions obviously involve adults in the learning process (Zepeda, 2011) and their success could partly be traced to practitioners' ability to understand and appreciate how adults function and learn. Therefore, adult learning theory (ALT) provided some theoretical grounding for this investigation. Adults have different traits and learning demands than younger students, as stated by Merriam, Caffarella, and Baumgartner (2007). Self-motivated and focused on specific outcomes, adult students additionally contribute a wealth of practical knowledge to the classroom. The Adult Learning Theory (ALT) is a theoretical framework that emphasises the unique learning needs and experiences of adult learners. The ALT is based on the idea that people have a sense of agency over their own lives, as proposed by Knowles (1970). This means that adults should be actively engaged in the process of creating their own learning opportunities. According to this view, instructors should play an integral role in determining the nature and scope of professional development (PD) opportunities for their students.

Research has shown that involving adult learners in the preparation and design of their own learning experiences can enhance their motivation, engagement,

and learning outcomes (Boud, D., Keogh & Walker, 1985). Furthermore, the ALT proposes that adult learners have a wealth of prior understandings that can be employed to enhance their learning (Merriam et al., 2007). This means that CPD programmes for tutors should be premeditated to build on their prior experiences and knowledge. Again, the design of CPD programmes that build on the prior experiences and knowledge of tutors could improve their engagement and learning outcomes.

The ALT also suggests that adult learners are motivated to learn when they obseve the significance and practical application of what they are learning (Merriam et al., 2007). In this context, involving tutors in the needs assessment and planning of CPD activities could improve the relevance and suitability of the available CPD programmes. Again, ALT suggests that the effectiveness of CPD practices in the CoEs may be influenced by the degree to which those practices are tailored to the unique needs that meet the challenges faced by tutors in the CoEs. For example, CPD programmess that are designed to be self-directed and goal-oriented may be more effective in engaging adult learners and promoting their learning and development.

Specifically, the ALT is relevant to the hypothesis that on-the-job and off-the-job CPD programmes have no significant influence on tutor effectiveness. That is to say that if CPD programmes are not designed to satisfy the exclusive requirements of adult learners, they may be less effective in engaging tutors and promoting their learning and development. Similarly, in relation to the hypothesis that tutors' reactions to PD practices have no statistically significant influence on

their effectiveness. If CPD programmes are not designed to be self-directed and goal-oriented, they may be less effective in engaging adult learners and promoting their learning and development, which could ultimately reduce their effectiveness. Finally, the ALT is still relevant to the hypothesis that there is no statistically significant gender variance in tutor effectiveness. Thus, if CPD programmes are designed to meet the exceptional requirements of adult learners, they are likely to be effective for both male and female tutors, regardless of gender.

Overall, ALT delivers a convenient basis for clarifying how the design and implementation of CPD practices in the CoEs can be tailored to meet the unique needs of adult learners and promote their learning and development.

Reinforcement Theory (RIT)

Reinforcement theory is generally considered as a learning theory and has specific connections with the work of the behaviourist, B.F. Skinner even though it is equally considered as a motivation theory (Skinner, 1953; Cole & Kelly, 2015). According to this notion, one's actions are determined by the results of their previous actions. It follows that actions that are rewarded are more likely to be repeated in the future, whereas those that are punished are less likely to be.

The reinforcement theory basically is not strictly a theory of motivation but rather more concerned with control of behaviour. Subsequently, advocates of this theory including Jablonsky and De Vries (as cited in Cole & Kelly, 2015) suggest some guidelines for practitioners who intend using it as a motivating tool in the organisation. Among these are the use of favourable reassurance for what is wanted, the avoidance of retribution as a primary means for accomplishing what is expected,

the use of encouragement as soon as practicable after a reaction, the consistent use of constructive criticism, the evaluation of both the positive and negative aspects of the individual's surroundings, and the specification of what is needed in measurable terms (Cole & Kelly, 2015).

Leong and Yazdanifard (2014) reported a positive relationship between monetary incentives based on work output and role performance in Malaysia. Several other research reports indicate that there are well defined HRD policies with positive reinforcement packages governing the Universities (both private and public) as well as other corporate organisations (Ghansah, 2009; Owusu, 2011; Newman, 2013). Hence, it is prudent and best practice that Human Resource Development (HRD) policies are tied to some of these proven motivational factors like bonuses, pay rise, promotional opportunities, acknowledgement, praises among others.

Relative to CPD practices, the reinforcement theory proposes that effectiveness of CPD practices in the CoEs could be influenced by the use of rewards or punishments to reinforce tutor behaviour. For example, if tutors who engage in CPD practices are rewarded with increased job security or promotion opportunities, they may be more motivated to engage in those practices, which could ultimately improve their effectiveness. The Reinforcement theory is relevant to all the three hypotheses (H_1: on-the-job and off-the-job CPD programs have no substantial influence on tutor effectiveness; and H_3: there is no statistically significant gender difference in tutor effectiveness). If the use of rewards or punishments to reinforce tutor behaviour is not considered in the implementation of

CPD practices, tutors may be less motivated to engage in those practices, which could ultimately reduce their effectiveness. The point here is that professionals learn faster with corresponding improved performance if CPD programmes are associated with outcomes they value. Overall, the reinforcement theory provides a useful background for comprehending how the use of rewards or punishments to reinforce tutor behaviour may influence their inspiration to participate in CPD practices and their effectiveness as a result.

Vroom's Expectancy Theory (VET)

Vroom's expectancy theory is a motivational theory that focuses on the relationships among an individual's effort, performance, and outcomes (Vroom, 1964). Rendering to the theory, people are inspired by their expectations about the relationship between their determination and their performance, as well as the results from their performance (Vroom, 1964) as illustrated in figure 1.

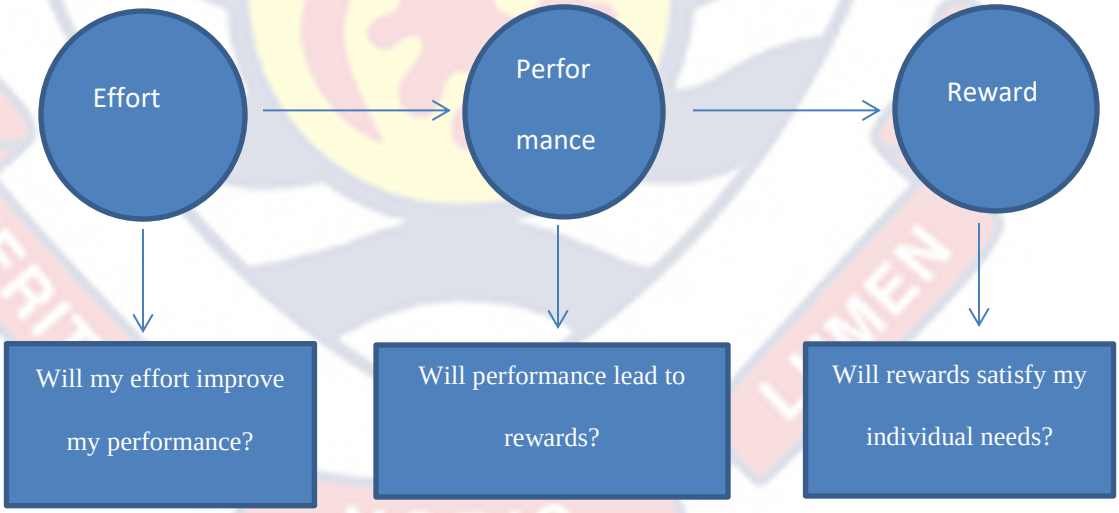


Figure 1: Expectancy model of motivation (Khanka, 2007)

Expectancy, instrumentality, and valence are the three characteristics that affect the drive of individuals to perform an action, as proposed by Vroom. The term "expectation" is used to describe the conviction that one's actions will produce

the intended outcome. When people say they are "instrumental," they mean they expect their actions to bring about specific results or benefits. The term "valence" was coined by psychologist Robert Guskey in 2002 to describe how much an individual values a certain reward or outcome. Indeed, the theory emphasises that individuals make rational decisions based on their expectations of future outcomes (Vroom, 1964). Numerous industries, including education, have made use of the theory to explain how individuals are motivated to perform and achieve their goals.

This theory is relevant to the study, as it provides a framework for understanding how individuals' expectations about the outcomes of their efforts influence their motivation to engage in a given task. Therefore, the application of Vroom's expectancy theory to my study implies that tutor performance can be enhanced by the implementation of effective PD practices that increase their expectation of success and desirable outcomes. For example, if tutors have high expectations that a particular CPD programme will lead to improved job performance, they may be more likely to engage in that programme, and their effectiveness may be positively influenced as a result. Contrarily, if tutors do not perceive a strong connection between their efforts to engage in CPD practices and improved job performance, they may be less motivated to engage in those practices, which could ultimately reduce their effectiveness. Also, if tutors believe that improved job performance will lead to valued outcomes such as job security or promotion, they may be more motivated to engage in CPD practices. Research shows that PD practices can enhance tutor knowledge, skills, and attitudes, leading to improved performance in the classroom (Feiman-Nemser & Parker, 1990;

(Guskey, 2002). Further research show that the effectiveness of PD activities in enhancing tutor performance depends on the quality and relevance of the activities (Darling-Hammond & McLaughlin, 1995; Guskey, 2002). Literature therefore suggests that effective PD activities should be designed to meet the specific needs of participants, be ongoing, and involve active engagement in learning (Darling-Hammond & McLaughlin, 1995; Guskey, 2002).

Implication of Vroom's expectancy theory to managers

a) Create a more defined expectation of reward based on one's level of work (enhanced E-P expectancy). Learning task must be within the ability of employees to perform, given reasonable time and resources. This must be demonstrated during the pre-learning stage, learning stage and post-learning stage. For example, at the pre-learning stage brochures of training institutions can clearly spell out learning objectives of CPD programmes and demonstate how they practically translate into improved performance (Howard, 1989; Khanka, 2007)

b) Ensure that successful performance of learning task will be rewarded (increased P-R expectancy) both in the learning situation and in practical application (Howard, 1989). Thus, CPD policies must indicate organisational sanctions and incentives in support of PD programmes.

c) Improve R-N expectation by rewarding individuals based on their own success (Howard, 1989; Khanka, 2007). Results with high valence can be used to motivate people to work more.

d) Develop transparent methods of gauging one's performance (Cole & Kelly, 2015).

e) Potential and qualities, role opinions, and other interfering elements should be given careful consideration of organisational procedures and support facilities which although not necessarily direct motivational factors, may still affect performance. This can be achieved by ensuring that brochures indicate minimum KSA (knowledge, skills and abilities) levels for which CPD programmes are designed (Howard, 1989; Khanka, 2007; Cole & Kelly, 2015).

f) Reduce the likelihood of negative consequences like workplace accidents or reprimands from colleagues that may be associated with high performance, or that may occur despite excellent results, like working less hours or being laid off (Mullins, 2006).

g) Results can be altered, such as salary, benefits, and working circumstances. Tutors success in CPD programmes must therefore be tied to extrinsic incentives comparable to similar analogous institutions.

h) Institutionalising a staff wellbeing policy to ensure the execution of enticements in order to reduce attrition rate in the CoEs after spending so much on CPD programmes.

Evaluative Models of CPD Programmes

Guskey (2000) 'five-level model' (GKM) and Kirkpatrick's 'four-level model' (KPM) are the most universally used models in evaluating CPD programmes (Coldwell & Simkins, 2011; Cole & Kelly, 2015). Guskey's model (GKM) is

specifically designed for evaluating PD programmes in education whereas Kirkpatrick's model (KPM) is meant for all kinds of PD programmes regardless of the context. My study did not evaluate CPD practices but measured tutors reactions to CPD practices based on some adapted determinants in the levels of these evaluative models. Several studies (Muijs & Lindsay, 2008; Haden & Kirkley, 2010; Ross, 2010; Newman, 2010) have validated Guskey's Model, and their findings demonstrate that the Model is a useful tool for assessing the efficacy of CPD programmes and, more generally, teachers in any educational setting. Some other research (Uysal, 2012; Grammatikopoulos, Tsigilis, Gregoriadis, & Bikos, 2013; Yurdakul, Uslu, Cakar, & Yildiz, 2014; Soebari & Aldridge, 2015) have focused on applying the model utilising some of the levels, and in some cases integrating the model with other evaluation methods. According to Cole and Kelly (2015), assessing the efficacy of participants' CPD should be done both during the programme's development and after its results have been implemented. Data about the efficiency of a trainer can be collected in a number of ways: before, during, and after a course of instruction. A critical review of these two models show major similarities with only a few differences as follows:

1. Guskey's first level (Kirkpatrick's first level) in the evaluation process is the 'reaction stage' that measures participants' reactions and immediate responses regarding their initial satisfaction with the PD programme. Questions are asked to determine whether: Teachers like the PD activity? Time was well-spent? Materials used make sense? Materials will be useful? Leaders were knowledgeable and helpful? Refreshments were tasty and

adequate? Room temperature was conducive? Tables and chairs comfortable? Since, I conceptualise that tutor effectiveness is contingent on their reaction towards the various PD practices, all these constructs were measured in attempt to test $H_0$2 that postulates that tutors reaction to CPD practices have no significant influence on their effectiveness.

2. Guskey's level 3 concentrates on the support, encouragement, facilities, and recognition offered by the learning institution. This level is not considered by KPM but significantly important in the educational context due to its major influence on the effectiveness of tutors. This level is characterised by questions that determine whether: PD programme implementation is advocated, facilitated, and supported? Support is public and overt? Problems are addressed quickly and efficiently? Resources available are sufficient? Successes are recognised and shared? Impact on the institution is significant? Institution's climate and procedures are affected? Undoubtedly, tutors reaction to these variables have implications on the output of work in the workplace. The relevance of this stage to the study cannot be underestimated. I envisage that tutors work output that is a function of the kind of support, encouragement and recognition varous managers provide. The study subsequently incorporated relevant aspects of this level into the reaction stage in order to have an overall perspective and understanding of tutor effectiveness through CPD in the CoEs.
3. GKM fifth level (KPM fourth stage) mark the final stage of the evaluation model adapted. This stage is labelled 'results' in both GKM and KPM

indicating how much organisational improvement resulted from the learners' behavioural change. In this regard GKM is specific when it measures students' cognitive, affective and psychomotor outcomes. Thus, this stage, primarily looks at the impact of CPD on students and specifically measures constructs such as: how CPD has affected students' performance; how CPD has influenced students' physical or emotional well-being; How CPD has influenced students to be more confident as learners? How CPD has improved student attendance. The most probable favourite question asked by top management is about what CPD has done for the profitability or organisational image but Cole and Kelly (2015) argue that it is extremely difficult to evaluate on account of the many other variables which have an impact on these goals. It could be deduced from this final stage that, Guskey's emphasis at this stage is on the rippling impact of CPD of teachers on students who are ultimately the final consumers of what teachers know. However, since this study does not focus on impact on students as the primary purpose, this final stage is not considered. The study therefore adapts stages that are relevant to the study.

Conceptual Review

Context of CPD in Ghana

The empirical review of this study begins with the theme historical background of teacher CPD basically to offer readers a proper appreciation of the evolution of teacher CPD in Ghana. As such, the literature reviews the historical antecedents of some major events that lead to the concept teacher CPD.

Consequently, studies used in this study were carefully selected to offer readers works done in the discourse analysis of the teacher professional development globally and Ghana in specific. This literature is pertinent to the enquiry as it offers context on the historical evolution of teacher CPD in Ghana, which informs the study's exploration of the current state of CPD practices in the country's CoEs.

To start with, teacher certification was the priority of educational development since the latter part of the 19th century under the leadership of Sir Stephen Hill appointed as the first governor to the Gold Coast. Teacher effectiveness was therefore measured based on the certificates that qualified them to teach. This implied that relevant and standard certificates were prerequisite in teaching in the formal sector of education. In spite of the relevance of certificates in teaching enterprise, the MoE (2017) posits that the demands and expectations of the 21st century classroom teacher, go beyond what certificates provide. Thus, they stipulate that, teachers are expected to reflect, be problem sensitive and proactive, flexible enough to adapt to the ever-evolving needs of both students and society at large in order to satisfy government and public demands for high-quality, universal primary education. Unarguably, certificates are important but it is too simplistic to measure teacher performance on certification. Modern teaching and learning cannot be improved solely through the acquisition of certificates. It follows that the continuous reliance on certification as a priority in our educational development explains why most teachers are unable to handle problems that lie beyond typical classroom situation (Takyiwaa, 2010). From Takyiwaa's observation, for teachers to remain relevant and useful at different phases in their career progression, they

must go beyond the certification as well as the initial pre-service training. It implies that, there is the need for teachers to adapt to change as found necessary. Parson (as cited in Takyiwaa) underscored the need for change as evident in all aspects of human endeavour. Change is inevitable and as Ovard (1966) puts it, what we value are eventually replaced with science for which we are compelled to adjust to this dynamic revolution in order to remain relevant at all times. Thus, according to Parson one way of assessing the effectiveness of organisations such as schools, is its capability to acclimatize to both internal and the peripheral setting which are only feasible through CPD practices.

Literature documents that CPD practices in Ghana started as in-service training purposely meant for non-professional teachers otherwise known as pupil-teachers (Nortey, 2010; Takyiwaa, 2010; Nkrumah, 2012; Ayorogo, 2014). The genesis of these non-professional teachers in the country's education system could be traced to different periods during the colonial government era largely due to increase in accessibility after the reign of the European Merchants like the Portuguese, Dutch and Denes who established the Castle schools (Opare et al., 1992; Nortey, 2010; Takyiwaa, 2010; Antwi et al., 2018; Baafi-Frimpong, 2019). The menace became more intense due to the devastated effect of the World War II fought from 1939-1945 (Opare, Quist, Anyagre, Baafi-Frimpong, 1992; Antwi et al., 2018; Baafi-Frimpong, 2019). Again, the evolution of the Accelerated Development Plan (ADP) of Nkrumah in 1951 that metamorphosed into the Education Act of 1961, modified into the 1987 Educational Reform under the Provisional National Defence Council (PNDC) Law 42 and further consolidated in

the 1992 constitution through article 39 (2) by the National Democratic Congress (NDC) government under the leadership of Jerry John Rawlings with a provision to ensure free and compulsory primary education for all Ghanaian children of school going age necessitated the services of non-professional teachers (Opare et al., 1992; Antwi et al., 2018). Again the economic recess of 1981 lead to poor settings of service for teachers and adversely informed the large scale exodus of qualified and professional teachers to neighbouring countries like Nigeria whose conditions of service for teachers were relatively better due to a new found wealth in oil exploration (Nortey, 2010). In an attempt to compensate for this high teacher attrition rate the use of the non-professional teachers in the classrooms became a 'necessary evil'. It was therefore incumbent on succeeding Governments to make conscious efforts and attempts to focus on re-training of both professional and non-professional teachers through the delivery of in-service education during the 1987 education reform. Admittedly, for teachers to play their role effectively and bring about the desired learning outcomes they should be prepared through a more robust pre-service training programme and retraining periodically.

At this point it is practical to make an abstract dissimilarity between CPD and in-service training since these two terms are inundated by several definitions that are often used interchangeably. Good (as cited in Nortey, 2010) defined in-service training as attempts to stimulate the needed proficient growth of educators through the appropriate approaches. The educational implication of Good's definition is that teacher's professional growth and development could only be achieved through appropriate means established by statutory bodies designated for

that purpose and job specific oriented rather than personal (Desimone & Harris, 1998; Cole, 2006; Khanka, 2007; Cole & Kelly, 2015). This narrows the scope of in-service training to exclude informal experiences. Thus, most specialists concor that the utmost goal of in-service training is for teachers to strengthen and master their initial KSAs and demeanours stressed during training sessions and to utilise them to their day-to-day happenings. Clearly, in-service training is one-shot deal that better positions the teacher to do his present job well; prepare and groom the teacher to be fit for purpose in terms of more demanding positions and responsibilities; helps beginning teachers to be industrious in a smallest amount of time; helps knowledgeable teachers to be abreast with new methods, techniques and approaches; as well as the use of new technological teaching and learning resources in their professional practice. Examples of needs that may require in-service training include: the need to have competence and protection of teachers in the processes of more sophisticated laboratory apparatus and TLRs; the need for proficient teachers through new pedagogical skills and knowledge in the midst of new global and societal demands and expectations; and the need for competent managers based on best practices. In conclusion, in-service training is vital in a sustained and improved institutional performance since it bonds the gap between anticipated expectations and the current state of performance. School managers therefore must view the institutionalisation and management of these forms of human resource as essential, while teachers' see them as opportunities for career development.

In contrast, today, teacher in-service training has taken on many forms and dimensions in terms of focus, structure and organisation and developed into a much

broader phenomenon called Continuing Professional Development (CPD). According to Granser (as cited in Villegas-Reimers, 2003), professional development encompasses both formal and informal encounters. Formal interactions include sessions, symposia, lectures, professional meetings, mentoring, and the like. Informal experiences include reading professional publications, watching television documentaries about an academic discipline, and talking to peers. Granser makes it clear that CPD seeks to develop individuals in every way, making it a more comprehensive approach than in-service training. That's why CPD encompasses more than just skills training for the workplace; it also includes development of one's character and realisation of one's full potential (Cole, 2006; Mullins, 2006; Armstrong, 2007; Robbins & Coulter, 2012). Clearly, CPD allows people to develop not only as educators but as people in general. Ultimately, CPD practises encompass approaches intended at fostering teachers' self-efficacy, cognitive development, career advancement, and improvement in school ethos rather than only training that was specifically meant for teaching (Nortey, 2010; Takyiwaa, 2010). Abilities in materials specific to a subject, pedagogical content knowledge of learners, knowledge of educational context, curriculum competencies that call for a grasp of materials and programmes for teaching; general pedagogical knowledge, knowledge of educational ends and objectives, organisational qualifications in working in a community of practise, abilities in expressing and expanding; are just some of the areas of PD practises in the CoEs that have been recognised by Acquah (2012). Literature asserts that CPD can be thought of as a means by which educators every behaviour is modified with an eye regarding the

foreseeable future rather than the current, career advancement rather than instantaneous performance, and the organisation's future workforce demands rather than the evolving demands of individuals (Cole, 2006; Khanka, 2007; Robbins & Coulter, 2012; Cole & Kelly, 2015). Professional development requirements may include, for instance, the preparation of teachers to embrace new policy change and organisational culture, the replacement of older and more qualified teachers with prospective employees from within the organisation, and so on.

In the 1990s, Ghana began to implement major reforms to its education system, including a shift towards decentralisation and a focus on improving the quality of teaching and learning (Addy, 2006). Adapting to CPD as a new emerging concept and umbrella term in Ghana became crucial after the UNESCO 45th session of the International Conference on Education held in Geneva, Switzerland in 1996 (Nortey, 2010). Since then, teacher CPD in Ghana has been a priority for the government for many years, as the country recognises that well-trained and continuously developed teachers are crucial for improving the quality of education in the country (Asante & Agbesi, 2017; Asiama & Amedahe, 2017; Dudzi & Owusu-Ansah, 2020). To consolidate teacher CPD practices in Ghana, the 2008 Education Act established the NTC responsible for providing a framework for a competency based teachers' standards including regulating provisions for CPD practices through other statutory bodies such as the Ghana Education Service (GES) and the Ghana Tertiary Education Commission (GTEC) formerly known as NCTE (MOE, 2013). The Ministry of Education subsequently has introduced a number of initiatives aimed at improving the quality of teaching and learning in Ghana,

including the Teacher Education Reform Programme, which seeks to strengthen pre-service and in-service teacher education (Asiama & Amedahe, 2017). Also is the government launched initiative such as the National Teacher Education and Curriculum Framework, which provides a comprehensive policy framework for teacher education and CPD (Dudzi & Owusu-Ansah, 2020).

To consolidate teacher CPD practices in Ghana, the 2008 Education Act established the NTC responsible for providing a framework for a competency based teachers' standards including regulating provisions for CPD practices through other statutory bodies such as the Ghana Education Service (GES) and the Ghana Tertiary Education Commission (GTEC) formerly known as NCTE (Ministry of Education, 2013). Other several policy documents including the PTPDM policy framework, Anamuah-Mensah Educational Review Committee Report, 2002; Colleges of Education Act, 2012; NTECF, 2018; Cabinet Memo, 2018; UCC Affiliation Document, 2018 recognise the essentiality of teachers' CPD in sustaining the life-time professional practice of teachers.

Ever since the progression of CPD as an umbrella term in Ghana, several studies have been conducted at different levels in the education sector with varying constructs and focus. To start with, Nortey (2010) examined the attitude of basic school teachers in the Assin North district towards PD programmes. It was a descriptive survey that used both questionnaire and interview guide. The quota and simple random sampling was used to collect data from 174 basic school teachers and 8 district education officers whereas percentages and mean were used in analysing the data collected. The study found that teachers had an appreciable

understanding of 'professional development' which was a new umbrella term developing; career mobility, knowledge acquisition and skills, and networking with other teachers were the major factors that influenced teachers CPD practices. Salary enhancement was not a strong factor emphasised by the teachers. Significant to this study was the findings that majority of teachers want to be actively involved in the planning, designing and implementation of their PD programmes to reflect the realities in the classroom. These findings notwithstanding, the study was without certain weaknesses. For example, the descriptive design did not correspond with the instruments used. Descriptive survey is purely quantitative that cannot use both questionnaire and interview schedules. Only mixed-method approaches allow for both quantitative and qualitative instruments to be used in the same study. Also, it was not convincing in the study how both the quota and simple random sampling techniques were used. The quota sampling is a non-probability technique that cannot be used in a quantitative study. The study in the first place did not indicate the target group but assumed that all teachers in the 174 schools of the 10 circuits of the Assin North District have engaged in PD programmes in the past. Considering the structure of the population the author could have verified from the training officer of the District Education Office (DEO), teachers who have had some form of PD practices in the past and stratify this population for an appropriate sample representation. Again, the objectives of the study did not say anything about evaluating the impact of PD practices, however, the research found that there was no comprehensive evaluation of how PD programmes affected instructors' pedagogical practises or student achievement increases. Aside these methodological

issues, the study was limited to only the attitude of basic school teachers in just one district of Ghana using descriptive statistics that could not generalise the sample to even the population. This leaves the study with a number of contextual, conceptual, methodological and analytical issues that present the need for further interrogation of the concept CPD.

Atta and Mensah (2015) also examined the perspectives of senior high school (SHS) teachers about the availability of CPD programmes in the Sekyere East District in the Ashanti region of Ghana. This was a qualitative case study that used the open-ended interview guide to collect data from 32 teachers from 5 SHS. The study found that: teachers in the district had access to distance learning and graduate courses from higher learning institutions; and PD programmes in the district included workshops, in-service training, conferences and seminars. It was however determined that the models used for PD practices were traditional, rarely organised and limited to few teachers in the district making CPD less effective in terms of the impact on teacher quality and students' learning outcomes. Deficient in Atta and Mensah's study similar to that of Nortey's study was that both the target and accessible population were not indicated in the study. Atta and Mensah's study was further compounded when the sampling technique that lead to the selection of the 32SHS was not clearly indicated as well. This obviously puts in doubt the appropriateness of the use of the qualitative study that lend itself to content analysis as a technique for the data analysis. Also, the study was limited to the availability of PD programmes using 32 SHS teachers in Sekyere East hence, leaves contextual

and conceptual gaps. A similar study by Odoom et al. (2016) in Agogo CoE confirmed all the PD programmes identified by Atta and Mensah.

In another dimension, Abreh (2018) explored heads of departments' (HoDs) of mathematics and instructors' views on CPD and its impact on pedagogy in high school in Ghanaian science and mathematics classrooms. The study used an exploratory survey design which according to the author is a type of descriptive design most appropriate when researchers do not have absolute hold on the variables causing a phenomenon and needs to examine them in a probing manner. However, no authorities were cited in support of the assertion. Questionnaire was used in the collection of data and the stratified random sampling was equally used to select 170 SHS from 870 schools. The research discovered that there were no structured scheme for CPD provisions for science and mathematics teachers but CPD offered to these teachers influenced teaching and learning positively. The entire methodology of the work was very confusing. The author indicates heads of mathematics and science departments in the SHS as the target population, yet did not show the number of HoDs used in the sample but only mentions that 170 schools were used. The study also mentions categorically that it was a descriptive study that used the questionnaire as instrument but goes ahead to state that the data collected was "primarily qualitative and hence cascaded into themes for analysis" p. 90. No part of the study showed when and how qualitative data were collected but rather analysed the quantitative data using percentages and bar graphs. The influence of CPD practices that was found to be positive in teaching could not be supported since percentages could not be used to establish a positive relationship between CPD and

teaching. There were no data on students learning outcomes but the study found a positive correlation between CPD and learning. These present very disturbing methodological and analytical gaps coupled with limitation to the perception of HoDs of science and mathematics of SHS in Ghana.

Tamanja (2016) added to the CPD conversation by examining how certain CPD practises can have a negative impact on both student learning and the professional lives of educators. This study looked into the impact of teachers' time away from the classroom for professional development sandwich programmes at Ghana's University of Education, Winneba (UEW). The study used the mixed-method approach even though it was described as a survey in the abstract. Qualitative data was collected from 20 teachers across 10 regions, education officials from the DEO of Effutu Municipal Education Directorate, headteachers and pupils using the interview guide. Questionnaire was also used to gather data from 475 teachers pursuing sandwich programmes in UEW. Thematic analysis was used to make meaning out of the qualitative data and percentages, line graph and bar charts were used in analysing and presenting the quantitative data. It was discovered that the 45 days of lost classroom time in elementary schools was caused by teachers' involvement in sandwich programmes at UEW. Teachers who participated in UEW sandwich programmes lost an average of 264 hours of classroom time spent learning per instructor since their schedules overlapped by 9 weeks because of the academic calendars for basic schools and UEW sandwich programmes. Another consequence is that educators are less likely to be present for important life events like marriages and funerals. The study indicated that both

qualitative and quantitative approaches were used, it did not establish the type of mixed-method approach adopted which would have defined the rationale for the blended-approach. Due to this weakness, readers could not determine how data were collected emanating from the 'priority' given to various kinds of data used; how the mixed 'implementation' was done; and how the 'integration' of the data was done. Again, the total number of Municipal Education officers, headteachers and pupils interviewed were not captured in the sample. Also, the use of descriptive analytical tools could not in reality determine the effect of sandwich programme on instructional time amongst the other variables measured. Inferential statistical tools like the t-test and regression would have been better options.

Adding to the CPD dialogue was Dampson, Antor and Eshun (2018) study that examined how to improve basic schools through CPD using Amia-Ba circuit of Ajumako Enyan Essiam District. The study used the explanatory sequential design where both questionnaire and semi-structured interview guide were used in the collection of data. The purposive sampling technique was used to select 10 headteachers whereas the simple random sampling technique was used to select 70 teachers from 10 basic schools. Quantitative data was analysed using mean and standard deviations. The study established that teachers' understand CPD as training organised by schools and the MoE as well as other opportunities used by teachers to improve their professional competences. The study also found that CPD improves teachers' pedagogical knowledge, content knowledge, classroom practices and administrative skills and that well planned and executed CPD practices will offer structured opportunities for both headteachers and teachers alike to acquire these

knowledge and skills. Again, the study revealed that political climates and workload of teachers are major setbacks to teacher PD practices. They further explained that incessant changes in government policies contribute to the lack of creativity and innovation in teaching as well as an increase in teachers' workload. Though the explanatory sequential design provided better insight and understanding of the issues being studied, some methodological gaps like the small sample size and lack of inferential analytical tools make the generalisation of the findings impossible. It was also not clear how the qualitative data was analysed.

However, despite these efforts and the potential benefits of CPD, there are still challenges in terms of the design and implementation of CPD programms in Ghana; limited resources; poor monitoring and evaluation to ensure PD programmes meet their intended goals; and a lack of coordination and collaboration between different stakeholders involved in teacher professional development (Asiama & Amedahe, 2017; Dudzi & Owusu-Ansah, 2020). Some researchers have highlighted the need for more tailored and context-specific CPD programmes that take into account the unique needs of different groups of teachers (e.g. rural vs. urban teachers) (Asante & Agbesi, 2017).

Overall, the historical background of teacher CPD in Ghana highlights the importance of ongoing teacher professional development as a key factor in improving the quality of education in the country. It also underscores the need for continued efforts to improve the design and implementation of CPD programmes to ensure that they are effective in meeting the needs of Ghana's teachers and students. There is therefore the need for further interrogation and examination of some major

variables that contribute to effective teacher PD practices for the overall appreciation of human resource management of the teaching service especially in the CoEs.

National Teachers Standards (NTS) for Ghana

Over the years, Ghana has adapted and reorganised its teacher education system to align with the needs of an informed society, adopting a new vision and mission for education. Despite these changes, there was a notable absence of a body of professional standards to guide teachers' practice and professional growth. To address this gap, the National Teachers' Standard (NTS) for Ghana was established and these standards delineate the attributes of an "effective educator." The development of the NTS aimed to standardise the training of future teachers by consolidating the various standards used by teacher education providers and CPD providers into a unified national standard (MOE, 2017). Recognised by law under Section 778 of the Education Act of 2008, the NTS is integral to the education landscape. The establishment of the National Teaching Council (NTC) through Act 778 further underscores this, as the council is entrusted with formulating guidelines for teacher certification, progression, and remuneration (MOE, 2017). Endorsed by the Cabinet of the Republic of Ghana on September 28, 2017, the NTS sets a benchmark for both aspiring and practicing educators. The NTS is divided into three main domains with sub-divisions under each domain as follows;

1. Professional Values and Attitudes (PVA) indicate what teachers should ‘value’ as professionals in their career progression and has two components:

a. Professional development as a sub-division under professional values and attitudes requires teachers to: Effective and increasing leadership in the classroom and larger school community; critical and collaborative reflection to enhance teaching and learning; lifelong learning and continuing professional development.

b. Community of practice require teachers: to be guided by legal and ethical teacher codes of conduct in their development as professionals; interact constructively with peers, students, parents, school administration, PTAs, and the community at large; cultivate a strong sense of professional identity and serve as an exemplary role model for one's students; recognise his or her potential to effect positive change in one's institution, neighbourhood, and country.

2. Professional knowledge (PK) demonstrate what teachers should 'know' and equally has two dimensions:

a. To teach effectively, educators need to be well-versed in the educational system and its guiding policies, as well as the official school curriculum and its learning outcomes, and they need to be confident in their own content knowledge, pedagogical knowledge, and pedagogical content knowledge for the school and grade they teach.

b. Knowledge of learners ensures teachers teach in a way that takes into account and respects their students' cultural, linguistic, socioeconomic, and educational backgrounds; demonstrate an

understanding of how children develop and learn in a variety of settings.

3. Professional practice (PP) also reflect what teachers should 'do' in their professional journey and has three indicators:
    a. Managing the learning environment as a component of professional practice require teachers: provide a safe and supportive learning environment, manage student behaviour and learning in both small and large classrooms, and plan and deliver engaging and challenging lessons that demonstrate an understanding of their intended goals.
    b. Teaching and learning also places some expectations on teachers to include ability to: use a wide range of techniques to get pupils involved and thinking critically; cater to all kids, but notably girls and those with special needs, to ensure their success in school; use teaching methods suited to classrooms with students of varying ages, languages, and skill levels; tasks should be relevant, promote learner participation, and result in meaningful learning. Concepts should be explained properly using examples students are familiar with. Finally, a variety of teaching and learning tools, including ICT, should be created and used to boost learning.
    c. Assessment is the last level of the professional practice domain and equally mandate teachers to assess students' progress and provide them with feedback during the learning process; help

students overcome challenges and misunderstandings and refer those whose needs go beyond the scope of classroom instruction when necessary; maintain accurate records of student performance and provide regular feedback to both parents and students; show familiarity with student learning outcomes on a local, state, and national level and use objective criterion referencing to assess learners.

These three domains with their seven subsidiaries intersect with each other and their synthesis clearly defines who a competent teacher should be and constituted the constructs that measured tutor effectiveness in the CoEs. Thus, the domains could be summarised as what teachers should value, know and do.

Figure 2: The Three Teacher Competence Domains (MOE, 2017)

A careful analysis of the NTS shows that, all the three domains must be seen to operate in a continuum as illustrated in the Figure 3 and not as separate entities. Thus, what teachers value (PVA) should be demonstrated in terms of what they

know (PK) which should reflect in their practice (PP). For instance, teachers should value and build an attitude (PVA) of improving their personal and PD through life-long learning and CPD. The NTS clearly indicates that this specific PVA could be demonstrated by teachers identifying gaps in knowledge and go beyond the textbook by carrying out self-directed study through the use of the libraries, internet and experienced colleagues amongst others. This specific action under PVA if successfully executed should reflect on the teacher's PK by conducting individual personal learning and small scale action research

Level two of both GKM and KPM is termed as the learning-centered evaluation that seeks to measure the degree of learning that has been achieved by teachers (participants). This implies that PD programmes should enable participants to develop adequate knowledge, skills and attitudes in order to close the gap between 'what is' and 'what should be' (Gilley & Eggland, 1992). Tutor effectiveness is measured along this dimension where PVA and PK of the NTS for Ghana dominantly determined the variables that constituted the intended knowledge, skills and attitudes.

Also, Guskey's fourth level (Kirkpatrick's third level) is christened 'learner behaviour' that measured how much learners' (tutors) change their behaviour as a result of the PD sessions. Thus, the extent to which participants' effectively apply the new knowledge and skills acquired through the PD programme is the ultimate purpose of this stage. The NTS third domain that focus on the professional practice of teachers in Ghana constituted the variables in the determination at this level. Notably, both GKM and KPM Level 2 seeks to measure teacher effectiveness but

focuses on theory (professional values and attitudes; professional knowledge); GKM level-4 and KPM level-3 focus on the actual implementation of the concepts (professional practice). Though both levels measure the learning experience of tutor effectiveness, the latter looks at the learning which has been applied in the workplace (on-the-job).

Needs assessment

For learning organisations like the CoEs to be successful and subsequently influence teacher effectiveness positively, there is the need to ascertain how the CoEs arrive at the kind of CPD programmes and activities for tutors. Satisfaction of this provision is only feasible through the concept of 'needs assessment'. Therefore, a review of the nature and kind of needs assessment conducted in the CoEs is of utmost importance at this point. To begin, Gilley and Eggland (1992) emphasised that it is helpful to think of 'need' as a disparity between the existing set of conditions and some wanted modification in terms of competence (knowledge, skills, and attitudes), achievement, and surroundings. Need was defined by Desimone & Harris (1998) as any variation from what an organisation anticipates and what actually occurs. That is to say, the anticipated outcomes from managers, shareholders amongst other stakeholders as against the reality in practice constitute 'need'. These explanations suggest that a need is an obstacle to employees' productivity levels or effectiveness. Cole and Kelly (2015) proposed that 'training need' is any form of deficit in an employees' requisite knowledge, skill and attitudes needed for efficient and effective performance as against the requirements of the organisational practice. This idea is expressed in Figure 2.

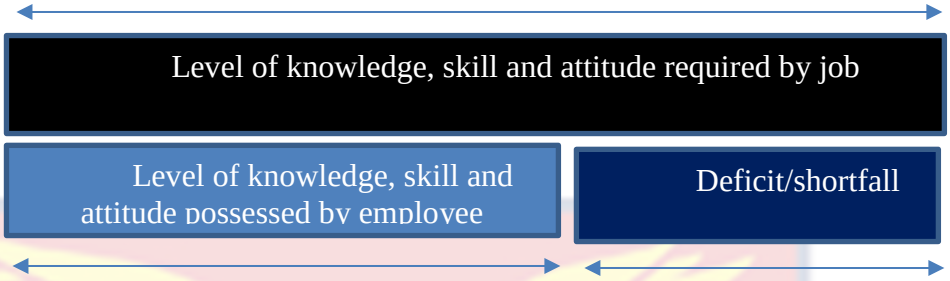


Figure 3: Training need diagram (Cole & Kelly, 2015)

DeSimone and Harris were of the view that identified gaps may serve as the basis for CPD programmes and therefore needs assessment is a prerequisite for successful CPD practices. 'Needs assessment' is invariably a process used to determine if training is necessary (Noe, 1999). Thus, a working definition of 'needs assessment' from my perspective can be looked at as a systematic process of collecting information about the possible deficits inherent in an individual's job performance in order to make decisions on further PD. This implies that assessment provides the means through which an institutions' CPD needs are identified and articulated. Indeed, it is the starting point of the entire CPD process. However, the complex nature of teaching which can partly be attributed to the unique nature of teachers in terms of temperament, interest and experience require careful and comprehensive needs assessment to ensure a successful CPD (Maina, Kiumi & Gilthae, 2020). This complexity makes needs assessment a cumbersome and sensitive activity in the educational enterprise. Accordingly, the suitability of PD programmes in organisations including the CoEs is largely dependent on the appropriateness of the 'needs assessment'. A 'need' must therefore be distinguished clearly from a 'want' in the assessment process in order not to misconstrue one for

the other. A need in the context of work practices can be looked at as anything that an employee requires to function effectively. It is thus, indispensable.

Noe identified three types of 'need assessment' typically required by institutions for successful CPD practices. They include; organisational analysis, person analysis, and task analysis. Firstly, organisational analysis largely considers the context within which training occurs. This type of analysis determines the appropriateness of CPD programmes given the institution's strategic plan, mission and vision; available resources as well as the support system by managers, peers amongst other stakeholders. Secondly, person analysis on the other hand helps to identify which employee needs PD as well as the nature and kind of training required. Noe explained that, person analysis can be looked at in three dimensions that include: determining whether performance deficiencies is a training issue (due to lack of knowledge, skill, ability), a motivational issue or a work design problem; identifying who needs training; and determining employees' readiness for training. The source of the performance deficiency as pointed out by Noe undoubtedly, will require different approaches in solving each of them. Owing to this, my study finds it a necessary condition in determining the appropriateness and suitability of CPD progrmmes in the CoEs. Lastly, task analysis includes identifying important and specific, knowledge, skills and behaviours that need to be emphasised in CPD for employees' successful completion of their tasks. Rae (as cited in Owusu, 2011) indicated that CPD 'needs' are instructive as they indicate gap(s) in teachers' performance that make them inadequate in meeting the required standard. The implication is that, both the existing level of achievement and anticipated

performance would have been critically assessed before 'needs' are established. Rae agrees with Maina et al about 'need' complexity when he explains that meeting the needs of employees can vary depending on the nature of the job and the kind of people involved. Rae was of the opinion that some CPD needs that are performance related due to lack of basic skills/knowledge, new technology, stakeholders preferences and expectations are easy and straight forward to assess. He consequently concluded that 'training' as a means of addressing employees' 'needs' is only relevant when the outcomes are due to knowledge deficit. Indeed, not all needs assessment guarantees training as the best solution. Also, considering the characteristics of teachers found in the CoEs, needs assessment may also include the various career development stages that tutors' found themselves. There is heterogeneity in terms of teachers rank attributed to one's mastery and experience through an evidence of work in a preferred discipline of teaching. Teachers in the CoEs are classified as assistant tutors, tutors, senior tutors, principal tutors and chief tutors (NCTE, 2015). Thus, Okumbe (as cited in Maina et al., 2020) identified four career development stages that teachers go through, which explains the various differential need levels of teachers in the CoEs. The stages include; the exploration, establishment, maintenance (plateau) and the decline. These stages have many implications on the effectiveness of CPD programmes and their subsequent impact on teacher effectiveness. Okumbe pointed out that teachers at the exploration stage are inexperienced that seem to have lower expectations due to limited job knowledge and information. Hence, they will accept any CPD that enhance their knowledge and improve skills even when there are no special rewards attached.

Assistant tutors' and tutors' are categorised in this stage because they may have the initial knowledge and skills through academic qualifications but lack the right attitude and experience needed for effective performance. The establishment stage is characterised by teachers concern for achievement, esteem, autonomy and competition that includes senior tutors. From Okumbe's perspective, the establishment stage is a step further of the exploratory stage where teachers now engage in CPD practices to prove themselves through the performance of more complex and higher task that enhance their self-esteem which eventually guarantee their autonomy. Any form of CPD programmes for these category of teachers that is deficient of their expectations is likely to rejected or reluctantly approached. Okumbe combined the maintenance and decline stages characterised by teachers' desire for promotion and respect from younger employees. This stage covers teachers in the advanced stage of their career including principal and chief tutors' who require achievements like promotions, increase in pay, additional perks etc as the resultant outcomes in CPD practices. Following these arguments, 'needs assessment' must determine the various stages that tutors in the CoEs find themselves in order to inform the needed and appropriate CPD programmes. Brinkerhoff (as cited in DeSimone and Harris, 1998) also argued that limiting 'needs assessment' to only performance deficiencies of employees' provides only a reactive dimension of solving organisational problems. He therefore proposed three other possible ways of looking at training needs in the current competitive global village. There are a variety of requirements, such as those for democracy, diagnosis, and analysis. In a democratic workplace, employees and managers can vote on and

select their preferred CPD programmes. In order to properly diagnose a problem, it is necessary to consider not only the symptoms but also the causes of poor performance. On the other hand, analytical needs focus on discovering novel and improved approaches to existing problems. DeSimone and Harris's view that CPD practises should be preventive and anticipate the future is echoed in Brinkerhoff's categorisations of needs.

Literature documents several methods that could be used in the needs assessment process. Such methods include: appraisal; individual's career progression; analysis of institution/department policy; holding discussions with colleagues; skill inventory; organisational climate; students' response and feedback; national policy analysis; performance review; employees' personal development plan; reflection on individual's own performance; interview; questionnaire; manpower inventory to determine retirement, turnover and age differentials (Agnaia, 1996; Desimone & Harris, 1998; Noe, 1999; Cole, 2006; Agyenim-Boateng, 2008; Cole & Kelly, 2015). Some of these methods could be used by individual employees whereas others are more appropriate for management use. The appropriateness of these methods would help to identify where CPD is necessary and should be emphasised. Literature further shows that most CPD have evolved without any proper needs assessment. Odoom, Opoku and Ntiakor-ayipah examined the nature of CPD practices and existing staff development needs in Agogo CoE. The study was a descriptive survey that used the census survey to include all the 33 tutors in Agogo CoE. Questionnaires and interviews were used in collecting data whereas percentages, frequencies, mean and standard deviations were used in the

data analysis. The study found that existing staff development policy was beneficial to tutors but not comprehensive enough in addressing the numerous needs of tutors. It found some staff development needs in the areas of teaching methodology; content knowledge, mentoring, supervision, research and publications; pedagogical content knowledge; information communication and technological skills; as well as management and leadership skills. Additionally, the study found that no proper needs assessment was conducted prior to the selection of CPD programmes coupled with the issue of unfairness in staff selection and opportunities available. The issue of unfairness that characterises staff selection in PD practices was a validation of Owusu (2011) study that examined the HRD practices between the University of Cape Coast and Valley View University. Rather than following standard processes and recognised standards, the study found that management selection and the style of participation of participants in CPD programmes were mostly dependent on personal links, family ties, tribalism, and nepotism. Owusu's results corroborate those of Agnaia's (1996) research on the assessment of management training and development needs and the selection of trainees for management courses in Libyan industrial organisations. Odoom et al's findings could be interpreted to mean that no form of needs assessment was conducted by Agogo CoE and that the selection of both tutors and programmes were not based on any form of established standards. As a result, their CPD practices could be characterised by favouritism subject to the discretion management. Actually, Agnaia, Owusu, and Odoom et al's studies indicate that the selection of staff for CPD activities both in the corporate world and the education sector have not followed established procedures and standards and

subsequently skewed to superior's preferences. Odoom et al.'s study was without weaknesses. For example, the choice of the descriptive survey did not correspond with the use of both questionnaires and interview guides. The study was also limited to Agogo CoE with only 33 tutors involved, hence generalisation of the findings to all the 46 CoEs was not appropriate. A pure qualitative case study would have been more appropriate under the circumstance.

Again, a study by Yaqub et al. as discussed earlier in the 'colleges as learning organisations' found lack of systematic and comprehensive needs assessment as a major challenge that militate against tutors CPD practices in the CoEs. This findings lend itself to two different interpretations. One interpretation could mean that the needs assessment conducted by the CoEs did not follow any systematic approach and hence, done haphazardly. It could also mean that the needs assessment conducted was not comprehensive or detailed in nature to ensure established procedures and standards were duly met. Either of these interpretations imply that needs assessment is poorly conducted in the CoEs and that have implications on teacher effectiveness as far as CPD practices are concerned. Though not much studies have been conducted in the CoEs, as expounded in the background of this study, Odoon et al. and Yaqub et al. studies provide evidence that the CoEs did not conduct any proper and comprehensive needs assessment prior to their CPD activities. CPD is therefore seen as a group phenomenon. In spite of this, none of these two studies examined into detail the nature of the needs assessment and even methods used in the assessment process. As Maina et al. put it, teacher effectiveness due to CPD is contingent on successful needs assessment. For this reason, it is

prudent to ascertain the nature of needs assessment that are conducted by the CoEs in my attempt to examine teacher effectiveness from CPD practices. The study therefore specifically, asked tutors as well as quality assurance officers about the methods used in the process of needs assessment as well as the criteria used in the selection of tutors for CPD practices. Responses to the various methods used in the determination of CPD practices will help to determine either the CoEs use the reactive or proactive means in their needs assessment (Desimone & Harris, 1998) or inclined to Brinkerhoff's democratic, diagnostic or analytic needs categorisations. Again, a regression analysis of the responses to questions like the methods used in needs assessment; criteria used in selecting tutors in the CPD process; as well as how best tutors learn will help to determine the suitability of CPD programmes. This will enhance an effective discussion; place results in proper perspectives; ensure findings are well appreciated; and finally ensure that conclusions reached about tutor effectiveness are well grounded in evidence. Finally, tutors were requested through the biographic data to provide the number of years served and their respective ranks. These information will help determine Okumbe's career development stage that tutors found themselves which have implications on the suitability of CPD programmes. A cross tabulation of the number of years served, rank, best modes of learning by teachers and the choice of PD programmes will help understand teachers reactions in CPD practices and subsequent effect on teacher effectiveness.

Transfer of learning

Transfer of learning is an essential concept in CPD sessions. Transfer of learning is the extent to which the knowledge and skills acquired in PD programmes are transferred to the classroom setting and used in the delivery of instruction (Clarke, 2007). The instructive implications is that teacher effectiveness through CPD practices can never be successful without their ability to continuously apply the gained and learned capabilities to their jobs. Literature identifies four key determinants of transfer of learning to include: trainee characteristics; training design; work environment; and identification of situational constraints (Tracey, Tannenbaum & Kavanagh, 1995; Reid & Barrington, 1997; Tannenbaum, 1997). Firstly, 'trainee characteristics' include teachers' ability and motivation to learn. Secondly, 'training design' refers to the characteristics of the learning environment that includes the resource availability and technological adequacy that allow the use of newly acquired capabilities. Thirdly, the 'wok environment' include the availability of support and encouragement from managers, immediate supervisors, peer/colleagues and co-workers. The work environment also embraces the appropriateness of climate that provides teachers' the opportunity to use newly acquired skills and ideas on the job. Tannebaum in furtherance of the discussion on transfer of learning, is of the view that technological adequacy can also be classified under the 'work environment' as it is fit for 'training design' as well. Lastly, is the timely identification and minimisation of situational constraints as a determinant of transfer of learning. For instance, all forms of unclear task assignments must be removed or reduced to the minimum as well as avoiding unrealistic time pressures.

All these determinants go to confirm the indispensability of the adult learning theory in the CPD process. It presupposes that, providing institutions of CPD programmes must ensure the strict adherence of all the principles and practices of the ALT. This is to ensure that accessing institutions reap the full benefits that accrue from PD programmes. Yadapadithaya and Stewart (as cited in Yaqub, et al., 2020) also provided a five-stage process for assessing an effective transfer of learning. They include: the reaction stage; learning stage; job behaviour level; organisational unit level; and the ultimate goal of the organisation. They explained that these stages act as powerful links in a chain of 'cause and effect'. That is to say, there is a chain of link among these five-stage variables that inform and determine the outcome of PD practices. From their analysis, institutions' PD practices may lead to employee reactions that have the tendency to produce change in behaviour that is considered as learning. Learning indisputably is the ultimate remedy for subsequent change(s) in job behaviour that is expected to reflect in organisational change(s). It follows that, job-behaviour changes and organisational unit changes eventually would determine the degree of achievement of the ultimate goals set for the organisation. Yadapadithaya and Stewart however, were of the view that this chain of link established in the five-stage process of assessment can be broken at any point. They therefore provided different scenarios in the assessment process to include situations where: trainees react favourably to PD sessions, enjoy them but learn nothing at the end; trainees learn something, but owing to different obstacles and bottlenecks cannot apply them; trainees applying the learning experience in some contexts but does no good within their own area of competence; and learning

experience from PD sessions doing some good in trainees' function but does not further the objectives of the organisation. These scenarios notwithstanding, my readings reveal that most of these adverse perspectives of transfer of learning provided by Yadapadithaya and Stewart could be averted if proper needs assessment is conducted by institutions' prior to their CPD practices (Gilley & Eggland, 1992; Desimone & Harris, 1998; Noe, 1999; Owusu, 2011; Cole & Kelly, 2015; Maina et al., 2020). For instance, for lack of proper needs assessment conducted, only 0.01% of teachers with advanced degrees in the CoEs had qualifications in the relevant teaching areas which obviously affects effective transfer of learning and the relevance of the learning material on the institutional goals (NAB as cited in Newman, 2013).

In my attempt to provide a comprehensive insight into how PD practices in the CoEs have influenced teacher effectiveness, one of my objectives determined the effectiveness of teachers' transfer of learning from learning field to their work place. Understandably, proper and effective transfer of learning reflect in teacher effectiveness through CPD practices at the end thereof. To illustrate this, Abonyi, Yeboah and Luguterah (2020) explored the work environment factors that support or constrain the application of teacher PD initiatives in Ghanaian basic schools. The study was purely qualitative that used the case study design and semi-structured interview guide in the collection of data. The purposive sampling technique was used to select 15 basic school teachers from La-Nkwantanan-Madina Municipality and the content analysis was used in it data analysis. The study found that the availability of teaching learning resources (TLRs) and peer support enhanced

teachers' PD programmes through an effective transfer of learning. In contrast lack of time due to rigid and inflexible time-table, teacher workload and inadequate TLRs constrained effective transfer of learning from PD sessions. Abonyi et al.'s study is supported by Yaqub et al.'s study which identified unavailability of facilities and TLRs in the CoEs as a major setback in the effective transfer of learning. Both Abonyi et al. and Yaqub et al. studies uphold Owusu's finding in 2011 that effective transfer of learning by staff of the UCC was largely impeded by lack of appropriate facilities and technologically adequate TLRs. In the comparative analysis of Owusu's study, VVU was found to have more modern and technologically adequate resources that promoted effective transfer of learning. Without doubt, adequate equipment and infrastructure are necessary for the provision of quality education (Eshiet, 1987; Opare, 1992; Agezo & Christian, 2002; Yara & Otieno, 2010; Yaqub et al., 2020). Ironically, basic infrastructure and resources ranging from classroom buildings, laboratory/workshop and their equipment, halls of residence, staff bungalows, staff offices, basic teaching resources like projectors, computers etc in the CoEs were found obsolete, inadequate, poorly maintained and in some cases non-existent (NAB, 2007; NCTE, 2011; Newman, 2013; NCTE, 2017). Yaqub et al.'s study indicated that, though some efforts have been made to improve infrastructure and equipment in the CoEs, not much have changed since their elevation to tertiary status. Much work need to be done in terms of infrastructural development in the CoEs if they can live up to their mandate and expectations as university colleges. Indeed, it is more frustrating when one learns something but is unable to put it into practise because of

institutional bottlenecks such a lack of resources, facilities or infrastructure. The NAB results corroborate the research of Tannenbaum, who discovered that people's propensity to learn new things and share what they've learned with others is influenced by their workplace's physical, social, and psychological settings. Therefore, the primary goal of CPD practises within institutions is to cultivate an environment that facilitates not only the successful acquisition of knowledge, skills, and attitudes, but also the transfer of these traits and ideas to others. According to Tannenbaum, this is crucial for CPD programmes within institutions to accomplish their long-term objectives.

Empirical Review

This section now reviews various empirical studies in support of the variables and constructs being measured. This section is organised into themes based on the research questions and hypotheses guiding the study. The themes begin with the historical perspective of CPD in Ghana; Colleges of Education as learning organisations; Needs assessment for CPD; CPD practices in the CoEs; Evaluative models of CPD programmes; National Teachers Standard for Ghana; Transfer of learning; and Impact of CPD practices on teacher effectiveness.

CoEs as learning organisations

Prerequisite to any CPD is establishing whether an institution has built the culture of learning or otherwise. Hence, having traced the historical antecedents of teacher CPD in Ghana, the study now focusses on an in-depth analysis of CoEs as learning institutions. Some organisations get overwhelmed by events and flounder without any form of reflection from one crisis to the next. Others thread with

caution, drawing lessons from misfortunes that empower them to plan for, cope with change(s) and learn consciously from them. These are two succinct situations as it pertain in all organisations but obviously, the latter is a typical example of a learning organisation. Senyefia and Armah (2020), therefore underscores the fact that learning organisations are institutions that embrace and promote learning and innovation among employees, creating an environment that nurtures learning, creativity, and knowledge-sharing. They further explain that such organisations have the capacity to learn, unlearn, and relearn, fostering a culture of continuous improvement, innovation, and growth. It is obvious that change is inevitable and thus, attitudes and reactions of tutors in the CoEs towards CPD practices largely depend on the kind of importance they place on learning as a fundamental value in their institutions. The extent to which tutors see the CoEs as learning institutions have impact on their effectiveness in CPD practices.

CoEs in Ghana provide a platform for professional development programmes such as workshops, seminars, conferences, and other activities that enable faculty members to keep up with emerging trends and innovations in the field of education (Senyefia & Armah, 2020). Through such programmes, faculty members are equipped with the skills and knowledge necessary to improve their teaching practice, and ultimately improve student outcomes. Furthermore, as learning organisations, CoEs in Ghana also provide opportunities for faculty members to engage in collaborative learning, share experiences and knowledge, and engage in peer-to-peer support. Such interactions provide a platform for reflection,

constructive feedback, and critical analysis, which are essential for promoting growth and development among faculty members (Senyefia & Armah, 2020).

It is worth noting that the establishment of CoEs in Ghana as tertiary institutions is a relatively recent development. Prior to 2004, teacher education was classified as a post-secondary education that offered only certificate programmes. As part of an effort to address the critical shortage of trained teachers in the country since 1951 when Dr. Kwame Nkrumah introduced the free primary education the number of CoEs in Ghana has increased significantly, and they have become the primary institutions for teacher education and professional development. They have metamorphosed from varying forms of certificate awarding institutions to diploma and currently degree awarding institutions in JHS education, primary education and childhood education (Acquah, 2012; Addae-Boahene, 2018; Addae-Boahene, 2019; Antwi, Dela, Mensah & Awuddy, 2018; Baafi-Frimpong, 2019; Newman, 2013). CoEs in Ghana have consequently been identified as key players in the implementation of the government's education policy, which emphasises the importance of quality education, lifelong learning, and continuous professional development for teachers (Amoako & Atta-Boateng, 2014). As such, they play a critical role in building the capacity of teachers to improve the quality of teaching and learning in the country.

Learning is the new form of HR and even more relevant in today's corporate world (Zuboff, 1988). Due to globalisation, organisations are in a constant flux of competition that virtually imitate all kinds of production resources to enhance their competitive urge and advantage. The only thing that competitor organisations

cannot imitate in this dynamic and technological era is the people and the skills that they possess (DeSimone & Harris, 1998). Senge (1998) therefore suggest that, learning organisation must continually expand its capacity to create its own future. Buckler and Caple (2000) emphasised Senge's idea of projecting into the future when they described the learning organisation as a phenomenon that should facilitate the learning of its members and continually transforms itself to meet the challenges of the day and the growing demands of stakeholders. A learning organisation therefore must harness the full brain power, knowledge and experience available to it, in order to evolve continually for the benefit of its stakeholders (Hacket, 2002). Hacket's argument follows that becoming a learning organisation does not happen by accident but requires conscious efforts and strategic decision to create the kind of culture that support learning, and institute measures in making it a reality.

In the context of the CoEs, it implies that they must be empowered through adequate resources to be seen as learning organisations with enhanced capacity to learn and adapt to changes in fulfillment of their mandate as key stakeholders in the preparation of teachers for the basic level of education sector in Ghana. It is incumbent on management and all other stakeholders of the CoEs to support CPD activities through the provision of favourable working environment that ensures that tutors are well motivated and have the best of opportunities to learn and perform. In order for the CoEs to transform into learning organisations, they will need to rethink their processes, priorities, standing among colleagues, and degree of transparency. In fact, effective CPD is that which significantly increases educators' motivation to

achieve both individual and institutional goals. The necessity for a learning organisation stems from the fact that teachers must evolve over time if they are to meet the demand for long-term, high-quality education. Learning by tutors' must be considered critical to the CoEs survival and development. Underpinning this learning organisation concept is the phenomenon of 'motivation'. Literature underscores motivation as a significant factor and a major determinant that invokes the right attitude in workers in any learning organisation (Jooste & Kilpert, 2002; Murphy, Cross, & McGuire, 2006; Oseyemon & Ojeaga, 2011; Leong & Yazdan ifard, 2014; Boama, 2014). As Stoner, Freeman and Gilbert (as cited in Oseyemon & Ojeaga, 2011) simply expressed, incentive is a human psychological trait that determines a person's level of devotion and comprises the variables that lead to, guide towards, and maintain that dedicated activity. This implies that motivation determines the direction of a person's behaviour in an institution, predicts the individual's level of effort, and more importantly determines a person's level of persistence in the face of obstacles. Indeed, motivation is a specific element that is related to learning that determines the extent of commitment to the content as well as the completion of any learning target. Motivation therefore is an essential component in the CPD process for which finding meaning in on a personal level is essential. Motivation can be looked at from different perspectives and contextualised to mean teachers' ability to apply newly acquired skills in the work which have great influence on tutor effectiveness in any CPD programme.

A few studies in Ghana have assessed the degree to which learning has become a fundamental value in organisations. One such study is Owusu's (2011)

examination of how the University of Cape Coast (UCC) and Valley View University (VVU) handle the growth of their human resources. The study found learning as a fundamental value in both institutions, though the practice was more dominant in the UCC than VVU. Inadequate funds and resources was one reason ascribed to this situation which invariably leaves VVU with only a few opportunities. It was also the case that most private institutions prefer paying their workers the highest market premium rather than investing in their professional development. Yaqub et al. (2020) also examined the challenges that tutors face in getting CPD in the CoEs. The study found that learning has not become a fundamental value in the CoEs due to lack of incentives like allowances, promotions, salary increase etc. This finding emphasise the indispensability of motivation in teacher PD programmes to be successful. It's possible that both extrinsic and inner factors contribute to motivation. When participants can see themselves and their goals in the CPD programme's content and procedures, they are more likely to put in the effort. As Wlodkowski (2003) argues, CPD programmes are most useful when students' understanding of course material reflects their own personal, communal, and cultural meanings. Yaqub et al.'s finding runs contrary to Owusu's finding. Despite the contextual differences in the study areas used in their studies respectively, both are public educational institutions committed to teaching and research. It is therefore expected that some level of similarities is established in such an important indicator like 'learning as a fundamental value'. The contradictory findings present the need for further probe and interrogation in either of these institutions to ascertain the authenticity, veracity

or the possible explanations to this finding. In order to have a full and proper appreciation of how CPD practices in the CoEs influence tutor effectiveness, one of my objectives seeks to look at tutors reactions through the available motivating factors like suitability of content and learning experiences, time, location, environment, logistics and resources, refreshment, financial support, affordability and recognition influence their effectiveness in CPD practices

CPD practices in the CoEs

From the historical perspective traced earlier in this section, it is evident that, teachers' CPD has fast gained attention in Ghana. With the rate of growth of this phenomenon in the CoEs in the last decade, it is imperative to identify the various framework models through which effective CPD can be analysed. That is to say, this section of the literature introduces readers to the type of CPD programmes available to the CoEs as well as what various studies have to say about them in terms of their practicality, frequency, relevance and effectiveness. Kennedy (2005) identified nine models which were further decomposed into eight models through his own review in 2015. Kennedy's models took their roots from the traditional PD practices (on-the-job and off-the-job) in organisations that were classified into models based on factors such as the perceived purpose, the degree of control and the kind of teacher autonomy it provides. The framework provides insight into the circumstances in which each particular model might be adopted as well the type of knowledge (K), skill (S) and attitude (A) anticipated by such model. Ali (2014) contends that, though the ultimate purpose of CPD is the update of KSA's, they do not happen in a vacuum. Ali's observation implies that, the context through which

KSA are acquired and used help us to understand the nature of the knowledge. Identifying the various media through which CPD for tutors in the CoEs is organised in terms of its structure and content may help us to understand not only the motivation behind such structures, but also the nature of KSA's acquired. It must be noted that not the same prominence and importance has been attached to all the models in terms of their scope due to their relevance to the CoEs as well as the study. A brief explanation and analysis of each model is provided in Appendix W to enable readers have a better appreciation of all the models available.

Several studies show that teachers have engaged in various forms of PD practices over the years from pre-tertiary to tertiary. For instance workshops, seminars, and in-service training have been found as the most commonly used CPD practices in CoEs and tutors participated in CPD programmes at least once a year (Acquah, 2012; Gaisie, Addae & Agyapong, 2017; Yidana & Kwarteng, 2017; Owusu-Fordjour, Koomson & Hanson, 2020). Similar findings identified by other studies include (Nortey, 2010; Atta & Mensah, 2015; Afreh, 2018; Sulley, 2018; Abubakari, 2020) but with focus on pre-tertiary teachers as respondents. Several other studies (Takyiwaa, 2010; Acquah, 2012; Nkrumah, 2012; Ayorogo, 2014; Mensah, 2016; Jones, 2015; Tamanja, 2016; Dampson et al., 2018;; Sulley, 2018; Abubakari, 2020; Tannehill et al., 2020; Saleem et al., 2021) show the predominance of these PD practices in other tertiary institutions and different sectors in Ghana.

Kyei, Opoku and Dwomoh (2019) studies also found mentoring as an effective tool that provides tutors with guidance and support to enhance their

teaching skills. Mensah & Ofori (2017) equally identified action research as an effective PD practice that provides opportunity for tutors to engage in reflective practice to improve teaching and learning. Also, a study by Nsiah and Mensah (2021) found the quality of some of these prevalent PD programmes in the CoEs as generally good but needed improvement in certain areas such as assessment and evaluation. It is evident through the discussion that tutors have engaged in several PD practices in the CoEs but the challenge, is the lack of proper needs assessment that should precede the choice of specific PD programmes to determine their suitability and subsequent impact on teacher effectiveness (Odoom et al., 2016; Abreh, 2018; Sulley, 2018; Yaqub et al., 2020).

As Desimone and Harris (1998) put it, proper needs assessment is a prerequisite for any successful PD programme. This calls for an assessment of not only the experiences the individual CPD models provide, but their influence on tutor effectiveness. As a result, this study focusses on the conceptual gap that assesses the influence of these CPD programmes on teacher effectiveness in the CoEs. There are still unanswered questions like the suitability of these programmes to tutors? As well as the kind of PD programmes that contribute most to tutor effectiveness? Answers to these questions amongst other constructs provide: a framework that acknowledges how these individual model of CPD serve and support a particular purpose; appreciate the impact made by each model; and subsequently inform their usage appropriately.

Gender and CPD Practices

Gender and CPD practices have gained significant attention in the field of education worldwide and undoubtedly gender has been found to play a significant role in CPD practices in organisations. My study therefore found it necessary to determine how gender influences the choice of PD programmes and their subsequent influence on tutor effectiveness. This literature therefore provides a brief overview of the gender parity situation in Ghana and PD practices with their subsequent influence on tutor effectiveness.

In Ghana, the past two decades have witnessed several attempts and efforts in managing the societal threat of female gender inequality. For example, the conscious policies by the missionaries towards the girl-child education through the provision of some single-sex secondary schools which were further acknowledged by the colonial government and further consolidated by succeeding governments since independence (Baafi-Frimpong, 2019). Also, the quest for women contribution and activism was acknowledged and gained public momentum through the establishment of the National Council of Women in 1960 as well as the adoption of the ambitious affirmative action guidelines in 1979 (Burgess & Ayentimi, 2020). In spite of these interventions and protocols, Burges and Ayentumi maintain that male participation in tertiary education is 2.5 times that of women in Ghana and that explains the low participation for women in professions that require advanced tertiary education qualification. Hence, they argue that female involvement and participation in all sectors of the economy in Ghana can best be described as

counterproductive. Thus, there are disparity gaps in female participation in tertiary education as it remains low just as employment in professional and technical jobs.

Research from the international scene provide that gender inequality is a significant barrier to accessing CPD programmes for women in education (Borko & Mayfield, 2018; UNESCO, 2015). Women often face multiple barriers to accessing PD opportunities, including family responsibilities, cultural beliefs, and social norms. Additionally, women may face discrimination and bias in the workplace, leading to limited access to PD opportunities and a lack of upward mobility (Borko & Mayfield, 2018b). Therefore, gender-responsive policies and practices are critical to ensuring that women have equal access to CPD opportunities in education (UNESCO, 2015).

The international findings are further corroborated in Ghana through several studies. For example, studies have found that female teachers in the CoEs in Ghana have lower participation rates in CPD programmes compared to male teachers, an anomaly that was attributed to cultural beliefs that limit women's participation in formal education and PD activities; social norms that discourage women from traveling or attending training workshops without their spouses; gendered division of labour, which assigns primary caregiving responsibilities to women, leading to limited time for PD activities (Adu, Asante & Badu-Nyarko, 2019; Opoku-Amankwaah, Oduro & Arthur, 2020). Further research show that gender biases and stereotypes affect the quality of CPD programmes in the CoEs. For example, a study by Owusu-Ansah and Opoku-Amankwaah (2020) found that gender stereotypes can lead to the marginalisation of women in PD activities. The authors noted that women

are often assigned to roles such as secretaries or rapporteurs in workshops, which are viewed as less important than other roles such as facilitators. This marginalisation can lead to limited opportunities for women to develop leadership and facilitation skills, which are critical for career advancement in education.

Only a few studies have reported on gender influence on the choice of CPD practices which is a major study with direct relationship with my study. An example is Anasi (2017) who investigated the influence of gender on attitude towards the use of social media for CPD among academic librarians in Ogun State, Nigeria. The descriptive survey design was used where 79 questionnaire were administered to academic librarians, using the total enumeration sampling technique from five universities selected in Ogun State, Nigeria. The data collected were analysed using both descriptive (percentage, frequency and mean) and inferential (Pearson product moment correlation coefficient and t-test) statistics. The study revealed a positive attitude of academic librarians towards the use of social media for CPD but there was no statistically significant gender difference in attitude towards the use of social media ($t = 0.097$, $df = 54$ and $p > 0.05$). However, the study reported a significant moderate positive relationship between attitude towards social media use and frequency of use of social media ($r = 0.439$; $p < 0.05$). The study first and foremost presents a contextual gap as it was limited to only 79 academic librarians amongst five Universities in Ogun state, Nigeria. Also, the study measured constructs such as the attitude of the male and female academic librarians towards social media use; and the frequency of social media use between the male and female academic librarians. Aside the contextual gap between Anasi's study and the current study

being conducted, the constructs measured equally could not be used to inform the gender choices, selection and effectiveness amongst tutors in the CoEs. Again, the study provided some contradictory findings through the t-test analysis. In one breath, the study reported through the abstract that there was "a significant moderate positive relationship between attitude towards social media use and frequency of use of social media ($r = 0.439$; $p < 0.05$)". Meanwhile, the analysis of results and discussion section of the research paper reports "no significant difference in the frequency of use of the social media for CPD among male and female respondents ($t = 0.867$, $df = 54$ and $p > 0.05$). This informed the researcher's decision not to reject the null hypothesis that states that "there is no significant difference in the frequency of use of the social media between male and female librarians". Judging from the results presented in the abstract ($r = 0.439$; $p < 0.05$) and the discussion section ($t = 0.867$, $df = 54$ and $p > 0.05$) there was no significant difference in the frequency of use of social media between the male and female academic librarians. Assuming, the results were consistent in the study, one could have conveniently attributed the contradictory findings to a simple typographical error since the conclusion of the study equally affirm that that there is significant moderate positive relationship between attitude towards social media use and frequency of use of social media. However, the different values presented at different sections of the study create doubts about the authenticity of the analysis done. These limitations notwithstanding, the use of the Pearson correlation to determine the existence of a relationship between gender and the media followed by the t-test to determine the nature of the relationship provides a blue print for my study. Though, I will be

measuring different constructs in a different context, the common denominator still has to do with gender differences.

Anasi's studies coupled with others leave a number of concepts like the choice of CPD activities and participants' effectiveness with respect to gender in question. It is appropriate that assessing the phenomenon 'CPD' in the CoEs looks at the wider picture of the concept due to the heterogeneous composition of tutors. It is against this background that part of my objectives sought to look at some constructs on gender differences through the null hypotheses:

$H_0$3: There is no statistically significant difference in tutors' choice of CPD activities with respect to gender. Testing this hypothesis using the chi-square will gauge how both gender respond to on-the-job, off-the-job, formal and informal PD activities.

$H_0$6: There is no significant difference in the male and female tutor effectiveness. Having examined how both male and female tutors in the CoEs respond to PD activities, now allows for an analysis using the multiple analysis of variance (MANOVA) to determine whether their choices have any influence on effectiveness.

Impact of CPD Programmes on Teacher Effectiveness

Literature shows that effective PD practices have noticeable impact on teachers' work both in and out of the classroom (Villegas-Reimers, 2003). Illustrating this, Nana Takyiwaa (2010) examined the impact of in-service training on non-professional teachers in the West Akim District of the Eastern Region of Ghana. It was a descriptive survey design that used both questionnaire and interview

guide as instruments. The cluster random sampling technique was used to collect data from 66 basic school teachers from 7 circuits and data were analysed using percentages and frequencies. The study found that in-service training impacted on non-professional teachers academically and professionally through pedagogical effectiveness and classroom management practices. Nonetheless, there were some methodological deficits in the study. The descriptive design did not correspond with the use of both questionnaires and interview guide. The study did not justify how only 7 out of 13 circuits representing 66 out of 137 non-professional teachers were selected from the district. Considering the characteristics of the respondents, the multi-stage cluster would have provided a much more convincing sample. More suggestively, a population of 137 was manageable in a full scale study like this and successively the census technique could have been used to include all the 137 non-professional teachers distributed in the 13 circuits to ensure proper representativeness. Another methodological shortfall was the use of percentages and frequencies which cannot be used to establish any significant impact or influence of in-service training on teacher effectiveness. The study was also limited to only in-service training of non-professional teachers in West Akim District. Similar study by Nkrumah (2012) examined the impact of UCC distance learning on the PD of basic school teachers in Kumasi Metropolis in the Ashanti Region of Ghana.

Sulley (2018) also examined the effects of PD programmes on the performance of teachers in the Sagnarigu District in the Northern Region of Ghana. The study was quantitative just like Nana Takyiwaa's study. It was a case study

design using questionnaire to collect data from 150 respondents. The respondents comprised of 140 teachers and 10 headteachers from 10 Junior High Schools (JHS) selected through the purposive sampling technique. Percentages and frequencies were used in the analysis of data. The study established that PD programmes improved performance of teachers and enhanced their competences but was deficient in a number of ways. The use of purposive sampling in selecting 150 respondents was problematic in a purely quantitative study. In addition, how the researcher arrived at the 150 teachers who had ever participated in CPD programmes was unknown. The study also limited teachers' performance to only teaching learning resources and methodology which are only two experiences under the professional practice of the NTS for Ghana. Thus, equally important constructs under the two other dimensions of the NTS (PVA and PK) have been neglected in the determination of teacher competence. This, makes Sulley's definition of teacher competence too narrow in scope. Again, determining the effect of PD practices on teacher performance required rigorous inferential statistics that go beyond just establishing relationship between the two variables. Contrary, only percentages and frequencies were used in the data analysis. These tools only had the tendency to describe the nature of PD programmes but not any form of impact on teacher performance. Hence, concluding on a positive relationship between CPD practices and teacher performance was not supported. Similar studies deficient in this analytical concept include (Dampson et al., 2018; Ayorogo, 2014).

Mensah (2016) also studied the influence of CPD practices on teachers' classroom practices at the Kassena-Nankana West District (KNWD) in Ghana. The

study used questionnaire and interview guides to collect data from 93 public JHS teachers from the KNWD selected through the simple random sampling technique. Descriptive statistical tools and the Pearson Product-Moment correlation were used to analyse the data. The study found that teachers' PD programmes were significantly related to effective classroom management practices. Mensah's study just like earlier studies reviewed was not without deficiencies. The study did not indicate the study design that informed other procedures used in the study. This made it difficult to appreciate some of the techniques later used in the study. For instance, the choice of the questionnaire and interview were not grounded in any form of evidence. Besides, there was a heterogeneous population that included both trained and untrained teachers with gender variations equally of interest to the researcher. Hence, the use of the simple random sampling technique was suspicious. The disproportionate stratified random sampling would have ensured a better representativeness of the population. Teacher effectiveness was restricted to only curriculum practice which reflects only one component (professional practice) of the three dimensions given by the NTS for teacher effectiveness. Despite these identified deficiencies, Mensah's study is unique in terms of its analysis compared to Nana Takyiwaa, Sulley, Ayorogo and Nkrumah's studies. It established a correlational relationship between CPD programmes and teacher effectiveness, hence relevant to the literature discussion. A similar study that established correlational relationship was done by Chikari et al. (2015) in Botswana using teachers in private higher educational institutions. Chikari's study, though not found in Ghana, was still relevant since it focused on correlational relationship between

some biographic characteristics such as age, gender, qualification and experience on teacher performance. The study established that gender, experience and qualification had positive relationship on teachers' performance but age did not.

Finally, Melesse and Gulie (2019) examined the extent to which Primary Schools in Fagita Lekoma and Woreda implemented teachers' CPD and its impact on quality of education in Ethiopia. The study was a descriptive survey that used questionnaire and interview guide to collect data from 116 respondents. The simple random sampling, systematic random sampling and the snowball sampling techniques were used to select 116 respondents comprised of primary school teachers and their respective principals as well as Woreda education office supervisors. The quantitative data were analysed using percentages and one sample t-test whereas the qualitative data was analysed through thematic description. Conflicting results were reported from the analysed data that emanated from the two instruments. Whereas the quantitative data reported moderate impact, the qualitative data reported greater impact of CPD practices on the quality of educational practices. Though the study was not conducted in Ghana, a comparative analysis of the constructs measured in interpreting teacher effectiveness indicate that, all the three dimensions of the NTS were used to some extent. With a calculated mean of (3), they ranked the CPD outcomes that they believed had impact on quality education in Ethiopia in a hierarchical order as: improvement in knowledge and skill (3.13); improvement in teachers' thinking and planning (3.08); teachers acquiring and developing critically all the inputs for good planning and practice with beneficiaries (3.04); improvement in teachers' actions of taking account of their life

and career phases and the contexts in which they work (2.90); improvements in teachers' own teaching repertoires (2.88); improvements of teachers' understanding of their purposes (2.88); improvements in student learning and achievement (2.87); teachers commitment and moral purposes to their teaching (2.87); much more opportunity on teacher collaboration (2.83); providing an increased range of learning opportunities for students (2.81); increased motivation for teachers to stay within the profession (2.75); improvement of teachers' relationship with students than before (2.73); teachers' sense of commitment becoming more positive than before (2.67).

Given the conflicting reports from the study, Melesse and Gulie in the final analysis, supported the interview findings that agreed with literature that CPD has positive impact on curriculum, pedagogy, teachers' sense of commitment and their relationships with students (Talbert & McLaughlin, 1994; Joyce & Calhoun, 1999). The study also found that effective teacher performance is largely a function of the quality of the PD interaction and the purpose of the PD practices. They further confirmed that CPD practices must basically seek to improve teachers' own personal and professional needs as literature documents (Weiner, 2002; Burbank & Kauchak, 2003; Kennedy, 2005; Kennedy, 2014; Kennedy, 2015). The study also emphasised that the impact of CPD programmes in institutions was largely based on the needs of teachers. Teachers needs are nonetheless found to be dependent on other variables such as the circumstance(s) they found themselves, their personal and professional histories as well as their current dispositions (Knowles, 1980; Burns, 1995; Trotter, 2006; Mugisha, 2015). It is so convenient to conclude that

there is a correlation between CPD provision and the particular professional needs of teachers to facilitate effective learning and enhance teacher performance. This relationship between the developmental needs of teachers and the selected CPD activity is critical to ensure a positive impact both at the school and classroom level. Aside the conflicting findings, there were other gaps identified in the study. The use of the descriptive survey was supposed to make the study purely quantitative but they used both questionnaires and interviews in the collection of data. My literature search found this anomaly not only peculiar to Melesse and Gulie's study but a common practice by many researchers including that of Nana Takyiwaa and Sulley reviewed in the preceding paragraphs. Combination of instruments in the collection of data is one major characteristic of the mixed-method approach (Ivankova, Creswell & Stick, 2006; Teddlie & Tashakkari, 2009; Alise & Teddlie, 2010; Terrell, 2012; Fettersl, Curry & creswell, 2013; Subedi, 2016; Wong & Cooper, 2016; Creswell & Creswell, 2018). These writers further indicate that depending on the purpose and objectives that guide the study, the design could be convergent parallel, explanatory sequential, exploratory sequential or embedded. Also, descriptive survey does not allow for non-probability sampling technique like the snowball used in the study. Also, there was no convincing justification provided for the contextual use of the snowball in the study. Granted that non-probability technique could have been used, purposive sampling would have been a better option than the snowball since officers in charge of CPD activities are well known in District Education Offices (DEOs). The multi-stage cluster sampling technique would have been a better alternative to the simple random sampling considering the

nature of the population coming from three different localities. The use of the one sample t-test was to indicate whether any of the specific CPD practices (independent variable) had a predictive influence over the quality of education (dependent variable) being offered. In this context, preceding the t-test should have been a type of regression analysis to determine the influence of the independent variable(s) on the dependent variable(s) but was non-existent. Similar study was conducted by Saleem et al. (2021) using the z-test to determine difference in rural and urban teachers on teacher effectiveness.

In summary, six studies (Takyiwa, 2010; Nkrumah, 2012; Ayorogo, 2014; Sulley, 2018; Abreh, 2018; Dampson et al., 2018) show that CPD practices have great impact on teacher effectiveness but with no clear evidence offered through their analysis and findings. Two studies (Chikari et al, 2015; Mensah, 2016) established a correlational relationship between CPD programmes and teacher effectiveness. Melesse and Gulie (2019) used one sample t-test to establish influence but showed contradictory findings between the quantitative and qualitative data results. Saleem et al also used the z-test to determine rural and urban teacher effectiveness that result from CPD practices. Three of these studies: Chikari et al., (2015); Melesse and Gulie, (2019); and Saleem et al., (2021) were conducted in Botswana in the Southern part of Africa, Ethiopia in East Africa and Pakistan in Asia respectively. This implies that, these studies cannot comprehensively describe the phenomenon of teacher effectiveness that result from CPD practices in Ghana due to different conceptualisations in framework by different countries, sectors, departments, professionals, practitioners and academicians (Friedman & Phillips,

2004; Mphale, 2014; Kaija et al., 2017). This invariably make CPD and its associated constructs culture-specific and thereby a sensitive concept to generalise globally. Mensah's study found in Ghana alone is equally not enough to establish a correlational relationship between PD practices and teacher effectiveness in Ghana. It is evident from the discourse that the influence of CPD practices on teacher effectiveness have had varying conceptual, contextual, methodological and contextual gaps. This means, no relationship has been established where a regression analysis has been examined on teacher effectiveness and CPD practices. More importantly, none of these studies focused on the CoEs in Ghana. The transition in the migration of the CoEs to university status have attracted many stakeholders including the government of Ghana (GoG), affiliated universities and other donor agencies like T-TEL investing huge financial resources in both the teaching and non-teaching staff. This is to improve teacher quality in a sustainable global competition. There is therefore, the need for an empirical research-based study to examine the deficiencies of incorporating CPD practices among tutors in the CoEs. This will ensure stakeholders have value for money and also help to determine the kind of PD practices that yield better teacher efficiency and effectiveness.

Conceptual Framework

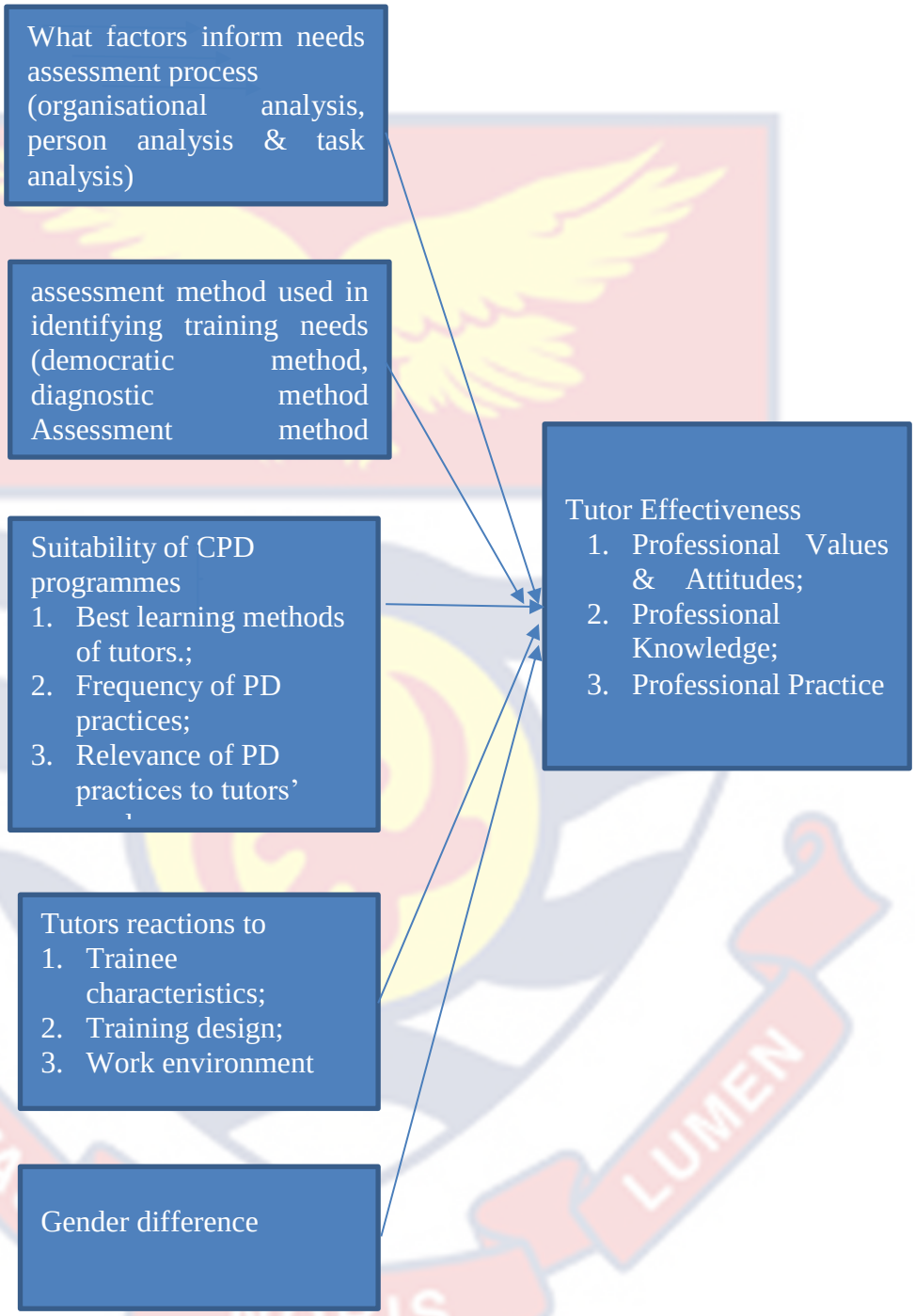


Figure 4: CPD Effectiveness in CoEs (Author's Construct, 2021)

Figure 4 illuminates the complex interplay of variables surrounding tutor effectiveness within the context of CPD in Ghana's CoEs. At its core, tutor

effectiveness is assessed along dimensions aligned with the NTS, encompassing PVA, PK, and PP. These dimensions form the foundation upon which the influence of CPD practices on tutor effectiveness is evaluated. Complementing this examination are several independent variables that interact within this framework. Factors that inform needs assessment as well as the methods used in identifying performance deficits are crucial variables in the needs assessment process. The factors consisted of organisational analysis, person analysis, and task analysis factors. Assessment methods are integral in pinpointing these training needs, as they are categorised into democratic methods, diagnostic methods, and analytical methods. The selection of assessment methods profoundly influences the effectiveness of CPD programmes, ensuring that they are well-suited to the unique requirements of tutors. Insights gained from these assessment procedures lay the groundwork for the subsequent design of CPD programmes tailored to address the specific training needs identified among tutors.

The Suitability of CPD programmes is gauged through the prism of the best learning modes for tutors, the frequency of PD practices, and the relevance of these practices to tutors. This variable accentuates the need for CPD programmes to align with the distinct preferences and needs of tutors, ultimately enhancing their effectiveness as educators. Furthermore, tutors' reactions play a significant role in this framework. These reactions, measured across dimensions such as trainee characteristics, training design and work environment factors relative to on-the-job practices and off-the-job practices provide critical insights into how tutors respond to CPD activities. Understanding these responses is instrumental in comprehending how CPD practices influence tutor effectiveness. Gender difference variable explores whether gender-based distinctions affect tutor effectiveness within the context of CPD practices. This element adds a layer of complexity to the framework by considering potential variations between male and female tutors.

To delve into this complex framework and effectively interpret its nuances, three theoretical frameworks: ALT, VET, and the RIT play pivotal roles. ALT, underscores the unique characteristics of adult learners, promotes active tutor

involvement in shaping their learning experiences. Additionally, it emphasises the importance of building upon tutors' prior experiences and practical knowledge within CPD programmes. This theory aligns closely with the framework's focus on needs assessment procedures and the suitability of CPD programmes. VET delves into the relationship between effort, performance, and outcomes, driven by individuals' expectations. This theory connects directly to the factors that inform needs assessment by shaping how tutors perceive the link between their efforts and expected outcomes. Moreover, it significantly influences how tutors react to and engage with CPD programmes, contributing to their overall effectiveness. The RIT highlights the role of rewards and punishments in shaping behaviour, offers insights into how tutor behaviour is influenced by feedback, recognition, and reinforcement within CPD programmes. This theory plays a crucial role in understanding tutors' reactions within the conceptual framework.

Summary of Literature Review

The literature review highlighted emerging issues in CPD and identified gaps addressed by this study. Three key theories underpinned the research: adult learning theories (ALT), reinforcement theory (RIT), and Vroom's expectancy theory (VET). ALT emphasises learner-centered approaches, experience-based learning, and collaborative PD initiatives, but gaps remained in applying these theories practically in CPD programmes for teachers at different career stages. RIT, which focuses on positive reinforcement, suggested that positive outcomes encourage repeated behaviours, highlighting the importance of motivational incentives like bonuses and promotions to enhance tutors' performance. VET, a

social learning theory, stress the relationships between effort, performance, and rewards, advocating for achievable learning tasks, clear evaluation procedures, and adequate post-PD incentives to reduce attrition rates in CoEs.

The literature also explored the context of CPD in Ghana, tracing its evolution from standard certificates to in-service training and eventually CPD, driven by socio-economic factors. Despite reforms, gaps remained in understanding how CPD influences tutor effectiveness, emphasising the need for improved human resource management in the teaching service.

Additionally, the study examined CoEs as learning organisations, where tutors' reactions to CPD practices were influenced by motivational factors like content suitability, time constraints, logistical support, financial assistance, and recognition. This analysis elucidated the relationship between motivation and CPD effectiveness.

The literature emphasised the importance of needs assessment in CPD practices in CoEs, identifying gaps in actual implementation. The study examined the factors considered before PD practices and methods for identifying performance deficits to bridge the gap between theory and practice.

Further, the types of specific CPD practices in CoEs were analysed, highlighting Kennedy's models and the need for a streamlined approach. The study assessed the suitability of these programmes based on tutors' preferred learning modes, frequency, and relevance, addressing gaps in understanding their influence on tutor effectiveness.

Gender emerged as a crucial factor influencing CPD participation in CoEs. Despite efforts to promote gender equality, disparities persisted, particularly in tertiary education. The study examined how gender perceptions affected CPD participation and effectiveness, providing insights into the CPD landscape in CoEs.

The importance of transferring learning from CPD programmes to the workplace and its influence on tutor effectiveness was emphasised. Four key determinants were identified: training characteristics, design, work environment, and situational constraints. The study assessed the extent of learning transfer in CoEs and its influence on tutor effectiveness.

Despite numerous studies on CPD practices and teacher effectiveness, findings were inconclusive and lacked empirical evidence, particularly in Ghana's CoEs context. The study fills this gap by evaluating CPD practices' influence on tutor effectiveness in CoEs, ensuring stakeholders' investments yield value.

The conceptual framework posits that factors and methods in needs assessment, the suitability of PD practices, and tutors' reactions to on-the-job and off-the-job practices interact to influence tutor effectiveness in CoEs. All indicators of tutor effectiveness were measured across the three dimensions of the National Teachers' Standards for Ghana.

CHAPTER THREE

RESEARCH METHODS

Introduction

The study sought to look at the influence of CPD practices on tutor effectiveness in the CoEs in Ghana. This section describes the methods and procedures that were used in conducting the research. It provides general information about how the study was conducted, the size and nature of characteristics of the population, the sampling technique and types of data collection technique which was used in carrying out the research study. The section is arranged under the following headings: research paradigms; study area; research design; population; sample size and sampling procedure; research instrument (questionnaire, validity and reliability, interview guide); sources of data; data collection procedure; and data analysis procedure.

Research Paradigm

To comprehensively understand the variables influencing tutor effectiveness in the context of CPD practices, a mono-paradigmatic approach is deemed insufficient. The positivist paradigm alone cannot provide the complete "truth" about CPD and its constructs, nor can the constructivist paradigm fully capture social reality. Scholars such as Patton (1990), Tashakkori and Teddlie (2003), and Alise and Teddlie (2010) advocate for a pragmatic paradigm that embraces a pluralistic and practical approach, incorporating mixed methods to study human behaviour. This paradigm draws elements from positivist, constructivist, and transformational orientations. Adopting a pragmatic worldview allows researchers

to choose the most appropriate methods for their study, without restricting themselves to quantitative or qualitative approaches alone (Patton, 1990; Tashakkori & Teddlie, 2003; Creswell, 2007; Martens, 2015).

Considering the objectives of my research that explored factors that determine CPD practices in the CoEs; determined the methods employed in identifying training needs prior to CPD practices; evaluate the suitability of CPD programmes in terms of tutors best learning modes, frequency of existing PD practices and the relevance of these practices; examine tutors reactions to various PD practices and their subsequent influence on their effectiveness; and finally analyse the influence of gender on tutor PD effectiveness, conveniently align with the pragmatic paradigm. This is because the paradigm acknowledges a non-singular nature of reality (ontology) and emphasises the researcher's discretion in determining relationships within the study. It entails utilising mixed quantitative and qualitative research methodologies, where quantitative data analysis precedes qualitative data analysis. This approach acknowledges the socially constructed nature of knowledge and recognises the value of participant interaction in uncovering insights into CPD-related issues (Naziha, 2010).

Research Design

The study adopted a mixed-method approach within the pragmatist paradigm, employing an explanatory sequential design chosen for its suitability and compatibility with the study's objectives (Ivankova et al., 2006; Terrell, 2012; Fetters et al., 2013; Subedi, 2016; Creswell & Creswell, 2018). This design facilitated randomisation and error estimation in quantitative data, allowed for

chronological data presentation, and enabled in-depth exploration of "why" and "how" questions through qualitative interviews. While the primary focus was on quantitative data, qualitative interviews were strategically utilised to provide additional clarification and depth (Teddlie & Tashakkari, 2009; Alise & Teddlie, 2010; Owusu, 2011).

The explanatory sequential mixed-method design offers a clear description of variables and procedures for replication, aligning with the study's objectives and the characteristics of the population (Ivankova et al., 2006; Fetters et al., 2013; Subedi, 2016). This design allows for meaningful qualitative comparisons and is relatively straightforward to describe. However, it is important to note that the design can be time-consuming when both phases are given equal consideration and priority (Subedi, 2016).

The systematic gathering of quantitative data to describe CPD practices in the CoEs was facilitated by the explanatory sequential design. Subsequently, qualitative interviews offered nuanced insights into the measured constructs and identified issues. The integrated approach was necessary due to the complex nature of CPD processes and the need for comprehensive understanding. Although the study leaned towards quantitative methods, the qualitative component enriched the analysis by providing context and deeper exploration of key themes. The design ensured a coherent and systematic progression from data collection to analysis, ultimately contributing to a more robust understanding of CPD practices and their influence on tutor effectiveness in Ghana's CoEs. Figure 5 illustrates the various stages of the design.

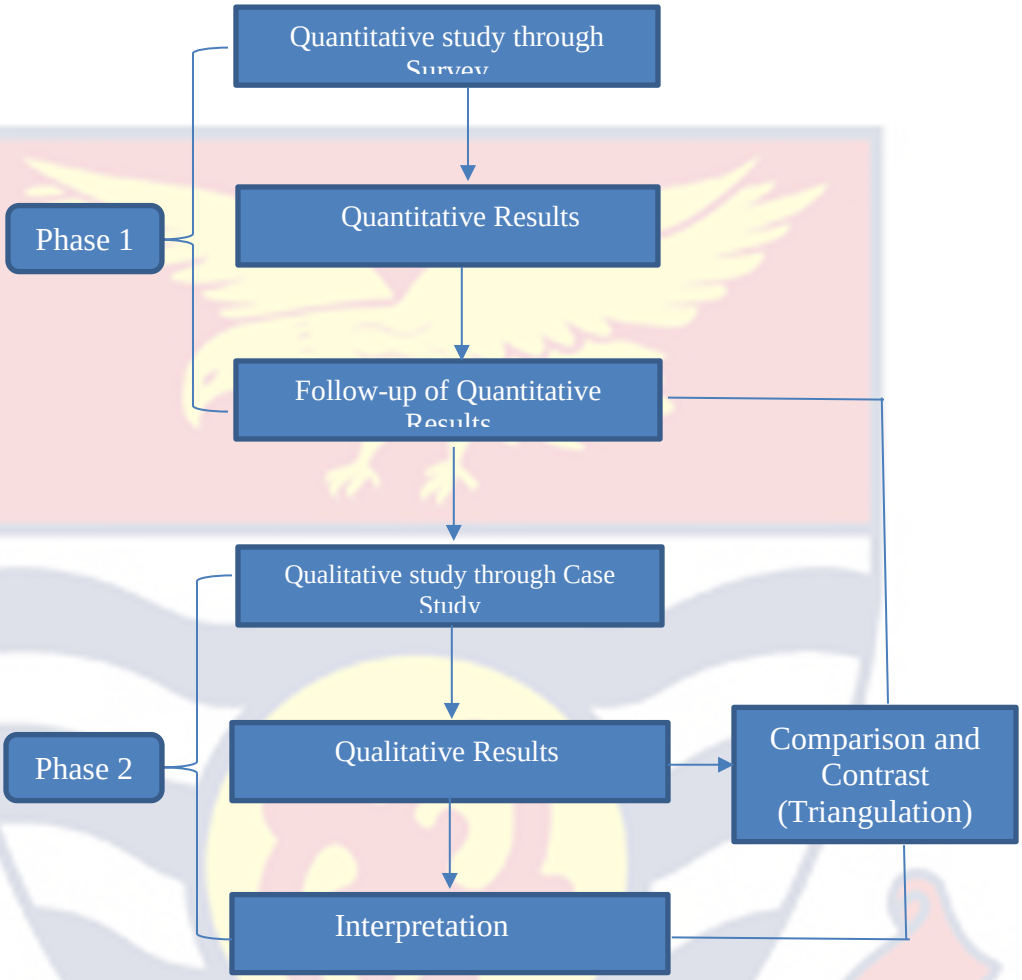


Figure 5: Explanatory sequential design for the study (Wong & Cooper, 2016)

Study Area

Situated on the western coast of Africa, Ghana is a vibrant and culturally rich nation known for its historical significance, diverse landscapes, and warm hospitality. As one of the region's most stable democracies, Ghana boasts a thriving economy driven by sectors such as agriculture, mining, and services. However, amidst its progress, the country continues to prioritise education as a cornerstone of national development. Within the educational landscape of Ghana lies a network of 46 CoEs that serve as hubs for teacher training for basic schools. These institutions,

scattered across the country's picturesque landscapes across 16 regions, are vital in shaping the future of education by equipping pre-service teachers with the knowledge, skills, and competencies needed to excel in the classroom. The CoEs in Ghana are characterised by their commitment to excellence in teacher education, fostering a learning environment that promotes innovation, critical thinking, and inclusive pedagogy. With a diverse faculty comprising experienced educators and renowned scholars, these institutions offer a comprehensive range of academic programmes tailored to meet the evolving needs of the education sector. Since their establishment, CoEs in Ghana have evolved from awarding various shades of certificates to becoming diploma-awarding institutions, and now, transitioned to degree-awarding institutions since 2018. The CoEs in Ghana embrace the country's rich cultural heritage, infusing traditional values and practices into their educational philosophy. From vibrant cultural festivals to immersive community engagement initiatives, these institutions play a pivotal role in preserving Ghana's identity while preparing educators to navigate the complexities of a globalised world. Against this backdrop, the study area of CoEs in Ghana offers a compelling setting for research and exploration. It represents a microcosm of educational innovation, diversity, and resilience, providing valuable insights into the intersection of CPD practices and tutor effectiveness within the context of teacher training institutions.

Population

A research population refers to the entire set of individuals of interest to the researcher (Gravetter & Forzano, 2006). The population under study encompasses all the teaching staff in the forty-six (46) public CoEs across Ghana. These

institutions are grouped according to their specific mentoring universities: University of Cape Coast Affiliated Colleges, University of Education, Winneba Affiliated Colleges, University of Ghana Affiliated Colleges, Kwame Nkrumah University of Science and Technology Affiliated Colleges, and University for Development Studies Affiliated Colleges. As of the end of the 2019/20 academic year, the total staff complement across all 46 CoEs stood at two thousand and twenty-six (2026) academic staff (GTEC, 2020).

The target population for this study comprised 583 tutors selected from 13 CoEs, excluding those recruited after the 2016/2017 academic year. This exclusion was based on the necessity for participants to have prior experience and engagement in PD practices during the specified period. However, during the data collection phase, the accessible population was 573, influenced by factors such as tutors leaving their posts for further studies, transitioning to other analogous tertiary institutions, and retirement. The population had varying experiences in CPD initiatives offering a rich and diverse pool of participants for comprehensive investigation. The heterogeneous gender composition reflected the broader demographics of the teaching profession in Ghana, contributing to their suitability. This diversity provided a valuable opportunity in exploring potential gender-based disparities in participation and effectiveness of CPD practices. Furthermore, the population had varying length of service offering a spectrum of experience levels and exposure to PD initiatives. This variability in tenure allowed for the inclusion of seasoned educators with extensive exposure to CPD practices who could contribute meaningfully to CPD initiatives in the CoEs. The variability also allowed

for a comprehensive analysis of the influence of CPD practices over time, considering the evolving needs and perspectives of teachers at different stages of their careers. Furthermore, the study population comprised individuals who possessed the minimum academic qualification deemed suitable for teacher educators within the CoEs in Ghana. This characteristic added another layer of diversity to the population, as teachers brought forth varying perspectives on CPD initiatives based on their distinct educational backgrounds and professional experiences. Therefore, by ensuring that respondents possessed the requisite professional experience and minimum qualifications expected in their roles, the study guaranteed that they were equipped with the necessary expertise and insights relevant to exploring CPD effectiveness and engagement in the CoEs.

Furthermore, the population had differing professional ranks, ranging from tutors to chief-tutors. This variation in ranks contributed to a multifaceted understanding of CPD dynamics, as individuals with diverse roles and responsibilities within the CoEs offered unique insights into PD initiatives. Additionally, the study population represented a broad array of academic disciplines and subject areas, reflecting the diverse curriculum offerings within the CoEs. This diversity in subject specialisations enabled the investigation of CPD practices across various teaching contexts, ensuring that the study's findings is contextualised and applied across different educational domains. Indeed, exploring the effectiveness of PD initiatives within different teaching contexts, the study uncovered insights into the alignment between CPD content and the needs of tutors across diverse academic fields.

Sample Size and Sampling Procedure

At a confidence interval of 95% with a 5% margin of error, a sample size of 563 is deemed representative for a population of 2,000 (Krejcie & Morgan, 1970; Sarantakos, 1978). Since the target population slightly exceeded 2,000, the sample was expanded to 583. However, a final sample size of 565 was ultimately obtained and utilised, as outlined in the subsequent procedures. The identified population of 2,026 resulted in an estimated average staff strength of 45, which was then used to determine the thirteen Colleges included in the study. Each affiliated university represented a cluster, with thirteen colleges estimated as the sample size for the five clusters, as shown in Table 1.

Table 1: Distribution of the CoEs According to their Affiliated University

Affiliated University	Population	Affiliated Colleges Used
University of Cape Coast (UCC)	14	$\frac{14}{46} \times 13 = 3.957 = 4$
University of Education (UEW)	14	$\frac{14}{46} \times 13 = 3.957 = 4$
University of Ghana (UG)	7	$\frac{7}{46} \times 13 = 1.978 = 2$
University of Development Studies (UDS)	6	$\frac{6}{46} \times 13 = 1.696 = 2$
Kwame Nkrumah University of Science and Technology (KNUST)	5	$\frac{5}{46} \times 13 = 1.413 = 1$
Total	46	13

Source: Field survey (2020)

Step 2

Simple random sampling was employed to select thirteen distributed Centers of Excellence (CoEs) based on the clusters outlined in Table 1. This technique was

deemed suitable as all the tutors in the five (5) zones representing the clusters exhibited homogeneous characteristics.

Step 3

The census survey encompassed all 583 tutors from the 13 CoEs. This sample, representing 28.78% of the total population of 2,026, is deemed sufficiently representative for the research study. Alreck and Settle (as cited in Nasir, 2012) support the notion that a sample size of 10% of a population is adequate to achieve confidence. The census technique is widely regarded by many social scientists as highly reliable and accurate, minimising the margin of error typically associated with sampling (Kothari, 2004).

Step 4

Finally, purposive sampling was employed to select five (5) VPs from the CoEs under study, with each VP representing a category of the respective affiliated university. The VPs were not included in the total sample size since all five were already part of the academic staff sample used. Following quantitative data analysis, further investigation was required to elucidate emerging issues, leading to interviews with the VPs using a semi-structured interview guide (SSIG). The rationale for interviewing the VPs stems from the unique context of CoEs, distinguishing them from other tertiary institutions like universities. Unlike universities, CoEs often lack a fully developed administrative system that recognises the Human Resources (HR) unit as an integral department within their governance structure. Consequently, the VPs undertake dual roles, serving as both HR directors, particularly concerning CPD, and as the mandated chairpersons of the

Staff Development and Research Committee (SDRC). Additionally, they act as heads of the academic staff. These multifaceted responsibilities render the VPs indispensable to the study, necessitating their inclusion.

Research Instruments

A questionnaire was administered to the academic staff whereas the VPs were interviewed using a semi-structured interview guide (SSIG).

Questionnaire

A structured self-designed CPD practices questionnaire (S-CPDP-Q) was used and the choice was basically necessitated by the research design (explanatory sequential design) which sought to explore, describe and explain. The study gathered data about the factors that inform needs assessment conducted in the CoEs, methods used in the needs assessment conducted in the CoEs; the suitability of available CPD programmes and how CPD determines tutors effectiveness. With the focus of the study, it is important to protect the privacy of participants especially when gathering sensitive information. Questionnaires are therefore identified very helpful in gathering information that is unique to individuals, such as attitudes or knowledge; as well maintaining participants' privacy due to responses that can be anonymous and confidential (Creswell & Creswell, 2018).

The choice of structured questionnaire was equally informed by the fact that, it is simple to administer, disseminate and relatively inexpensive to analyse (Gravetter & Forzano, 2006; Kothari, 2004). Also, the use of structured questionnaire was informed by its definite, concrete and pre-determined questions that ensure standardisation. Undoubtedly, the structured questionnaire comes with

its own limitations too. For example, the use of the structured questionnaire is likely to limit participants in their responses hence, opportunity was given to respondents during the pilot-testing to offer other suggestions as it may relate to the information required. However, all the 40 tutors used in the pilot-testing left this section of the S-CPDP-Q blank. Also, the S-CPDP-Q increased my cost when I had to do a lot of follow-up to get sufficient response rate.

Construct, content and face validity

Due to the importance I attach to the S-CPDP-Q as the major instrument in gathering data, items were carefully constructed with considerable attention to reliability and validity factors. Considerable attention was paid to the question-sequence to ensure the effectiveness of the questionnaire and the quality of the responses that were received. The items in the S-CPDP-Q were sequenced very clearly and smoothly moving from one theme to another to establish relationship between the questions. I also used simple language and familiar words in the entire S-CPDP-Q devoid of any form of technical jargons. Moreover, being mindful of research ethical protocols, I avoided the use of seemingly injurious words, hurtful words with emotional connotations. Lastly, physical appearance of the S-CPDP-Q is identified to affect the cooperation of respondents (Jackson, 2009; Gravetter & Forzano, 2006) hence I ensured the use of quality paper with well visible print that could easily attract respondents attention and cooperation.

The S-CPDP-Q was self-designed through information gathered from literature and was improved after pilot-test. The S-CPDP-Q was designed to obtain information on a wide range of CPD issues relative to the research questions and

the hypotheses tested. The draft of the S-CPDP-Q also helped in obtaining information that allowed assessment and comparison to be made when necessary. In all, there were ninety-four (94) items captured in thirteen (13) questions under five (5) sections. Section 'A' was made up of six items that sought some background information about respondents. The remaining sections B, C, D, and E elicited responses that answered the three research questions and the three hypotheses. In all, 11 questions provided alternative responses that required tutors to select from the alternatives provided with no open ended questions. Specifically, one question required Yes or No responses from tutors about their best mode of learning. One question also sought from them how often (frequently, occasionally, rarely, or never) they engaged in some given CPD practices whereas another one question required tutors to tick how relevant or otherwise CPD practices has been to them since 2017. The remaining four (4) set of questions required respondents to indicate whether they agree or disagree to statements made on a five-point Likert-type scale (See appendix A for questionnaire).

The style I adopted for the S-CPDP-Q with 11 close-ended questions representing 78.57% of the total items of 14 was informed by Kothari (2004) observation that a highly structured questionnaire is one in which almost all answers are limited to alternatives whereas open-ended questions that require respondents comments in their own words are held to the minimum. Only three background information required from respondents: their length of time, the subjects they taught, and their respective areas of specialisation. Obviously, these were not demanding information from respondents and could not be considered as open-

ended questions relative to the objectives of the study. The structure adopted made the S-CPDP-Q easy and flexible in answering. Although some variables being investigated required statement of fact and opinions from respondents, literature reveals that respondents are not comfortable with open ended questions hence as many as 95% of respondents are likely to leave open ended questions un-answered (Owusu, 2011). To satisfy my curiosity, I provided opportunity for tutors to share their opinion on some of the issues being measured during the pilot-testing but in confirmation of what Owusu observed, all the 40 retrieved questionnaires were left unanswered. I therefore used Owusu's, idea to settle on the close-ended items in the final administration of the questionnaire and subsequently, nothing new in terms of content was added to the questionnaire after the pilot-test.

Reliability of questionnaire

The S-CPDP-Q underwent rigorous validation by experts in item writing and field researchers, including my two supervisors, to ensure its validity. Subsequently, it was pilot-tested using 41 out of the 47 tutors at Abetifi Presbyterian CoE in the Eastern Region of Ghana to determine its reliability. The sample size of 41 tutors for the pilot study was chosen based on literature suggesting that a smaller sample conveniently aids researchers in assessing the suitability of tools and making necessary adjustments for reliability and validity (Bryman, 2012; Creswell & Creswell, 2017). The pilot test was crucial as it ensured alignment of data collection tools with the study's needs, reviewed constructs for clarity, confirmed instrument suitability, and assessed reliability and validity (Bryman, 2012; Awini, 2019). Additionally, the pilot test provided insights

into respondents' completion time for various items. The S-CPDP-Q was personally administered and collected to ensure respondents received necessary assistance and explanations. Participants were assured of confidentiality and anonymity, adhering to research protocols. The pilot test helped identify potential study challenges, establish a reliable coding pattern, test analytical tools, and develop a data collection procedure. Table 2 summarises the return rate of the pilot testing.

Table 2: Return Rate of Pilot-Testing

Questionnaire	Number	Percentage
Distributed	41	100.00
Returned	40	97.56
Unreturned	1	2.44

Source: Field survey (2022)

The establishment of reliability was accomplished by measuring the internal consistency of the questionnaire using the reliability coefficient, the Cronbach's alpha where 0.883 was obtained for all the variables. Even though literature identifies a reliability coefficient of 0.6 and above to be acceptable (Kline, 1999; Hair, Black, Babin, Anderson & Tatham, 2006; Research Advisors, 2006), modifications were made to some of the items based on the observations received from the pre-testing. The reliability coefficient of .883 was therefore considered ideal and acceptable for data collection. Table 3 presents the summarised coefficient alphas of the variables studied.

Table 3: Summary Statistics of Reliability Results

Variables	No. of items	Cronbach Alpha	Cronbach's Alpha based on Standardised Items
Tutors views on needs assessment conducted prior to CPD practices in the CoEs	20	.740	.722
Suitability of available CPD practices	13	.833	.809
CPD and tutor reactions	29	.859	.850
CPD and tutor effectiveness	32	.935	.964
Total	94	.883	.909

Source: Field survey (2022)

Reliability of methods used in the needs assessment process

A composite reliability results .740 of scales measuring eleven (11) components of tutors views of CPD was obtained and some of the items were modified based on the reliability results obtained (see Appendix D for details of all the items measured). Accordingly, the instrument was deemed reliable because literature reports that a reliability coefficient of 0.6 and above is acceptable (Kline, 1999; Research advisors, 2006) whereas a reliability coefficient of ≥.7 is considered highly reliable (Hair et al., 2006). Table 4 shows the reliability results of the various items measured.

Reliability of assessment criterion used in CPD Practices

Similarly, a composite reliability results .640 of scales measuring another eleven (11) components of assessment criteria used by the CoEs for CPD practices was obtained and some of the items were modified based on the reliability results obtained (see Appendix E for details of all the items measured). Making reference

to Kline (1999), Research advisors (2006) and Hair et al., (2006) as indicated earlier, the instrument was also deemed reliable.

Suitability of available continuing professional development programmes

There were three scale components that measured the suitability of available professional development programmes namely: how tutors learn best; frequency of CPD programmes used in the CoEs; and the relevance of CPD programmes as perceived by tutors in relation to their specialities. There were 13 items that were replicated in all the three domains under the suitability which tutors had to respond to each of them. Clearly, there were 39 items altogether which yielded a composite reliability coefficient of .833 and was deemed highly reliable (Hair et al., 2006) (See Appendix G for details of all the items measured).

Continuing professional development and tutor reaction

Another section of the questionnaire measured CPD and tutor reaction along 29 items with a composite reliability coefficient of .859 which was also considered reliable (Kline, 1999; Hair et al., 2006; Research advisors, 2006) (see Appendix H for details of the reliability coefficient of the individual items measured).

CPD and tutor effectiveness

The final section of the questionnaire measured 32 items of tutor effectiveness along three dimensions of the NTS namely: professional values and attitudes (PVA), professional knowledge (PK) and professional practice (PP). A composite reliability coefficient of .935 was obtained (see Appendix I for details of the reliability coefficient of the individual items measured).

Semi-structured interview schedule

A follow-up semi-structured interview guide (FSSI-G) was conducted for five VPs, who were also tutors and were purposively selected. The questions which were based on findings from the quantitative data analysis, comprehensively explored how CPD practices influenced tutor effectiveness in Ghana's CoEs. The FSSI-G consisted of five sections with 14 carefully crafted questions, each addressing specific dimensions of the research topic. Section A contained two questions which sought to gather biographic information (VPs' tenure in office and their academic or professional qualifications) from respondents. Section B focused on tutors' perspectives on the institutional needs assessment process, with four questions exploring the prioritisation of organisational factors, the existence of a Human Resource Development Policy document, and the assessment procedure for CPD programmes. It aimed to obtain information about how needs assessment was conducted and perceived within the colleges. Section C delved into the Suitability of available CPD programmes with four questions. It explored considerations of tutors' preferred learning styles, reasons for the unpopularity of certain training programmes, and the overall suitability of CPD programmes, and perceptions and experiences related to their design and implementation. Section D focused on tutors' reactions to CPD practices, and their perceptions of poorly planned on-the-job programmes and their experiences with them. Section E explored the relationship between CPD practices and tutor effectiveness. With three questions, the instrument assessed the contribution of CPD practices to meeting institutional targets and gauged the satisfaction levels of VPs with the CPD practices adopted by their

colleges. The FSSI-G provided further explanatory questions of both ‘what’ and ‘why’ to determine the reasons for possible changes or stability of some practices. 'What' questions unraveled CPD practices in the CoEs, while 'why' questions explained phenomena emerging from the 'what' questions (see Appendix B for details of the SSIG).

Sources of Data

Both primary and secondary data were used in the study. Primary data were collected through field survey in the thirteen (13) CoEs using structured questionnaire and semi-structured interview guide. Secondary data were also collected through the review of existing literature mainly management books, articles, journals, thesis and dissertations (both published and unpublished) internet, statutes for the CoEs, students Handbook and newspaper reports to ensure appropriate discussions. Secondary data has been identified to be economical with the potential to give high quality of information and possibility of re-testing (Sarantakos as cited in Owusu, 2011). Both primary and secondary data were acknowledged and properly cited in the study to give credit to respective authors and avoid the ethical issue of plagiarism.

Data Collection Procedure

The administration of the instruments (questionnaires and semi-structured interview guide) strictly adhered to all the ethical considerations required for the conduct of academic research as outlined by the School of Graduate Studies, University of Cape Coast (UCC), Institutional Review Board (IRB) of the UCC and the Department of Business and Social Science Education (DoBSSE-UCC). I

ensured that the appropriate ethical protocols for the collection of field data from the study areas went through the appropriate steps of authority. Approval was sought from the various principals of the thirteen (13) CoEs through an introductory letter from DoBSSE as well as ethical clearance from the IRB, UCC before entry into the research sites (see appendices T, U & V for the various approval letters). Prior to the administration of the instruments, arrangements were made with the appropriate focused groups and individuals (tutors and quality assurance officers) for a suitable time to administer the instruments. I was personally involved in the distribution of the questionnaires in addition to 13 field assistants who were given a day training. The physical distribution offered the opportunity to explain the purpose of the study, the meaning of some unclear items to respondents as well as to appeal for their co-operation. Meanwhile, all Covid-19 protocols were observed during the physical administration of the instruments. Questionnaires were left with the respondents for a maximum of two weeks to aid objective responses to the items and a semi-structured interview was organised with the VPs to further probe some of the issues that emerged through the questionnaire analysis.

Literature identifies three procedures involved in the explanatory sequential design that include: priority stage; implementation stage; integration stage (Terrell, 2012; Wong & Cooper, 2016). The 'priority stage' determined the kind of data (quantitative and qualitative) priority must be given. Here, priority was given to the quantitative data considering the objectives that guided the study. The second stage (implementation) determinedthe sequence of the data collection which involved two phases. The first was the quantitative phase where the quantitative data were

collected and analysed. It was then followed by the second phase where qualitative data were also collected and analysed. The decision to follow the quantitative-qualitative data collection and analysis sequence was equally informed by the purpose of the study and the research questions seeking for the contextual field-based explanation of the statistical results. The last was the integration stage which determined the point in the research process that data are mixed or integrated (Tashakkori & Teddlie, 2003; Terrell, 2012; Creswell & Creswell, 2018). Here also, the quantitative and qualitative phases were first mixed in the intermediary level when the development of the qualitative data collection protocols was grounded in the results from the quantitative phase. This ensured a thorough investigation into the quantitative results through the collection and analysis of the qualitative data in the second phase of the study. This intermediate-mix was also employed to ensure that there is clarification of issues that were not satisfactorily answered through the questionnaires and 'why and how' certain responses were also given. Also, I connected the quantitative and qualitative phases while selecting the respondents for the qualitative follow-up analysis based on the quantitative results from the first phase. Thus, the study used Subedi (2016) concept of using follow-up interviews to better understand the results of a quantitative study. The data collection procedure is summarised in Figure 6.

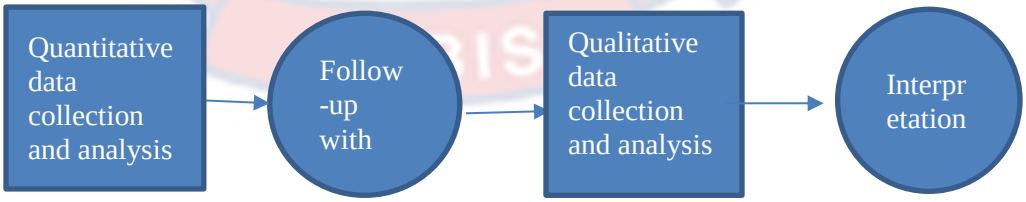


Figure 6: Data collection procedure (Subedi, 2016)

Data Analysis Procedure

The study used the explanatory sequential mixed-method approach in which both quantitative and qualitative data were collected. As a result, all quantitative data analysis were screened, cleaned, coded and analysed with the Statistical Product for Service Solution (SPSS) (version 25). There were three research questions and three hypotheses underpinning the study. Collected data were screened and cleaned for missing data and outliers. Both descriptive and inferential statistical tools were used in analysing the quantitative data whereas the thematic description were used in analysing the qualitative data that were obtained through the semi-structured interview.

Response Rate

583 questionnaires were distributed to tutors from 13 CoEs. Out of which, 573 were returned with eight (8) incomplete. The uncompleted questionnaires were rejected during the data preparation and cleaning. Table 4 presents the summary of the response rate of the respondents.

Table 4: Return Rate of Administered Questionnaire

Questionnaire	Number	Percentage
Distributed	583	100.00
Returned	573	98.28
Uncompleted	8	.014
Unreturned	10	.017
Usable	565	96.91

Source: Field survey (2022)

The return rate of 565 (96.91%) was high and representative enough to ensure adequate confidence interval and generalisation to the population.

Missing Data

Precautionary measures were taken right from the field to ensure data collected were free from missing values. However, studies conducted using human beings in the data collection evident in my case has the tendency of recording some missing data. Missing data according to Hair et al., (2006) relates to the unavailability of requisite data in some variables needed to facilitate effective data analysis. Missing data could be attributed to factors such as respondents' refusal to respond to certain issues that they consider sensitive. Such issues are relative and may include age, marital status, rank, qualification, social and natural attrition (Baraldi & Enders, 2010) but significantly differ from person to person. Missing data affects data analysis and the amount of data missing is not an issue but the pattern of missing data cannot be ignored (Tabachnick & Fidell, 2013). It is therefore necessary to determine if data was missing completely at random (MCAR) or missing at random (MAR) or missing not at random (MNAR) (Hair, Anderson, Babin & Black, 2010). Hair et al. (2010) further explained that if only about five percent or less of the data are MCAR or MAR from a large data set, it will not affect the data analysis in any form. Under the circumstance, there were no missing data recorded since all the eight incomplete questionnaires were rejected during the cleaning stage. Data were also carefully entered into the SPSS spreadsheet and edited several times to ensure data were complete.

Data Transformation

Data was transformed before carrying out further inferential analysis to help better examine the distribution. Depending on the nature and the focus of the

analysis, data transformation may be necessary. Hypothesis 4, 5 and 6 ($H_0$4: On-the-job and off-the-job programmes have no significant influence on tutor effectiveness in the CoEs; $H_0$5: Tutors reactions to PD practices have no influence on their effectiveness; $H_0$6: There is no statistically significant difference in male and female tutor effectiveness) required transformation of both the dependent and independent variables. In $H_0$4, nine on-the-job techniques (independent variables) were transformed into a single variable and four off-the-job techniques (independent variable) were also transformed into a single variable. Again, the dependent variable (tutor effectiveness) had the first ten constructs transformed into a single variable (PVA); the next seven constructs transformed into another single variable (PK) and the remaining fifteen constructs transformed into a single variable (PP). The transformed dependent variables were used in the analysis for H_5 and H_6 as well. For $H_0$5, tutors reactions to on-the-job programmes were equally transformed to a single variable whereas their reaction to off-the-job programmes were also transformed into a single variable. Data transformation was applied in this study to improve the compatibility of the data with assumptions underlying a modelling process, to linearise the relation between two variables to modify the range of values of a variable (Sekaran & Bougie, 2016).

Descriptive Statistics

There was a concise description of the study variables (descriptive statistics) in my research because it reduced, summarised and analysed the constructs under study for proper appreciation and discussions (Somekh & Lewin, 2005). The descriptive statistics also provided insights into the characteristics of the samples

and served as the basis for the inferential statistics (chi-square and regression analysis) in making generalisation about the population from which the sample were selected. Frequencies, arithmetic means, and standard deviations were employed for both dependent and independent variables. Thus, the study results were summarised in means and associated standard deviations, frequencies and percentages. Details of all the descriptive statistics are provided in the chapter four of this report.

In the thematic description, information obtained through the recorded text were transcribed into written text and organised into themes for analysis. The themes created hinged on the pivotal issues that emerged from the quantitative analysis and used to provide further explanations to information that were obtained from the questionnaire.

Inferential Statistics

The chi-square, multivariate multiple regression and multiple analysis of variance (MANOVA) were used in testing the hypothesised effects of the three hypothesis that guided the study. The chi-square ($\chi 2$) was used to test $H_0 1$, $H_0 2$ and $H_O 3$ and its appropriateness could be related to the assumptions that both the dependent and independent variables being measured were categorical and they consisted of two or more categorical independent groups (Amedahe, 1998; Gravetter & Wallnau, 2004; Campbell & Swinscow, 2009). The chi-square ($\chi 2$) statistical test also helped to ascertain whether the difference between gender of tutors and their preference in PD activities is due to chance, or due to the relationship between gender and other variables being measured by the study. The choice of the

regression approach for analysis was equally informed by causal nature of the study. Cronk (2016) explains that an exploration of causality is best done through regression analysis which is capable of accounting for the power of each of the explanatory variables in eliciting variation in the dependent variable. Table 5 presents a summary statistics of all analytical tools used in the study.

Table 5: Summary of Analytical Tools used in the Study

Research Question/Hypothesis	Analytical Tool
RQ 1: What factors inform needs assessment conducted prior to CPD practices in the CoEs?	Mean and standard deviation
RQ 2: What assessment methods are used in identifying training needs of tutors?	Mean and standard deviation
RQ 3: To what extent are available CPD programmes in the CoEs suitable for tutors?	Percentage and frequency, Chi-square test of independence
$H_0$1: On-the-job and off-the-job programmes have no significant influence on tutor effectiveness in the CoEs.	Multivariate multiple linear regression
$H_0$2: Tutors reactions to PD practices have no influence on their effectiveness.	Multivariate multiple linear regression
$H_0$3: There is no statistically significant difference in male and female tutor effectiveness.	Multiple analysis of Variance (MANOVA), Independent t-test

Source: Author's Construct (2022)

Research question RQ I and 2 sought the nature of needs assessment conducted in the CoEs and were analysed using the mean and standard deviation. Research question RQ 3 sought to examine the extent of suitability of available CPD practices for tutors in the CoEs. In answering this research question data collected sought to establish the predominant learning mode of tutors; establish the

association between Learning Mode and PD Frequency; as well as PD Frequency and PD Relevance hence, RQ 3 was analysed using frequency and percentages as well as chi-square test of independence since these variables were categorised. The chi-square analyses, provided cases with frequency counts of less than 5, where the sub-categories could not be meaningfully merged. In view of that it is recommended that Fisher's exact test be reported since it is robust to small sample sizes (Fisher, 1954; Fleiss, Levin & Paik, 2003; Field, 2009).

$H_0$1 and $H_0$2 were tested using multivariate multiple linear regression analysis having met the normality, homoscedasticity and linearity assumptions (see Appendix J, K & L). The multivariate multiple linear regression was appropriate due to its ability to predict the influence of nominal and/or continuous independent variables on dependent variable with more than two categories. Thus, $H_0$1 had the predictor (independent) variables as ONTJB and OFTJB practices with the criterion (dependent) variables as PVA, PK and PP. All these variables in this hypothesis were measured on a scale. Likewise, $H_0$2, had the predictor variables as tutors' reactions to ONTJB, OFTJB as well as other generic factors characterised as support and encouragement. Here again, the criterion variables were the three dimensions of tutor effectiveness (PVA, PK and PP) and all these variables were equally measured on a scale. Finally, $H_0$3 was tested using one-way multivariate analysis of variance (MANOVA) where the dependent variables were PVA, PK and PP which were all equally measured on a continuous basis. The independent variable however was gender with two levels: male and female.

Unlike correlation, the various regression tools used in the analysis did not only help to determine the relationship between the dependent and independent variables but to understand how the manipulation of the variables change with the other (Casson & Farmer, 2014).

Regression model assumptions

Regression like other parametric tests is based on the assumption that data used must possess certain characteristics or meet some conditions, violation of which affects the analysed results (Field, 2017). Literature documents regression model assumptions to include observations which must come from independent samples. Also, it is identified that data must be drawn from normally distributed populations and the populations must have the same variances linear association between variables. Normality, linearity, multicollinearity, homoscedasticity and data independence test were run to ensure these assumptions were not violated before running the regression parametric analysis.

Normality tests

Normality has been postulated as a critical assumption that must be satisfied in order to conduct multivariate analysis (Hair et al., 2006). The normality test was done to find out if the distribution of the dataset assumes a symmetric bell-shaped curve. This follows the argument from Ghasemi and Zahediasl (2012) that data that is to be subjected to regression analysis must normally be distributed so as to ensure that the prediction of the dependent variable are distributed in a way that approaches the normal curve. The assumptions for normality was examined at both

univariate and multivariate levels (that is, the distribution of the scores within a combination of two or more items (see Appendix L for details of normality test).

Homoscedasticity test

Homoscedasticity is an assumption of linear regression which states that error variance does not substantially change with the values of the predictors (Hair *et al*., 2006). The Levene's statistic for equality of variances was used to test for the assumption of homoscedasticity. Violation of homoscedasticity of variance is confirmed if the Levene's test statistic is found to be significant at an alpha level of ≤0.05. However, Levene's statistic were above 0.05 which confirms that the homoscedasticity of variance in this study was supported (see Appendix J & K for details of homoscedasticity test)

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the responses obtained from the various data collection. The responses cover issues pertaining to: factors considered as well as methods used in the assessment procedures; the suitability of CPD programmes for tutors in the CoEs; the extent of ONTJB and OFTJB practices influence on tutor effectiveness; the extent of tutors' reactions to CPD programmes in terms of trainee characteristics, training characteristics and work environment factors; and the gender influence of CPD programmes on tutors effectiveness.

The responses generated from the questionnaires are all presented in tabular form whereas responses from the interviews conducted are discussed in text to augment findings that emanated from the analysis of questionnaires. To facilitate easy comparison about similarities and differences, responses are grouped according to the three research questions and three hypotheses that guided the study.

Analysis of Demographic Characteristics

Demographic information plays a crucial role in research studies as it provides valuable insights into the attributes of the participants. In addition to indicating the representativeness of the study sample and facilitating generalisations, demographic variables also offer essential information for controlling extraneous influences that may arise from these variables and impact the relationships being studied (Hair et al., 2006). Often considered as control variables that cannot be manipulated, demographic variables serve as important factors to consider. In the present study, six demographic variables were examined: gender,

experience, qualification, area of specialisation, rank, and subject taught. The selection of these variables were based on their potential moderating influences (Hair et al., 2010) and previous research that has documented the effects of gender, experience, rank, and qualification on the choice of professional development programmes and subsequent tutor effectiveness (Anasi, 2017; Okumbe as cited in Maina et al., 2020). Therefore, this study analysed the distribution of these demographic factors within the study sample to highlight their composition, their potential impact on the variables under investigation, and the feasibility of controlling these extraneous influences. A summary of the respondents' background information is presented in Table 6.

Table 6: Distribution of Respondents based on Background Information

Variable	Frequency	Percentage (%)
Gender		
Male	407	71.4
Female	163	28.6
Length of service		
5 – 10 years	231	40.5
11 – 15 years	132	23.2
16 – 20 years	65	11.4
21 – 25 years	69	12.1
26 – 30 years	50	8.8
31 – 35 years	23	4.0
Academic qualification		
First degree	19	3.3
M.Ed/M.A/M.Sc.	197	34.6
M.Phil	347	60.9
PhD	7	1.2

Table 6, continued

Rank		
Assistant Tutor	15	2.6
Tutor	516	90.5
Senior Tutor	32	5.6
Principal Tutor	7	1.2
Area of specialisation		
English	84	14.7
Mathematics	79	13.9
Science	63	11.1
Ghanaian Language	33	5.8
Social studies	54	9.5
Religious studies	43	7.5
Vocational skills	41	7.2
Physical Education	22	3.9
Education	100	17.5
Information & Com. Tech. (ICT)	51	8.9

Source: Field survey (2022)

Table 6 presents the gender distribution of the study participants, with a higher proportion of males (71.4%, n = 407) compared to females (28.6%, n = 163). This outcome aligns with the findings of Burges and Ayentimi, who state that male participation in tertiary education in Ghana is 2.5 times higher than that of women, resulting in lower female representation in professions requiring tertiary qualifications. Various regional and international protocols, such as the affirmative action plan and Education for All (EFA) programme, have improved girls' enrollment at the primary and secondary levels but have not translated to similar gains at the tertiary level, explaining the male dominance. Consequently, Ghana ranks in the bottom 25% worldwide for female enrollment in tertiary education,

along with other factors like literacy rate and women's involvement in professional and technical work. These results support the findings of Awino (2019), who also identified male dominance in certain manufacturing companies in Kenya. While the male workforce may be attributed to the requirements of specific manufacturing firms, the significance of men having more time for career development and a greater commitment to their duties cannot be overstated. Women's choices and decisions, influenced by biological traits, traditional marital obligations, and societal gender roles, including environmental factors, have also impacted their participation in tertiary education. The gender-related biodata collected in this study aimed at determining whether these hereditary and environmental characteristics influence CPD practices of tutors in the CoEs.

Furthermore, the study explored the tutors' level of experience, which corresponds to their length of service. As shown in Table 6, majority of tutors (59.50%, n = 339) had worked between 11 and 35 years, while the smallest group of respondents (40.50%, n = 231) had worked between 5 and 10 years. Considering that professional development has been ingrained in the CoEs' culture for decades and became more pronounced with their transitioning to tertiary status in the 2017/18 academic year, the respondents in this study could be described as experienced within their respective institutional frameworks of action, culture, practices, and other structures concerning professional development. The respondents (tutors) were not novices but possessed a high level of experience, which positioned them to provide credible and reliable data for the study.

The study also examined the academic qualifications of tutors to determine if increasing qualification levels had any influence on their experience, similar to the length of service. Majority of tutors held a Master of Philosophy degree (60.9%, n = 347), followed by other forms of master's degrees (34.6%, n = 197), with a small number of Doctor of Philosophy degree (1.2%, n = 7). These statistics indicated a significant improvement in the minimum qualification required to work in the CoEs, increasing from 37.45% in 2012 to 95.44% in 2020. According to the Ghana Tertiary Education Commission (GTEC) in 2012, only 37.45% of teaching staff had various forms of master's degrees, with a only 0.0008% holding Ph.D. qualifications. This implied, 62.55% of teaching staff did not meet the minimum qualification for teaching before the CoEs transitioned to tertiary status. The results in Table 6 demonstrate a remarkable improvement and suggest that tutors possess the necessary experience that accompanies higher qualifications to provide the required information on professional development practices.

Moreover, the majority of respondents could be found in the rank of tutor (90.5%, n = 516), with a small percentage being principal tutors (1.2%, n = 7). Okumbe (as cited in Maina, Kiumi & Gilthae, 2020) identified career categorisations that align with teachers' ranks, length of service, and age. The results show that majority (77.89%, n = 444) of respondents in their late thirties and above held the rank of assistant tutor or tutor, which Okumbe classified as the exploration stage of teachers' career progression. Okumbe asserts that teachers in the exploration stage are inexperienced and have lower expectations due to limited job knowledge and information. They possess initial knowledge and skills through

academic qualifications but lack the necessary attitude and experience for effective performance on the job. Thus, institutional success does not guarantee automatic entry into the profession. Okumbe therefore, argues that such teachers make every effort to meet professional standards set by gatekeepers and are willing to accept any professional development that enhances their knowledge and improves their skills, even without additional rewards. The next stage, known as the establishment stage, involves senior tutors (5.61%, n = 32). They are expected to engage in PD practices to prove themselves by undertaking more complex and demanding tasks. This helps boost their self-esteem and ensures their autonomy. Any PD programme that fails to meet their expectations is likely to be rejected or approached reluctantly. They may participate only to fulfill institutional requirements, rather than for the purpose of learning and enhancing their professional practice.The final two career stages, the maintenance and decline stages, encompass principal and chief tutors (1.23%, n = 7), characterised by achievements such as promotions, salary increases, and additional perks, along with respect from younger employees.

Finally, the respondents' area of specialty was recorded to ascertain their view of the relevance of PD practices within their respective fields. The results indicated representation from various programmes offered in the CoEs, suggesting that the provided responses can be considered valid and reliable.

Research Question (RQ) 1: What factors inform needs assessment conducted prior to CPD practices in the Colleges of Education?

This research question explored the critical factors that contribute to the needs assessment process in the CoEs before implementing any PD practice.

According to Cole and Kelly (2015), a training need indicates any deficiency in an employee's essential knowledge, skills, and attitudes necessary for effective performance aligned with organisational requirements. Identifying these needs is crucial for overcoming obstacles to teachers' effectiveness. Therefore, establishing a robust, institutionalised system for determining training necessity is essential. As indicated in the literature, the factors are categorised into three: organisational factors (training needs of the department; training needs of the college considering the institution's strategic plan, policies, mission, vision, and objectives; available resources; support system available from the government, institution); personal factors (length of employment of tutor; rank of tutor; readiness of the tutor; training needs of the staff involved); and task analysis factors (type of knowledge, skill, and behaviour that need to be emphasised). To gauge responses, means and standard deviations were employed, where a mean score of 3.0 or higher signified agreement, while scores below 3.0 indicated disagreement. The chi-square test of independence established any significant gender differences in the needs assessment criteria. The summarised results are presented in Table 7, providing insights into the factors influencing the needs assessment process in colleges for effective PD practices.

Table 7: Factors considered prior to CPD Practices

Factor	Mean	SD
Training needs of the department	3.012	1.150
Training needs of the College by considering the institutions strategic plan, policies, mission, vision and objectives	3.001	1.016
Type of knowledge, skill and behaviour that need to be emphasised	2.911	1.098
Length of employment of tutor	2.846	1.162

Table 7, continued

Rank of tutor	2.828	1.155
Readiness of the tutor	2.783	1.123
Lack of knowledge, skills and abilities of tutor (task analysis)	2.781	1.115
Qualification of tutor	2.779	1.105
Training needs of the staff involved (person analysis)	2.693	1.105
Resources available	2.470	.997
Support system available from the government, institution and individuals	2.435	1.046

Source: Field survey (2022)

Results from Table 7 underscore the pivotal role of aligning CPD practices with the specific requisites of the department and the overarching strategic objectives of the college. Notably, 'training needs of the department and the college' emerged as paramount factors considered prior to PD endeavours, indicating a consensus among respondents regarding their significance. However, it is disconcerting that factors such as 'resource availability' and 'support system available', which are equally germane organisational elements, did not garner commensurate attention. This suggests a discriminatory prioritisation of factors by the CoEs in Ghana, potentially leading to a skewed emphasis on some aspects over others. The oversight in adequately considering critical factors like 'availability of resources' and 'support system available' from major stakeholders such as the Government and the institution itself indicate a concerning trend. It implies that many tutors engaged in PD practices without requisite support, leading to diminished motivation, morale, and heightened risk of burnout. Consequently, the commitment and career progression of CoE tutors face jeopardy as the retention of experienced personnel through PD initiatives remains uncertain. This imbalance

between retaining crucial tutors and ensuring job effectiveness underscores a significant challenge. Moreover, the repercussions extend to the effective transfer of learning from CPD programmes, as documented in existing literature (Yadapadithaya & Stewart, 2003). The dearth of motivation and support systems may result in participants merely enjoying PD sessions without substantial knowledge acquisition, facing impediments in applying acquired knowledge due to resource inadequacies, or encountering irrelevant learning experiences not aligned with their competencies.

The findings further unveil a lack of emphasis on task analysis in the needs assessment process, with training needs of staff ranking lowest in consideration. This deficiency signifies a failure in conducting adequate talent audits and identifying competency gaps, thereby jeopardising succession planning and the relevance of PD practices. The absence of a structured succession plan impedes the identification and development of potential future leaders within CoEs, thereby compromising sustainability and continuity. Literature identifies task analysis elements critical in the CPD enterprise, as a source of performance deficiencies that require different approaches for resolution (Noe, 1999). Literature underscores that not all CPD needs necessitate training; therefore, it is imperative for the CoEs to determine whether competency gaps result from knowledge/skill deficits, new technology, stakeholders' preferences and expectations, motivational issues, or work design. The results reveal that specific causes of performance deficits are not adequately given attention and addressed. Hence, there was a high probability of tutors going through PD practices without positively influencing the work

environment. This supports the argument by Yadapadithaya and Stewart (2003) that learning experiences from PD practices equip participants to function well individually but do not further the objectives of the organisation.

Similarly, the absence of person analysis, including factors such as length of employment, rank, readiness, and qualification of teachers, is concerning. Person analysis ensures that PD initiatives are targeted towards individuals who are most in need of development and are ready to engage in learning activities. Ignoring these factors may result in a one-size-fits-all approach to CPD, overlooking the unique needs and capabilities of individual educators. This could lead to disengagement and resistance to PD efforts, ultimately undermining their effectiveness. These findings contradict the findings of Owusu (2011), who observed that universities considered most of these person analysis factors in their PD practices. The readiness of trainees in any learning activity is crucial for an enjoyable and successful learning outcome. From the results, rank of tutors is prioritised over their readiness, raising doubts about tutors' commitment to CPD practices and suggests that tutors are not motivated to take the necessary steps willingly to fulfill the purpose of PD practices.

Literature suggests that effective needs assessment is rarely conducted in most educational institutions (Agnaia, 1996; Owusu, 2011; Odoom et al., 2016; Yaqub et al., 2021). However, the basis for these findings is unknown. These results shed light on the literature findings by indicating that seemingly important and relevant assessment factors are not adequately given attention. The findings of this study show that organisational factors take precedence over other equally important factors like task analysis and person analysis factors, which are prerequisites for any

successful CPD practice. The findings necessitated further interrogation through a semi-structured interview with the VPs. It was evident that the lack of an institutional staff CPD policy defining needs assessment procedures requisite for effective CPD accounted for the finding that seemingly important and relevant assessment factors are not adequately given attention. One VP said,

> "For now, we work with only a two-page staff development document which is not comprehensive for any meaningful work to be done. It does not specify factors where priority must be given or define any established procedures. It only emphasises alignment with the participants' previous qualification but this is only relevant in CPD practices that require the award of certificates. It was only in recent times that a staff development committee was constituted which considers some of these factors you are mentioning but even with that most decisions are discretional and not based on any clearly defined standard procedures. The staff development committee that must be instrumental in this, only existed in name but never functioned" (VP and Tutor, College D).

Another VP remarked that,

> "We do not have any human resource development policy that provides direction to how human resource should be developed which I believe badly affects the way we embark on PD activities. There is no directorate of human resource (HR), it was just recently that someone in the general office was designated as an HR officer but doesn't even have an office. The person still works from the general office and is not even included in the

organisation of CPD practices. Honestly, there is the need to ensure our governance system and administrative system is reorganised to conform to best practices to ensure a smooth progession of most activities in the college. There is so much pressure and work to be done in this office due to lack of personnel to manage various sections of our operations. It appears the vice does all the administrative work that should have been delegated to other outfits like the human resource directorate in other jurisdictions" (VP and Tutor, College B).

The transcript revealed that the concerns voiced by interviewees 'D' and 'B' are supported by other VPs interviewed (College A, C and E). Hence, there was unanimity among the VPs regarding either a non-functional or entirely absent HR unit, along with the absence of a uniform HRD policy. This policy fails to delineate the practices for needs assessment as well as the organisation and delivery of PD practices in the CoEs.

A more in-depth analysis, employing the chi-square test of independence, was conducted to better understand the criteria techniques in terms of gender. The results indicated that none of the 11 needs assessment criteria showed significant gender differences (refer to Appendix H for details of the chi-square test of independence analysis). This implies that both male and female tutors were unanimous in the factors considered prior to PD practices in the CoEs.

In conclusion, the results show that organisational analysis dominated the assessment criteria, with task analysis and person analysis being marginally considered. However, successful PD programmes require careful consideration of

organisational, task, and person analysis factors to ensure alignment with institutional goals, individual needs and proper identification of performance deficits. Neglecting these factors can have detrimental effects on the effectiveness of PD practices in CoEs, undermining the PD and job satisfaction of educators. It is imperative for institutions to prioritise these aspects and invest resources accordingly to support the ongoing growth and development of their staff.

Research question 2: What assessment methods are used in identifying training needs of tutors?

After the factors influencing the needs assessment process in the CoEs, this research question identified the dominant assessment methods utilised in the institutions' training needs analysis. Existing literature presents a range of methods that are categorised into individual use and management use. To facilitate this discussion, the various methods are classified into three: democratic (through reflection of my own practice by evaluating my knowledge and skill gap; through personal development plan of my career progression; through my personal interest in particular CPD); diagnostic (discussion with colleagues; through mandated institutional policy); and analytic methods (through skill inventory; through performance review as indicated by my students' response and feedback; through interview used by the College; through questionnaire used by the College) Evaluating the appropriateness of these methods is crucial in identifying areas where CPD is necessary and should be prioritised. Therefore, it is essential to determine how training needs are identified before implementing PD programmes. Similar to research question 1, responses were analysed using means and standard

deviations. A mean score of 3.0 or above indicates agreement with the statement, while mean scores below 3.0 indicate disagreement. A summary of the results is shown in Table 8.

Table 8: Assessment Methods used in Training Needs Analysis

Method	Mean	SD
Through reflection of my own practice by evaluating my knowledge and skill gap	2.523	1.175
Through personal development plan of my career progression	3.281	1.387
Through discussion with colleagues	3.077	1.295
Through skill inventory	2.340	1.291
Through my personal interest in particular CPD	3.249	1.418
Through mandated institutional policy (organisational climate)	3.098	1.462
Through performance review as indicated by my students' response and feedback	2.638	1.061
Through interview used by the College	2.868	1.097
Through questionnaire used by the College	2.928	1.289

Source: Field survey (2022)

The results presented in Table 8 highlight the predominant utilisation of personal development plans for career progression and personal interest in specific CPD practices by tutors in the CoEs. The predominant utilisation of these democratic-oriented techniques have significant implications for the overall identification of training needs and addressing performance deficits within these institutions. Firstly, the emphasis on personal development plans and individual interests highlights the autonomy and agency afforded to tutors in shaping their professional growth trajectories. By allowing tutors to tailor their CPD experiences

based on their career aspirations and areas of interest, these democratic-oriented techniques empower educators to take ownership of their PD journey. This can lead to increased motivation, engagement, and job satisfaction among tutors, as they pursue learning opportunities that resonate with their personal goals and passions. However, the potential disconnect between these individualised PD practices and institutional strategic plans raises concerns about alignment and coherence in the broader CPD framework within the CoEs. While personal development plans may address specific skill gaps or knowledge deficiencies identified by individual tutors, they may not necessarily align with the overarching goals and priorities of the institution. As a result, there may be a fragmentation of CPD efforts, with tutors pursuing disparate learning paths that do not collectively contribute to institutional objectives. Thus, literature suggests that PD experiences may equip participants with the necessary skills but may not further organisational objectives. Moreover, the focus on personal interests in CPD practices may inadvertently overlook systemic issues or collective needs within CoEs. While individualised approaches to PD are valuable, they should be complemented by institutional strategies that address broader organisational goals, curriculum requirements, and student needs. Failure to align CPD practices with institutional priorities may result in missed opportunities for systemic improvement and innovation in teaching and learning

Additionally, the results revealed reliance on organisational climate, influenced by mandated institutional policies, as a method for identifying CPD needs. This has important implications for the identification of most appropriate training needs within CoEs. Firstly, the emphasis on institutional policies as a

diagnostic tool for CPD needs assessment underscores the role of regulatory frameworks in shaping PD practices within educational institutions. Mandated policies, such as the requirement for a research-based master's degree for teaching in CoEs, serve as benchmarks for professional qualifications and standards. While these policies can provide a clear direction for PD, they may also create pressure for tutors to engage in CPD activities primarily to fulfill regulatory requirements rather than addressing genuine pedagogical needs. Moreover, the focus on meeting institutional policy requirements may result in a narrow interpretation of CPD needs, particularly regarding subject-specific qualifications and teaching competencies. The finding that only a small percentage (.01%) of tutors in the CoEs with advanced degrees possess qualifications in relevant teaching areas revealed by Newman (2013) highlights potential gaps between institutional expectations and the practical needs of educators in the classroom. This discrepancy suggests that the current approach to CPD needs assessment may not adequately address the diverse and evolving challenges faced by tutors in CoEs. Additionally, the tendency to adopt a one-size-fits-all approach to CPD, driven by institutional policies, may overlook the unique strengths, weaknesses, and developmental areas of individual tutors. By prioritising compliance with policy mandates over personalised professional growth, CoEs risk neglecting the holistic development of their teaching staff and may fail to cultivate a culture of lifelong learning and reflective practice among educators.

Performance reviews through student responses and feedback, skill inventories, interviews, and questionnaires were the least preferred methods for

determining CPD practices by the CoEs. These methods, categorised as analytical factors, aim to identify new and improved ways of performing tasks. Unlike democratic and diagnostic methods, which focus on individual preferences and institutional policies, analytical factors prioritise identifying innovative approaches to task performance.Therefore, their underutilisation raises several implications for the effectiveness of CPD programmes within CoEs. Firstly, the limited use of analytical methods may indicate a lack of emphasis on evidence-based decision-making in CPD planning. While personal development plans and institutional policies provide valuable insights into individual needs and organisational priorities, analytical methods offer a more objective and systematic approach to identifying training needs. By neglecting these methods, CoEs may miss out on opportunities to address underlying issues and implement targeted interventions to improve teaching and learning outcomes. Moreover, the underutilisation of analytical factors may hinder the institution's ability to innovate and adapt to changing educational needs. Performance reviews, skill inventories, interviews, and questionnaires can provide valuable data on areas for improvement and emerging trends in teaching and learning. By neglecting these sources of information, CoEs may struggle to identify and respond effectively to evolving challenges in education, thereby limiting their capacity for continuous improvement. Furthermore, the limited preference for analytical methods may reflect a broader cultural or institutional reluctance to engage in critical self-assessment and reflection. These methods require a willingness to acknowledge weaknesses and gaps in current practices, which can be challenging for institutions focused on

maintaining status quo or avoiding confrontation. However, embracing analytical methods can lead to more informed decision-making and foster a culture of continuous learning and improvement within CoEs. The VPs were therefore requested the rationale behind use of mandated institutional policy (organisational culture) over the use of analytical methods like skill inventory and performance review through students feedback, questionnaires and interviews with the tutors themselves. One VP said,

> "Do we even have the skill of conducting any meaningful skill inventory or performance review as you suggest? ... But my office is managing... How can you migrate us without the free will to recruit requisite staff... If that is what you found, then that is the situation on the ground... We only use the mandated institutional policy to determine almost all our professional development activities... It is the reason why TTEL even provided some little fund in support of staff who do not meet the minimum requirement of research-based masters... The issue of 'skirt' and 'blouse' has surfaced with time... and that features in our considerations." (VP and Tutor, College D).

Another VP intimated that,

> "Sir, to tell you the truth over here, we do not perform any needs assessment to determine performance deficiency. All we do is to use our discretion as a committee to determine what we think will help improve teaching and learning. There is no scientific basis for the methodology we use. The committee is only guided by the institutional policy and relevance of the specific professional development activity to the effective functioning of the

department but this is based on the committee's own judgement" (VP and Tutor, College C).

Another VP said,

"The plain truth is that we do not conduct any needs assessment to determine whether the knowledge and skill gap is as a result of a training deficit, motivational factor or a work design factor? We do not even have the requisite skills to do that. That would have been nice and guarantee an effective professional development programme but for now it is a trial and error thing" (VP and Tutor, College A).

The responses from the VPs interviewed shed light on the prevailing practices regarding needs assessment and the influence of institutional policy. There was consensus regarding the reliance on institutional policy over systematic skill inventory and performance review processes. VP D's remarks underscore the systemic challenges faced in aligning institutional policies with effective personnel management. They expressed frustration due to governmental constraints, leading to a reliance on mandated policies for professional development decisions. Similarly, VP C acknowledged the absence of a structured needs assessment process, indicating that decisions were largely discretionary and guided by institutional policy rather than data-driven assessments. This sentiment was echoed by VP A, who admitted to the absence of skills and procedures necessary for effective needs assessment.

Contrarily to research question 1, the chi-square test of independence analysis, detailed in Appendix P, revealed gender differences in the utilisation of

various methods for CPD determination. The higher proportions of males utilising methods such as discussions with colleagues (χ^2=20.3, $p < .001$), personal interest in specific CPD (χ^2=11.04, $p = .001$), and mandated institutional policy (χ^2=13.38, $p < .001$) compared to females suggest potential underlying factors contributing to these differences. The influence of socio-cultural norms and gender stereotypes on PD engagement as indicated by Opoku-Amankwaah, Oduro, and Arthur (2020) could be a major contributing factor. In many societies, there may be expectations or perceptions regarding the roles and responsibilities of men and women in the workplace, including their involvement in CPD activities. Males may be more inclined to participate in discussions with colleagues and pursue CPD opportunities driven by personal interests or institutional mandates due to societal expectations or perceptions of career advancement. Furthermore, the disparities in the utilisation of CPD determination methods could also stem from differences in access to resources and support networks. Research indicates that females often face greater barriers to accessing PD opportunities compared to their male counterparts including limited access to mentorship, networking, and funding resources (Borko & Mayfield, 2018; UNESCO, 2015). These barriers may influence their ability to engage in CPD practices that require collaboration with colleagues or aligning with personal interests or institutional policies. Additionally, organisational factors within CoEs, such as leadership dynamics and institutional culture, may play a role in shaping gender differences in CPD engagement. For instance, if male-dominated leadership structures prioritise certain CPD methods or create environments that are more conducive to male participation, it could contribute to disparities in utilisation

among male and female tutors. On the other hand, the absence of significant gender differences in the utilisation of other CPD determination methods, such as reflection of tutors' own practice ($\chi^2 = 2.17$, $p = .141$), personal development plans ($\chi^2 = .25$, $p = .621$), performance reviews ($\chi^2 = 1.13$, $p = .287$), interviews ($\chi^2 = 1.20$, $p = .357$), and questionnaires administered by the College ($\chi^2 = 1.34$, $p = .497$), suggests that these methods were perceived as more neutral or accessible to both male and female tutors. However, further investigation is warranted to understand the underlying factors driving these patterns and to address any potential barriers or biases that may exist.

In summary, the results revealed the predominant utilisation of personal development plans and personal interests. This highlighted the autonomy afforded to tutors in shaping their professional growth, potentially leading to increased motivation and engagement. However, the potential misalignment between individualised CPD practices and institutional objectives raises concerns about coherence and effectiveness in addressing broader organisational needs. Additionally, there was the reliance on institutional policies as a diagnostic tool for CPD needs assessment. This underscores the role of regulatory frameworks in shaping professional development practices. While these policies provide direction, they may also create pressure for compliance at the expense of addressing genuine pedagogical needs. Furthermore, the underutilisation of analytical methods for CPD determination raises concerns about evidence-based decision-making and institutional capacity for innovation and adaptation. Also, the interview responses indicate a shared understanding among the VPs that institutional policies dictate

professional development practices, often at the expense of comprehensive needs assessment methodologies. They emphasise a gap between ideal practices, such as skill inventory and performance review, and the reality of pragmatic decision-making driven by policy mandates. Moreover, gender differences in CPD engagement highlighted potential socio-cultural norms and organisational factors influencing participation. While males may exhibit higher utilisation rates for certain methods, such as discussions with colleagues and adherence to institutional policy, females may face barriers to accessing PD opportunities due to societal expectations, resource limitations, and organisational dynamics.

Research Question 3: To what extent are available CPD programmes in the CoEs suitable for tutors?

This research question assesed the suitability of CPD programmes available to tutors in the CoEs. Suitability, in this context, is conceptualised as a comprehensive measure encompassing the best learning mode for tutors, the frequency of CPD practices available to them, and the relevance of these practices. Various statistical analysis procedures were employed. Initially, a crosstabulation was performed to examine the predominant learning modes of tutors, the frequency of PD activities, and the perceived relevance of PD practices as reported by tutors. Table 9 presents the results from the frequencies and percentages. Additionally, the chi-square test of independence was employed aimed at gaining insights into gender-based variations and their influence on the perceived suitability of CPD programmes. These analytical approaches, provided a comprehensive assessment of the suitability of CPD programmes available to tutors in the CoEs.

Table 9: Crosstabulation of Learning mode, frequency of CPD practices and their Relevance in the CoEs

Tutors Learning mode (Descending order)	Frequency of CPD practice				Relevance of CPD practice	
	FR	OCC	RA	NV	RL	NR
Discuss topics in small groups (92.1%, n=525)	205 (36.0%)	164 (28.8%)	141 (24.7%)	60 (10.5%)	476 (83.5%)	94 (16.5%)
Talking to colleagues (90.1%, n=514)	287 (50.4%)	189 (33.2%)	59 (10.4%)	35 (6.1%)	434 (76.1%)	136 (23.9%)
Watching colleagues (mentors) teach (90.0%, n=513)	122 (21.4%)	148 (26.0%)	147 (25.8%)	153 (26.8%)	458 (80.4%)	112 (19.6%)
Reading articles, books and reports (82.6%, n=471)	159 (27.9%)	215 (37.7%)	138 (24.2%)	58 (10.2%)	424 (74.4%)	146 (25.6%)
Listening to lectures/Talks (81.0%, n=462)	61 (10.7%)	142 (24.9%)	147 (25.8%)	220 (38.6%)	237 (41.6%)	322 (56.5%)
Watch demonstration and lectures on video, TV or film (74.6%, n=425)	76 (13.3%)	168 (29.5%)	143 (25.1%)	183 (32.1%)	295 (51.8%)	275 (48.2%)
Attending short live college courses (69.5%, n=396)	12 (2.1%)	163 (28.6%)	165 (28.9%)	230 (40.4%)	342 (60.0%)	278 (40.0%)
One-on-one instruction (58.1%, n=331)	128 (22.5%)	177 (31.1%)	82 (14.4%)	183 (32.15%)	384 (67.5%)	186 (32.6%)
Engaging in online courses (41.8%, n=238)	60 (10.5%)	102 (17.9%)	181 (31.8%)	227 (39.8%)	215 (37.7%)	344 (60.5%)
Attending long live college courses (33.2%, n=189)	12 (2.1%)	103 (18.1%)	361 (63.3%)	94 (16.5%)	265 (46.5%)	305 (53.5%)
Workshops/Conferences/Seminars (26.1%, n=149)	59 (10.4%)	208 (36.5%)	206 (36.1%)	97 (17.0%)	349 (61.2%)	221 38.8%)
Engaging in small research projects to solve problems (22.5%, n=128)	141 (24.7%)	156 (27.4%)	228 (40.0%)	45 (7.9%)	455 (79.8%)	115 (20.2%)
Nominee tutor attending 'training events' and disseminating information afterwards (16.8%, n=96)	57 (10.0%)	285 (50.0%)	173 (30.4%)	55 (9.6%)	232 (40.7%)	338 (59.3%)

Source: Field survey (2022); FR = frequently (CPD practice organised three times in a semester); OCC = Occassionally (CPD practice organised once a semester); RL = Rarely (CPD practice organised once in the academic year); NV = Never (CPD practice never organised within the academic year); R = Relevant CPD in terms of knowledge, skills & abilities); NR = Not Relevant CPD in terms knowledge, skills & abilities)

As shown in Table 9, the predominant learning mode was discussion of topics in small groups (92.1%, n=525), talking to colleagues (90.2%, n=514), watching colleagues teach (90%, n=513), reading articles, books and reports (82.6%, n=471), listening to lectures/Talks (81.0%, n=462), watch demonstration and lectures on video, TV or film (74.6%, n=425), attending short live college courses (69.5%, n=396), and one-on-one instruction (58.1%, n=331) in that order. Also, the cumulative percentage of the frequency of PD practices identified 'talking to colleagues' (83.6%, n= 476), 'reading articles, books and reports' (65.6%, n=374) and 'discussion in small groups' (64.8%, n=369) as the PD activities used at least once a semester in the CoEs. All other PD practices were rarely used or never used by the CoEs. All the best learning modes of tutors were on-the-job (ONTJB) practices with the exception of 'attending short live college courses' that was off-the-job (OFTJB) practice. Also, all PD practices being used at least once a semester were ONTJB practices.

A further chi-square test of independence analysis revealed that, of the 13 learning modes, male and female tutors significantly differed in four constructs: discussion of topics in small groups (χ^2=7.3, p = .007), reading of articles, books and reports (χ^2=32.5, p = .001), watching mentors teach (χ^2=10.69, p = .001), and engaging in online courses (χ^2=25.9, p = .001). All these were ONTJB practices with high proportion of females relative to males engaged in discussion in small groups; and reading of articles, books and reports. However, for watching mentors teach and engage in online courses, higher proportions were in favour of the males. No significant gender differences existed in the nine other learning modes (see

Appendix I). To clarify tutors' preferred learning modes in the design and implementation of PD practices, the VPs expressed varied views. One VP said,

> "I don't; think we have ever contemplated on that. It would be good, but see, nothing of the sort is being done. We have never ever factored tutors varying learning modes and how best they learn into any of our discussions as a committee whilst considering any form of PD practice. Yes, I agree as adults, we have have our preferences, interest and desires and that should inform the organisation of PD practices" (VP and Tutor, College C).

Another VP said,

> "I can only speak to the internal ones we organise. In recent times, we engage in several professional development practices through workshops and seminars which are mostly internal with both external and internal facilitators but we have never considered tutors best learning modes as a factor in their organisations. Talk of other practices through further studies basically organised by the awarding universities, I have no idea we engage them along this dimension. But come to think of it, even internally we don't do it. How much more thinking of an external body. We barely have a say in those programmes" (VP and Tutor, College B).

These responses acknowledge a lack of emphasis on tutors' preferred learning modes in their institutions' PD planning processes. They admitted that tutors' varying learning modes have not been a focal point in their discussions when planning PD activities. Despite recognising the importance of adult learners having preferences, interests, and desires, there appears to be a gap in translating this

awareness into actionable strategies for PD design. They further highlighted the absence of consideration for tutors' best learning modes in both internal and external PD practices organised by their institution (VP College B & C). They expressed limited or no involvement in external programmes and suggested a lack of agency in influencing the design of such initiatives. Overall, the interviewees, with consensus, indicated that tutors' preferred learning modes are not considered in the planning and implementation of PD practices. This gap suggests a potential area for improvement in aligning PD offerings with the diverse learning needs and preferences of tutors.

Regarding the relevance of PD practices, two out of the four OFTJB practices were considered relevant; workshops/conferences/seminars (61.2%, n=349) and attending short live college courses (60.0%, n=342). Further, statistically significant gender difference existed using the chi-square test of independence. The results (see appendix I for details of the chi-square test of independence analysis) saw a relatively high proportion of males (63.4%) than females (50.9%) indicating relevance in workshops/conferences/seminars (χ^2 = 10.2, p = .001) and attending short live college courses. Meanwhile, majority of the female tutors (51.5%) considered them irrelevant (χ^2 = 12.7, p = .000). This was indicative that duration of PD practice is significant consideration for the female gender. Short live college courses could take weeks and in some situations a few months like sandwich courses which could be very stressful and demanding unlike workshops/conferences/seminars with relative shorter duration. Actually, time is of essence to the female gender. However, there were no statistically significant

gender differences in the remaining preferred ONTJB PD practices that were considered relevant. These include: discussion of topics in small groups, talking to colleagues, reading of articles, books and reports, engaging in small research projects to solve problems, watching colleagues teach and engagement in online courses (see appendix J for details of analysis). This implied, both male and female tutors shared similar opinion in the relevance of PD practices in the CoEs.

Mapping the preferred learning mode of tutors' to their corresponding PD practices that were considered relevant, it was evident that tutors preferred working in-house as team members in sharing and receiving practical experiences. This encourages open and free communication amongst co-workers and peers. ONTJB practices allow tutors to keep an open mind that enable tutors to appreciate and understand where they failed in meeting institutional expectations and how best they could improve work culture without criticising anyone. Thus, all the predominant learning modes allowed personal meaning of learning to tutors through the culture of team work, transparency and trust with clearly set targets that improve professional practice and realisation of larger institutional objectives. This was in conformity with the principles of the ALT that advocates that all forms of adult learning experiences must be interactive, collegial, integrated, reflective, problem centred and job embedded (Merriam, 2001; Conlan, Grabowski & Smith, 2003; Fogarty & Pete, 2004; Isenberg, 2007; Donaldson, 2008). This is indicative that the ALT must inform tutors PD practices in the CoEs in Ghana. Departing from this principle are online courses. For reasons that may necessitate further examination, tutors' engagement in online courses (41.8%, n=238) was not a

preferred learning mode, despite its in-house nature, as well as the perceived degree of flexibility and autonomy.

The quest for flexibility and autonomy further explains why tutors' engagement in small research projects in solving problems (22.5%, n=128) was not a popular learning mode. It could be inferred that tutors engagement in research was occasionally (40.0%, n=228) used and this was probably due to institutional requirement policy. However, conflicting to its unpopular nature amongst the CoEs, it was acknowledged as one of the most relevant PD practice in the CoEs (79.8%, n=455). The contrast in the tutors' mode of learning, frequency of PD practice and corresponding relevance necessitated further interrogation through a semi-structured interview schedule with the respective VPs. It became evident that lack of skills, requisite knowledge and experience of tutors accounted for these findings. One VP and tutor. College E expressed that,

> "It is no surprise considering where we are coming from. We have very little knowledge and experience in such practice and no one will welcome the idea just like that. Everything is changing with our new status as tertiary teachers because stakeholder expectations are becoming higher and higher however, it will require some little time to get there". (VP and Tutor, College A)

Lack of motivation was also identified as a contributing factor. When asked about the lack of interest in engaging in action research in spite of its relevance as shown by the results, one VP and Tutor, College B responded that,

> "Engaging in research projects as a means of solving problems and improving our professional practice can never be popular until our employers extend equivalent courtesies and incentives as they exist in other analogous tertiary institutions to us. It is obvious that research, regardless of the scale it operates is capital intensive and require support from stakeholders. It took us more than five years to be granted research allowance after our migration from pre-tertiary to the tertiary status. Even with that, who does any meaningful research with four hundred Ghana cedis which is less than 50% of a dollar in our current economy? Besides, of what economic benefit do tutors get from these research? As the practice has been in other analogous tertiary institutions, research papers add to the professional portfolio of respective teachers for promotion. Can same be said about the college tutor? The answer obviously you can answer as a big NO." (VP and Tutor, College B)

'Nominee tutor attending 'training events' and disseminating information afterwards (16.8%, n=96) was the least recognised learning mode for tutors. Literature refers to this type of CPD practice as the 'cascade model' which neglects a range of learning context within which CPD must be gained and used (Eraut, 1994). For example, the cascade model only answers the question of 'what' and 'how' knowledge and skills were acquired and not 'why' these competences were acquired (Solomon & Tresman, 1999; Nieto, 2003). Again, competences like collaboration and ownership are denied tutors who were not present but only fed with feedback by attendees. In most cases, the actual meaning of the content

acquired are diluted and distorted since meaning is personally constructed. These attendant problems could account for the unpopular nature of the cascade model in the CoEs. Meanwhile, it was the most adopted PD activity (63.3%, n=361) by the CoEs, used at least once in a semester (n=285, 50.0%) regardless of its unpopular (33.2%, n=189) and irrelevant (n=338, 59.3%) nature. Existing literature indicates a potential effectiveness in the delivery of CPD programmes in the CoEs but the findings of this study runs contrary to this claim. It became evident from a majority of the respondents that economic reasons accounted for why the cascade model is predominantly used by the CoEs. In line with this, one VP and tutor in College A remarked,

> "Well, I agree, we usually engage in this practice and it is basically due to its economic benefit. As a college our sources of income are limited and mostly tied only to what students pay. This IGF is so much overstretched and we need to identify areas where we can cut down cost for other equally important activities. It is unfortunate this area becomes an option when we need a hair cut. But, we must also acknowledge that there are times the organisers or providers of some of these PD practices, for example conferences and seminars ask for specified number of participants. But where there are no limitations in participation, sponsoring all tutors who teach a particular course for most of these PD practices would be ideal but do we have a choice"? (VP and Tutor, College A)

The response indicates that economic constraints is the reason why some colleges adopt this model to save cost. Overall, the consensus among the majority

of VPs (College B, C & E) mentioned financial reasons for their continuous use of the cascade model in the CoEs. However, it appears some colleges do not engage in this practice due to its contingent problems. One VP and tutor in college D said,

> "Here, we do not engage in such practice unless there are restrictions by the providing institutions. Since occupying this office in the past four years, all identified tutors who require some form of training have engaged in varying forms of PD practices. So, assuming there are four tutors teaching a particular course, who attends and who listens afterwards? This comes with challenges because will there be a special forum for this attendee to either provide information for the rest or better still train them? How sure are we that exactly what was learnt has been transmitted and how will the others even take such information. Probably those who engage in this practice are thinking of saving cost but I believe it ends up being more expensive" (VP and Tutor, College D)

This response presents a dissenting view regarding the use of the cascade model in the CoEs. The response raises significant concerns about the effectiveness and practicality of the cascade model to ensure the transmission of knowledge and skills to all tutors involved. The mention of challenges such as the lack of a structured forum for information dissemination and uncertainties about the accuracy of transmitted information underscores the limitations of the cascade model in facilitating meaningful learning experiences. This dissenting view highlights the need for a critical reassessment of the cascade model and suggests that its cost-saving benefits may ultimately be outweighed by its inefficiencies and

drawbacks. The challenges identified in the interview corroborate the weaknesses of the cascade model outlined in the literature (Eraut, 1994; Solomon & Tresman, 1999; Nieto, 2003).

Long live college courses used in this study are PD programmes leading to formal qualifications upon completion, known as the 'award-bearing model.' These courses include live university courses, online, and distance learning, typically validated by award-bearing universities. However, literature suggests that their effectiveness could be improved through enhanced external validation from sponsoring institutions' quality assurance units. This approach serves as a control mechanism to ensure value for money (refer to appendix V for details). In recent years, Ghana's CoEs have increasingly adopted this model, driven by government policy reforms aimed at enhancing tutors' skills and competencies. Long live college courses, classified as an OFTJB practice, are consistently utilised on an annual basis, yet tutors perceive them as irrelevant and not conducive to preferred learning modes. Further exploration revealed that the high cost of attending such courses, coupled with minimal or no support from the employer, contributes to this perception. Additionally, there is a noted gap between theoretical knowledge and practical application, stemming from the orientation of these OFTJB training programmes. As articulated by a VP in College D,

> "Attending long live college courses though may be advantageous due to its certification which will advance your career progression, it is too expensive and our meagre salary cannot support such expenses. There is no support from our employers either. Government claims to have instituted

> continuous professional support fund through the Ghana Scholarship Secretariat but as you may know accessibility is contingent on availability of funds. I am personally entering my fourth year on a Ph.D programme but have not received anything so far". (VP and Tutor, College D)

The response highlighted the financial constraints faced by tutors in accessing long live college courses, despite their potential career advancement benefits. This sentiment resonates with the majority of responses gathered from other VPs (College A, B, C & E), indicating a consensus among them regarding the financial burden and lack of support from employers. This collective viewpoint underscores the challenges tutors face in accessing relevant PD opportunities, despite their recognition of the potential career benefits associated with certification. The responses equally acknowledged the disconnect between theory and practice, highlighting a common concern among the respondents. As expressed by one VP and Tutor of College C that,

> "At this stage of our learning, we cannot be treated as children who come to the table with no practical problems. There is the need for CPD activity especially 'attending long live college courses to focus on classroom practice. These further studies programmes are mostly too bookish that require memorisation and as adults with so much family responsibilities please, it makes such CPD platforms unattractive and stressful" (VP and Tutor, College C)

This situation can be further explained by examining the results of the needs assessment methods employed in the CoEs, as identified in research question two.

It was evident that the democratic and diagnostic methods were the most commonly used in the CoEs. These methods typically lead to the 'award-bearing' and 'deficit' models. To elaborate, the 'deficit model' is a term used in CPD to describe an approach that focuses on identifying and addressing weaknesses or gaps in the knowledge, skills, or attitudes of educators, rather than building on their strengths (Mansell, 2013). The deficit model is widely used in many institutions to identify and address skill gaps in their workforce, assuming that employees are deficient in certain areas and need to be fixed through training, workshops, and other PD activities (Day & Sachs, 2004; Dowling, 2010; Spearritt, 2018). However, both models have several weaknesses that pose major challenges to CPD practices. For example, they focus solely on content determined by the providing institution without validation from the accessing institution. In other words, experts deliver and determine the agenda, placing teachers in a passive role with irrelevant content to classroom practice. Moreover, the orientation of these models is not consistent with the Adult Learning Theory (ALT), which advocates for meaningful change in value, understanding, and reflection, with an emphasis on comparative job experience as the adult learner's textbook (Knowles, Holton & Swanson 2005; Trotter, 2006; Zepeda et al., 2013).

The findings of the predominant learning modes in the CoEs add to the body of knowledge in CPD practices since literature acknowledges teachers engagement in PD practices but does not indicate their preferred learning mode. Undoubtedly, teachers preferred learning mode is fundamental in the determination of suitability of PD practices. Again, literature identifies short courses, workshops, sandwich,

distance and full time long university courses as available PD programmes to teachers (Takyiwaa, 2010; Acquah, 2012; Nkrumah 2012; Ayorogo, 2014; Mensah, 2016; Jones, 2015; Odoom et al., 2016; Tamanja, 2016; Dampson et al., 2018; Sulley, 2018; Abubakari, 2020; Tannehil et al., 2020; Saleem et al., 2021) but their frequency were unknown. Moreover, literature provides contradictory findings on the relevance of PD practices amongst teachers. Whereas Flore (as cited in Sywelem & Witte, 2013) indicates lack of relevant CPD practices for primary school teachers in Saudi Arabia, Acquah (2012) found PD programmes relevant in the CoEs in the central Region of Ghana.

When asked about tutors' learning preferences in PD practices, the frequency of available PD practices, and their relevance to tutors, the VPs were requested to assess the suitability of CPD programs for tutors. Their responses collectively revealed deficiencies in the constructs measuring suitability. Three VPs (College A, B & E) admitted that the CPD practices being engaged in by tutors are not suitable for them relative to the constructs measuring suitability. VP 'A', reflecting the views of three VPs interviewed, said,

> "If we are looking at suitability based on your criteria of whether we consider tutors best learning modes whilst planning CPD programmes, the frequency of the programmes available and the relevance of those programmes to tutors, then I can say that we are not doing so well for ourselves and suitability is not really guaranteed. The one-size-fits-all approach... can be misleading and affect suitability... This obviously leads to mismatched expectations... tutors need to have a say in all these processes

leading to their professional development... As things stand now, not much considerations are being done relative to your definition of suitability but we cannot say they are not serving any purpose either." (VP and Tutor, College A)

The response sheds light on the current state of CPD programmes in the CoEs regarding their suitability for tutors. It acknowledges a gap in considering tutors' learning modes, frequency of programmes, and their relevance to tutors' needs. The response suggests that the lack of consideration for tutors' preferences in programme planning may lead to mismatches between expectations and actual outcomes. While there is recognition of the need for tutors to have a voice in their professional development, the current practices fall short in this regard. Overall, the sentiment conveyed aligns with the notion that improvements are necessary to enhance the suitability of CPD programmes for tutors. However, two VPs (College C & D) could not definitively validate the suitability of PD programmes in the CoEs but mentioned that it is a relative concept. VP 'D' remarked that,

"I cannot be emphatic that our CPD programmes are not suitable for tutors, though I admit there are shortfalls relating to some aspects. Suitability to me is relative and personal. Relative and personal in that there are diverse learning styles of tutors, varying skill levels, individual goals and aspirations, job roles and responsibilities, peer influence and support, personal constraints and preferences among others. For example, a programme that suits one person's learning style may not be effective for another; a programme that is suitable for beginners may not provide

sufficient challenge or growth opportunities for more advanced tutors and vice versa." (VP and Tutor, College D)

This response reflects two VPs who acknowledge the complexity of determining the suitability of CPD programmes for tutors. While they refrain from categorically stating that the programmes are unsuitable, they concede that there are shortcomings in certain aspects. By highlighting the diverse learning styles, skill levels, and individual goals of tutors, the response indirectly acknowledges the potential mismatch between programme offerings and tutors' needs. The examples provided further reinforces the notion that what may be suitable for one tutor may not align with the preferences or requirements of another. While the response attempts to offer a comprehensive perspective, the underlying message suggests that improvements are needed to ensure that CPD programmes adequately meet the diverse needs of tutors in Ghana's CoEs.

Hypothesis 1

H_0: On-the-job and off-the-job programmes have no significant influence on tutor effectiveness in the CoEs.

H_1: On-the-job and off-the-job programmes have significant influence on tutor effectiveness in the CoEs.

After establishing the suitability of CPD programmes, this hypothesis examined the influence of ONTJB and OFTJB practices on tutor effectiveness. As indicated in the literature, 'tutor effectiveness' is assessed along three dimensions: professional values and attitudes (PVA), professional knowledge (PK), and professional practice (PP). All variables in this hypothesis were measured using a

scale. The responses for ONTJB and OFTJB training were scored from 0 (never) to 3 (frequently), resulting in mean scores ranging from 0 to 3.0, with higher scores indicating greater use of the training method. For tutors' effectiveness, responses were scored from 1 (strongly disagree) to 5 (strongly agree), with mean scores ranging from 1.0 to 5.0, where higher scores indicated higher effectiveness.

To test this hypothesis, a multivariate multiple linear regression analysis was conducted, ensuring that the assumptions of normality, homoscedasticity, and linearity were met (see Appendix C). Visualisation of the variable distributions through normal Q-Q plots and histograms confirmed that the distributions were normally distributed (see Appendix L). In addition to testing the regression assumptions, a preliminary analysis was conducted prior to this hypothesis to determine the mean, standard deviation, skewness, and kurtosis of ONTJB, OFTJB, and tutors' effectiveness (see Appendix Q). The mean scores for the variables ranged from 2.25 to 3.14, with standard deviations ranging from 0.46 to 0.81. Notably, ONTJB training (M = 2.54, SD = 0.63) was more frequently engaged in compared to OFTJB training (M = 2.25, SD = 0.60). This finding confirms research question three, which identified ONTJB practices as tutors' most preferred and relevant mode of learning in CPD practices. Furthermore, tutors were found to be most effective in terms of PP (M = 3.14, SD = 0.81), followed by PK (M = 3.04, SD = 0.56), and then PVA (M = 2.88, SD = 0.46). Additionally, the skewness and kurtosis values were within the recommended ranges of ±2 and ±7, respectively (Hair, Black, Babin & Anderson, 2010).

The preliminary analysis also included a correlational analysis among the study variables (see Appendix Q). The results revealed a moderate correlation (r = .422, p < .01) between ONTJB and OFTJB engagement. Relationships between ONTJB engagement, OFTJB engagement, effectiveness in PVA, and PK were found to be low to moderate, except for the aforementioned relationship with PP, which was very low. This analysis confirmed the absence of multicollinearity among the variables. Table 10 presents the results of the regression analysis.

Table 10: Influence of ONTJB and OFTJB Training on Tutor Effectiveness

Dependent Variable	Parameter	B	Std. Error	T	Sig.	f^2
PVA	Intercept	4.089	.109	37.417	.000	.712
	On-the-job	-.330*	.042	-7.875	.000	.099
	Off-the-job	-.167*	.041	-4.024	.000	.028
PK	Intercept	4.169	.138	30.108	.000	.615
	On-the-job	-.196*	.053	-3.682	.000	.023
	Off-the-job	-.282*	.053	-5.369	.000	.048
PP	Intercept	2.795	.213	13.107	.000	.233
	On-the-job	-.053	.082	-.653	.514	.001
	Off-the-job	.216*	.081	2.666	.008	.012

Source: Field survey (2022): *Significant, $p < .025$ (Bonferroni's adjusted alpha)

Based on the analysis presented in Table 10, applying Bonferroni's adjusted alpha of .025, it was observed that both ONTJB and OFTJB practices had a significant negative influence on tutor effectiveness in terms of PVA. Although their effects were small, it suggests that as tutors engaged more in both ONTJB and OFTJB practices, their effectiveness in PVA decreased.

Similarly, ONTJB and OFTJB practices were found to have a significant negative influence on tutor effectiveness in PK, with a small effect size as indicated

by the f^2. This indicates that higher levels of adoption of ONTJB and OFTJB practices were associated with reduced effectiveness in PK. Literature has explored the influence of CPD practices on teacher effectiveness, but few studies specifically examined PVA and PK as part of their constructs (Melesse & Gullie, 2019). This study fills the gap in literature by providing evidence of the moderate to high positive influence of PD practices on teacher effectiveness, with specific focus on PVA, PK, and PP.

Regarding PP, ONTJB training could not predict, while OFTJB training had a positive predictive effect on PP. This finding was contradictory since ONTJB practices were identified as tutors' most preferred mode of learning and equally rated as the most relevant practices. However, the few OFTJB practices that were considered relevant, could explain the positive influence of OFTJB practices on PP. One possible explanation for the discrepancies in the results between PVA/PK and PP could be attributed to the content of the CPD. If CPD training focuses primarily on addressing weaknesses rather than building on strengths, it may lead to demotivation and disengagement among tutors, thereby influencing their effectiveness.

Rejecting the null hypothesis that ONTJB and OFTJB practices have no significant influence on tutor effectiveness in the CoEs, this study aligns with existing literature that highlights the significant influence of PD practices on teacher effectiveness (Takyiwa, 2010; Nkrumah, 2012; Ayorogo, 2014; Chikari et al., 2015; Mensah, 2016; Sulley, 2018; Afreh, 2018; Melesse & Gullie, 2019; Saleem et al., 2021). However, the results reveal difference in the direction of

influence. While previous literature report a positive moderate to high influence on overall teacher effectiveness, this study indicates a negative influence on PVA and PK, with only OFTJB practices positively influencing PP. These findings suggest a fundamental issue with the design and implementation of PD practices in the CoEs in Ghana, particularly ONTJB practices, which are supposedly preferred and considered relevant by tutors.

Hypothesis 2

H_0: Tutors reactions to PD practices have no statistically significant influence on their effectiveness.

H_1: Tutors reactions to PD practices have statistically significant influence on their effectiveness.

This hypothesis investigated the potential influence of tutors' reactions to PD practices on their effectiveness in terms of PVA, PK, and PP. To test this hypothesis, a multivariate multiple linear regression analysis was employed, with the predictor variables consisting of tutors' reactions to ONTJB practices and OFTJB practices. For purposes of this discussion, the predictor variables were categorised into three factors: trainee characteristics, training design factors, and work environment factors. Trainee characteristics encompassed tutors' abilities and motivation to acquire new knowledge, skills, and attitudes (KSAs). Constructs measured included the nature of the refreshment provided, affordability of the PD practices and type of facilitator(s) involved. Training design referred to the characteristics of the PD activity and comprised of constructs such as content, time, duration, location, venue conditions, and resource availability. The work

environment factors included the availability of support and encouragement from employers, managers, immediate supervisors (e.g., Heads of Departments), peers and colleagues co-workers. It also included the appropriateness of the climate that allowed teachers to apply their newly acquired KSAs on the job as well as technological. Specific constructs measured, include the ability to transfer new learning to tasks, the existence of a reduced workload in terms of teaching timetable, support from peers and colleague co-workers, availability of financial support by Management, and how improved performance and qualifications were recognised by the employer. Tutors' responses to the reaction variables were rated on a scale from 1 (strongly disagree) to 5 (strongly agree), with mean scores ranging from 1.0 to 5.0.

Similar to hypothesis 1, a preliminary analysis was conducted to assess regression assumptions, which confirmed evidence of homoscedasticity and linearity (see Appendix J). The criterion variables for this analysis were effectiveness in terms of PVA, PK, and PP. All the predictors and criteria were measured on a scale, and the preliminary analysis revealed unfavourable reaction towards OFTJB (M = 3.20, SD = 0.46), than on ONTJB training (M = 2.95, SD = 0.40) (see Appendix R). The skewness and kurtosis values also fell within the recommended ranges of ±2 and ±7, respectively (Hair et al., 2010). Additionally, a correlation analysis indicated no evidence of multicollinearity, as the correlations between the variables were very low (see Appendix R). Table 11 provides a summary of the regression results.

Table 11: Influence of Reactions to PD Practices on Tutor Effectiveness

Dependent Variable	Parameter	B	Std. Error	t	Sig.	f^2
PVA	Intercept	4.382	.195	22.470	.000	.471
	On-the-job	-.087	.043	-1.999	.046	.007
	Off-the-job	-.408*	.038	-10.690	.000	.168
PK	Intercept	.000	.000	.000	.000	.000
	On-the-job	-.027	.057	-.474	.636	.000
	Off-the-job	-.200*	.050	-3.983	.000	.027
PP	Intercept	3.201	.381	8.405	.000	.111
	On-the-job	.006	.085	.067	.946	. 000
	Off-the-job	.053	.074	.715	.475	.001

Source: Field survey (2022): *Significant, $p < .025$ (Bonferroni's adjusted alpha)

Based on the findings presented in Table 11, using Bonferroni's adjusted alpha level of .025, it was revealed that the reaction to OFTJB had a significant negative impact on both PVA (B = -.41, p < .001) and PK (B = -.20, p < .001). The mean statistics indicated that respondents perceived numerous deficiencies in OFTJB practices, which explained this result. Specifically, tutors identified the content of OFTJB programmes to be too theoretical (M = 3.16, SD = 1.24), failing to address their concerns (M = 3.07, SD = 1.06), and did not promote inquiry and creativity (M = 3.15, SD = 1.09). This suggests that the content of OFTJB programmes was determined solely by the standards of the awarding institution, disregarding the needs and interests of the accessing institution and participants. Such approach contradicts the principles of the ALT, which emphasises the high influence of adults in shaping their learning experiences to be subjective and self-directed (Knowles, 1980; Rogers, 1983; Illeris, 2004). This finding aligns with

Sywelem's (2013) study, which identified lack of teacher involvement in CPD topics and content in Saudi Arabia as a significant hindrance to their effectiveness.

In contrast, tutors disagreed along these dimensions of theoretical content (M = 2.53, SD = 1.24) that is insensitive to their needs (M = 2.58, SD = 1.04), but rather acknowledged that ONTJB practices promoted inquiry and creativity (M = 3.44, SD = 1.06). This implies that ONTJB practices have meaningful content and relevant in addressing the practical needs of tutors. The perception of meaningfulness and relevance was further supported by tutors' recognition that ONTJB practices made effort to relate learning experiences to the workplace (M = 2.53, SD = 1.08) whereas OFTJB practices showed otherwise (M = 3.42, SD = .97). Tutors admitted OFTJB practices was organised at inconvenient locations and times (M = 3.39, SD = 1.02) compared to ONTJB practices (M = 2.61, SD = 1.06). However, tutors were unanimous that both OFTJB and ONTJB practices utilised non-interactive materials, with ONTJB practices receiving a slightly worse rating (M = 3.57, SD = .85). This suggests that over the years, both OFTJB and ONTJB practices in the CoEs have evolved without the necessary resources to enhance the effectiveness of teacher competences. This finding is in line with previous studies conducted by Owusu (2011), Abonyi et al. (2020), and Yaqub et al. (2020), which emphasised the inhibiting role of technological adequacy in the effective transfer of learning.

Furthermore, tutors acknowledged that OFTJB practices were organised in venues with relatively good conditions such as room temperature and comfortable furniture in some instances (M = 2.85, SD = 1.12), while ONTJB practices rather

suffered poor conditions (M = 3.32, SD = 1.18). Tutors' unfavourable reactions to all training design factors indicate their lack of enthusiasm and discomfort with most PD practices, primarily due to the non-alignment with the fundamental principles of ALT. Okumbe supports this observation, suggesting that teachers at the exploratory stage of their career progression engage in CPD practices to prove themselves through the performance of more complex tasks, which enhance their self-esteem and autonomy. Therefore, any CPD programme that fails to meet their expectations is likely to be rejected or approached reluctantly. Consequently, tutors may learn something through their CPD engagement and apply it in some contexts but find it challenging to transfer the acquired knowledge within their own area of competence.

Further explanations was sought from the VPs through the semi-structured interview to this finding that acknowledges relatively poor training characteristics for ONTJB programmes. VP 'A' articulated that,

> "We are faced with several challenges in terms of standard infrastructure, facilities, and resources... Do you know we don't even have enough classrooms that qualify to be called lecture theatres... We cannot boast of a proper conference room well furnished to accommodate even 50 participants... Insufficient funds to promote some of these options is also a major setback... When this ONTJB practices became pervasive some few years back, there were no refreshments whatsoever but now, we provide snacks and in some cases lunch... We now pay for transportation and accommodation of tutors for PD programs organized externally, which

initially was non-existent... So you can see that, we are trying our best to improve the system. We will get there. It is a matter of time... Our focus mostly is on the facilitators and the relevance of the content to tutors' professional practice." (VP and Tutor, College A)

The response echoes the sentiments expressed by the majority of VPs interviewed (College A, B, C & E). The response highlighted various challenges faced such as inadequate infrastructure, facilities, and resources that the CoEs face in organizing ONTJB training programmes. The responses further point to the state of ONTJB training programmes in CoEs which often occur in poor lecture theatres, and can hinder the learning experience. Despite these obstacles, some efforts were made by some of these colleges to improve conditions, such as providing snacks or lunch and covering transportation and accommodation expenses for external programsme. While acknowledging the limitations, the respondents indicated their determination to gradually enhance the system by focusing on facilitators and the appropriateness of content delivery. It was clear from the responses that there is a commitment to address the shortcomings and strive for improvement in the implementation of ONTJB training programmes.

However, one of the responses suggested that, there are a few CoEs in the minority whose PD programmes especially ONTJB meet the standards and expectations of their tutors. VP and tutor of college D intimated that,

"It is a matter of priority... Our tutors will not be fair to management if they say that our training programmes are not motivating... we are doing our best to promote teacher efficiency through these regular training programmes...

> Most of our internal programmes are organised in well furnished conference halls that are conducive to promote effective learning. In some cases we move outside the campus to hotels and tutors are treated to the best of food and refreshment of their choice. Look! We have even allocated part of our internally generated funds (IGF) to support staff financially who are on further studies... Trust me, our staff are happy with this little effort and they appreciate it... the welfare of our people are not compromised." (VP and Tutor, College D)

This response presents a contrasting viewpoint compared to the majority of VPs who were interviewed about the planning, design and implementation of PD programmes in the CoEs. While acknowledging financial constraints and infrastructure limitations, VP 'D' emphasised the prioritsation of PD practices under their administration. The provision of a conducive learning environment was noteworthy of management commitment. Despite financial constraints, efforts were made to organise internal PD programmes in well-furnished conference halls. Occasionally, some PD sessions were moved to hotels to ensure a comfortable and conducive setting for learning. Additionally, some PD sessions were characterised by the provision of quality food and refreshments, confirming consideration of tutors' welfare and comfort. These efforts undoubtedly contribute to a positive and engaging learning experience. Furthermore, the allocation of part of the institution's IGF to financially support staff on further studies demonstrates a commitment to supplement external funding sources which often delays. Indeed, while acknowledging challenges, VP D's response highlights proactive measures taken

by some CoEs to ensure the effective organisation of PD programmes especially ONTJB. The emphasis on prioritising PD, creating conducive learning environments, and supporting staff financially is a testament of the institutions commitment to enhance teaching and learning in the CoEs.

The study also considered "trainee characteristic" factors that assessed tutors' abilities and motivation in PD practices. While the study did not measure tutor abilities, it did explore a few intrinsic motivational factors. Tutors agreed that facilitators of both OFTJB (M = 3.80, SD = 1.09) and ONTJB (M = 3.44, SD = 1.14) practices were knowledgeable and helpful, which served as a significant source of motivation. This is in support of Sywelem's (2013) research, which highlighted the importance of knowledgeable, enthusiastic, and well-organised CPD facilitators in Saudi Arabia. Tutors however, recognised that some OFTJB practices like workshops provided proper and adequate refreshments (M = 2.56, SD = 1.04), while ONTJB practices rather did not provide appropriate refreshment (M = 3.03, SD = 1.20). This suggests that less attention and priority were given to ONTJB practices in the CoEs compared to OFTJB programmes. Additionally, majority of tutors perceived OFTJB programmes too expensive (M = 3.29, SD = 1.09), while ONTJB practices incurred no cost to them. The cost aspect of OFTJB practices probably explains the provision of proper refreshments compared to ONTJB practices. Despite the high cost of OFTJB practices, Government and Management of CoEs only paid lip service to financial support for tutors' CPD programmes.

Lastly, the study examined "work environment" factors that defined the characteristics of the learning environment including technological adequacy. Tutors (M = 3.29, SD = 1.12) reported that lack of resources hindered the effective transfer of competences from the training center to the work environment. This finding aligns with Owusu's (2011) study, which identified the lack of resources as a significant barrier to the effective transfer of competences at the University of Cape Coast. Tutors also agreed that there was little to no financial support from Management especially for OFTJB programmes (M = 3.29, SD = 1.27), and recognition of improved performance and new qualifications acquired through these CPD programmes was non-existent (M = 3.64, SD = 1.27). Additionally, tutors indicated that their workload in terms of teaching credit hours was inflexible (M = 2.58, SD = 1.05), even in long live University courses (OFTJB) leading to advanced degrees. Moreover, tutors stated that their peers/colleagues were not allowed to cover for them during their absence for PD programmes. In summary, only facilitators of CPD programmes received favourable reactions, while all 'work environment' factors showed unfavourable reactions from respondents. This suggests that tutors' commitment to organisational objectives, which is influenced by rewards or motivation tied to their achievements, is undermined. According to Awino (2021) findings, a rewards system strengthens the relationship between career training and employees' commitment. However, the absence of an effective support system and recognition of improved performance act as disincentive and discourage tutors in the growing CoEs seeking recognition and acceptance in the tertiary space in Ghana. Lack of motivation as evident in this hypothesis non-

systematic needs assessment, as observed in RQ 1, could contribute to a high attrition rate in the CoEs. It is therefore no surprise that the CoEs Weekly Journal (CoEWJ) reported approximately 140 experienced tutors left the CoEs for other analogous tertiary institutions during the 2020/21 academic year.

From the results, ONTJB-related-factors were not significant predictors of tutor effectiveness (PVA, PK and PP). The nature of the ONTJB PD training design elicited nearly equal variance between satisfactory and unsatisfactory factors. However, OFTJB-related-factors were significant negative predictors of PVA and PK but not PP. Overall, the results suggest that tutors who react negatively to PD practices were more likely to experience decreased effectiveness in PVA and PK. Therefore, the null hypothesis stating that "Tutors' reactions to PD practices have no statistically significant influence on their effectiveness" is rejected in favour of the alternative hypothesis.

This finding contradicts Okumbe's argument that teachers in the exploratory stage of their career development prioritise professional craft knowledge over rewards. Based on the respondents' biodata, nearly all participants were in the tutor rank (90.5%, n = 516), which Okumbe classified as the exploratory stage of their career. Teachers in this stage are considered inexperienced and may have lower expectations due to limited job knowledge and information. While they possess initial knowledge and skills through academic qualifications, they may lack the right attitude and experience required for effective performance. Consequently, they may accept CPD practices without considering the extrinsic benefits attached to them. If Okumbe's argument is true, then tutors' reactions to the ‘work

environment' factors should have positively influenced on their effectiveness. However, the reverse was observed. This implies that extrinsic motivational measures (e.g., promotions, pay increases, additional perks) are preferable, as indicated by the advanced stage of Okumbe's career progression categorisation.

Considering the various institutional CPD practices tutors have engaged in over time (both ONTJB and OFTJB), it was crucial to inquire from the VPs about their satisfaction with the training programmes and how these programmes have contributed to meeting their institution's targets. VP and tutor of college 'D' whose views reflect the majority intimated,

> "Well, my conviction is that it is a learning curve and we shall get there together... As Management, we have our roles and responsibilities to make this system work... Considering the fact that most of these PD practices are new to us in the tertiarisation process... About 90% of our staff have worked under the pre-tertiary service... Some individuals see PD practices as a burden and only participate in them reluctantly... Others engage for varying reasons that defeat the core objective of professional development practices... Tutors need to have a reorientation of their thoughts and perceptions towards PD programs... CPD practices have contributed to some extent in achieving the institution's target, but it is a work in progress." (VP and Tutor, College D)

The response reflects an acknowledgment of both the challenges and progress in the design and implementation of PD practices in the CoEs. The response pointed to an above average satisfaction level. This assessment took into

account, the newness of CPD practices in the institution as a result of trannsiting to tertiary status. It highlighted the diversity of attitudes among staff, with some seeing CPD practices as burdensome while others engage for varying reasons that may not align with the core objectives of professional development. This diversity underscores the need for reorientation both among tutors and Management of the CoEs towards their CPD programmes. Despite these challenges identified through both the quantitative and qualitative results, CPD practices have contributed to some extent to meeting the institutions targets, emphasising that it is an ongoing process of improvement. The response reflects a balanced perspective on the current state of CPD practices and the commitment to continuous improvement in Ghana's CoEs.

Hypothesis 3

H_0: There is no statistically significant difference in male and female tutor effectiveness.

H_1: There is a statistically significant difference in male and female tutor effectiveness.

There was an initial descriptive analysis of the individual constructs which revealed some gender variations in PVA and PK. Out of the ten PVA constructs measured, tutors acknowledged effectiveness in three, with gender differences observed in two of them. Both male and female tutors agreed on their ability to identify gaps in knowledge and go beyond textbook knowledge (M = 3.14, SD = 1.18). However, male tutors disagreed that CPD equipped them with special values and attitudes to act within professional duties and responsibilities defined by

policies (M = 2.99, SD = 1.24), whereas female tutors agreed with this statement (M = 3.23, SD = 1.17). Additionally, male tutors agreed that CPD practices made them more confident and proud of their profession (M = 3.12, SD = 1.26), whereas female tutors disagreed (M = 2.88, SD = 1.14). Tutors were unanimously in the remaining seven PVA constructs, indicating that PD practices did not empower them in various aspects such as self-directed study, active participation in events, and supporting peers and colleagues.

Regarding the seven PK constructs, tutors acknowledged effectiveness in five, with gender variations observed in three of them. Both male and female tutors agreed on their ability to articulate knowledge in discussions and portfolio write-ups (M = 3.32, SD = 1.09) and being more confident in their approaches as tutors (M = 3.07, SD = 1.26). However, male tutors acknowledged that CPD practices equipped them with secured content knowledge, pedagogical knowledge, and pedagogical content knowledge of the new B.ED programme (M = 3.17, SD = 1.23), whereas female tutors disagreed (M = 2.89, SD = 1.24). Similarly, male tutors agreed that CPD practices provided them with knowledge to understand changes in children's development and learning in diverse contexts (M = 3.11, SD = 1.20), while female tutors disagreed (M = 2.95, SD = 1.15). Moreover, male tutors disagreed that CPD practices helped them build more positive relationships with their students (M = 2.94, SD = 1.30), whereas female tutors agreed (M = 3.01, SD = 1.26). Finally, both gender acknowledged that PD practices do not equip them with good technological pedagogical knowledge for incorporation into their

teaching. This highlight the persistent challenge of technological inadequacy in the CoEs.

Notably, there were no gender differences observed in the fifteen PP constructs. Tutors acknowledged effectiveness in thirteen of these constructs, demonstrating that PD practices enabled them to plan and deliver varied and challenging lessons, understand intended teaching outcomes, create a safe learning environment, manage behaviour and learning, employ instructional strategies, pay attention to learners' progress, and demonstrate awareness of national and school-level attainment, among other constructs. However, tutors disagreed that PD practices empowered them to conduct small-scale action research to improve their practice and use a variety of teaching and learning resources, including ICT.

Further, a one-way multivariate analysis of variance (MANOVA) was employed. The dependent variables were the continuous measures of PVA, PK, and PP, while the independent variable was gender, categorised as male and female. Prior to the analysis, the Box's test was conducted to assess the equality of covariances between the two gender groups. The results indicated homogeneity of variances (Box's M = 10.38, F (6, 616576.33) = 1.72, p = .112), satisfying the assumption for further analysis as shown in Table 12.

Table 12: Multivariate Tests for Gender Differences in Tutors' Effectiveness

Effect	Value	F	df1	df2	Sig.	Partial Eta Squared
Intercept Pillai's Trace	.982	10227.90	3	565	.000	.982
Wilks' Lambda	.018	10227.90	3	565	.000	.982
Hotelling's Trace	54.211	10227.90	3	565	.000	.982
Roy's Largest Root	54.211	10227.90	3	565	.000	.982

Table 12, continued

Gender Pillai's Trace	.005	.987	3	565	.399	.005
Wilks' Lambda	.995	.987	3	565	.399	.005
Hotelling's Trace	.005	.987	3	565	.399	.005
Roy's Largest Root	.005	.987	3	565	.399	.005

Source: Field survey (2022)

There were no statistically significant gender differences observed in the overall effectiveness of tutors, as indicated by the combined measures, F(3, 565) = .99, p = .399, partial eta squared = .005 (Table 11). To further explore this finding, a separate univariate analysis was conducted using Bonferroni's alpha level of .025, and the detailed results are presented in Table 13.

Table 13: Univariate Tests for Gender Differences in Tutors' Effectiveness

Source	Dependent Variable	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	PVA	1	.139	.662	.416	.001
	PK	1	.191	.618	.432	.001
	PP	1	.636	.964	.327	.002
Intercept	PVA	1	3870.463	18461.417	.000	.970
	PK	1	4273.941	13810.767	.000	.960
	PP	1	4555.590	6906.386	.000	.924
Gender	PVA	1	.139	.662	.416	.001
	PK	1	.191	.618	.432	.001
	PP	1	.636	.964	.327	.002
Error	PVA	563	.210			
	PK	563	.309			
	PP	563	.660			
Total	PVA	565				
	PK	565				
	PP	570				

Source: Field survey (2022)

This statistical analysis also revealed no significant gender differences in PVA (F(1, 563) = .66, p = .419, partial eta squared = .001), PK (F(1, 563) = .62, p = .432, partial eta squared = .001), and PP (F(1, 563) = .96, p = .327, partial eta squared = .002). Importantly, each of these results demonstrated a very small practical effect size according to Cohen's guidelines (Cohen, 1988). The gender mean scores further support this finding, showing equal variance in PVA (Male, M = 2.87, Female, M = 2.90), PK (Male, M = 3.05, Female, M = 3.01), and PP (Male, M = 3.17, Female, M = 3.09) as shown in Table 14.

Table 14: Mean and Standard Deviations on Tutors' Effectiveness

Type of Effectiveness	Gender	Mean	SD	N
PVA	Male	2.87	.47	407
	Female	2.90	.42	163
PK	Male	3.05	.57	407
	Female	3.01	.52	163
PP	Male	3.17	.79	407
	Female	3.09	.87	163

Source: Field survey (2022)

Based on the results presented in Tables 12, 13 and 14, the null hypothesis stating "There is no statistically significant difference in male and female tutor effectiveness" could not be rejected. Further analysis using the independent t-test was conducted to determine gender influence on the overall tutor effectiveness that combine PVA, PK and PP with the summary statistics provided in Table 15.

Table 15: Independent t-test for Gender Differences in Tutors' Effectiveness

Variable	Gender	M	SD	df	t	p
PP Combined	Male	47.476	11.844	565	0.998	.319
	Female	46.341	12.867			

Table 15, continued

PK Combined	Male	21.351	3.997	565	0.495	.621
	Female	21.170	3.599			
PVA Combined	Male	28.6609	4.71169	565	0.935	.350
	Female	29.063	4.264			
Combined Tutor	Male	97.4889	14.04406	56	0.690	.491
Effectiveness	Female	96.5759	14.31061			

Source: Field survey (2022)

For PP combined, the p-value associated with the t-test comparing male and female tutors was .319, indicating that there was no statistically significant difference in the overall tutor effectiveness between genders ($p > .05$). Similarly, for PK combined, the p-value was .621, suggesting no significant difference in performance between male and female tutors across pedagogical knowledge dimensions. For PVA combined, the p-value was .350, indicating no statistically significant difference in tutor effectiveness between male and female tutors across professional values and attitudes. Lastly, for the comparison of overall tutor effectiveness, that considered all the dimensions measured, yielded a p-value of .491, indicating no statistically significant difference in effectiveness based on gender ($p > .05$). This result confirm the earlier MANOVA results as shown in Tables 14 and 15. While these findings suggest parity in overall teaching performance between male and female tutors in the CoEs, it prompts deeper reflection on the broader context and potential implications for educational practice and policy. Literature underscores that women's societal roles, traditions, and perceptions of gender affect their decisions regarding CPD participation (UNESCO, 2015; Borko & Mayfield, 2018; Adu, Asante & Badu-Nyarko, 2019;

Opoku-Amankwaah, Oduro & Arthur, 2020). However, this findings show no statistically significant difference in gender effectiveness in the CoEs. Further studies and exploration is therefore required to shed light on the possible factors that possibly account for this finding,

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview of Research Process

This study investigated the influence of CPD practices on tutor effectiveness in Ghana's CoEs, with a focus on identifying key deficiencies. The study was guided by three research questions and three hypotheses. Specifically, the study determined the factors influencing needs assessment prior to CPD practices, the methods used to assess training needs of tutors, and the suitability of CPD practices based on tutors' preferred learning modes, frequency of CPD programmes, and their assessment of the practices' relevant. The following null hypotheses were also tested:

H1: There is no significant influence of ONTJB and OFTJB practices on tutor effectiveness in the CoEs;

H2: Tutors' reactions to PD practices do not significantly impact their effectiveness;

H3: There is no statistically significant difference in effectiveness between male and female tutors;

To gather comprehensive information on the constructs being measured, an explanatory sequential mixed-method approach was employed. Quantitative data were collected using questionnaires from 565 tutors from the CoEs. The chi-square test of independence as well as the mean and standard deviation were used to address RQ 1 and RQ 2. RQ 3 was analysed using frequency, percentage, and the chi-square test of independence. $H_0$1 and $H_0$2 were analysed using multivariate multiple linear regression (MMLR) and the independent t-test, while $H_0$3 was

assessed using multiple analysis of variance (MANOVA) and the independent t-test. The qualitative data collected through semi-structured interviews involved five VPs and was analysed thematically by transcribing recorded information into written text.

Summary of Findings, Conclusions and Recommendations

The findings, conclusions and recommendations are arranged according to the six objectives of the study.

Key Finding 1

The results show that:

1. Organisational analysis factors, such as departmental training needs and institutional strategic plans and policies, were prioritised. However, resource availability and support systems, which are also crucial organisational factors, were only marginally considered.
2. Task analysis, including the types of knowledge, skills, and behaviours to be emphasised, and person analysis, covering tutors' training needs, readiness, length of employment, qualifications, and rank, were only marginally considered. This suggests an imbalance in the needs assessment criteria.

Conclusions

1. The needs assessment processes for CPD practices in the CoEs lack a holistic approach, failing to consider all relevant factors comprehensively.
2. The prioritisation of organisational analysis, such as departmental training needs and institutional strategic plans, in the needs assessment for CPD

practices in CoEs may overlook crucial aspects of tutor development. This emphasis comes at the expense of other important factors like resource availability, support systems, and comprehensive task and person analyses, potentially hindering a more balanced and effective approach to CPD.

Recommendations

1. Management of the CoEs should ensure a comprehensive needs assessment framework that encompasses a broader range of factors, including all relevant organisational-related, task-related, and person-related considerations. This holistic approach ensures a more thorough understanding of tutors' training needs and facilitates targeted interventions to address gaps effectively.
2. Staff Development and Research Committee (SDRC) should ensure an integration of task analysis (identifying specific knowledge, skills, and behaviours required for effective performance) and person analysis (assessing tutors' readiness, qualifications, rank, and length of employment) into the needs assessment process. This ensures alignment between CPD activities and the specific requirements of tutors in different roles and contexts.
3. Management of the CoEs should prioritise PD activities and ensure an increased investment in resources and support systems to address identified training needs effectively. The CoEs should have access to sufficient funding, facilities, technology, and other resources necessary for implementing CPD programmes and initiatives.

4. SDRC and QA unit should establish a mechanism for regular review and evaluation of the needs assessment criteria to ensure relevance, accuracy, and effectiveness.
5. Management of the CoEs must foster collaboration and communication among stakeholders, including tutors, students, administrators, policymakers, and external partners, to gather diverse perspectives and insights into CPD needs. Engaging stakeholders in the needs assessment process ensures their voices are heard and their priorities addressed.
6. The QA unit must monitor changes in organisational priorities, educational policies, and workforce demographics to adapt the needs assessment process accordingly.

Key Finding 2

The results reveal that:

1. The CoEs relied on democratic (tutors personal development plan for career progression, tutors personal interest in specific CPD areas) and diagnostic methods (organisational climate through mandated institutional policies; and discussion with colleagues) in assessing their CPD needs.
2. Analytic methods (such as performance reviews through student feedback, skill inventories, interviews, and questionnaires) were less favoured potentially leading to gaps in addressing performance deficits.

Conclusion

While democratic and diagnostic methods provide valuable insights, the underutilisation of analytic methods may result in unaddressed performance deficits.

Recommendations

1. SDRC and the QA unit of the CoEs must adopt a balanced approach to CPD assessment that incorporates elements of both democratic, diagnostic, and analytic methods. This ensures a comprehensive understanding of tutors' needs and facilitates targeted interventions to address performance deficits effectively.
2. The SDRC must provide training and support to the QA and HR unit on the use of analytical methods for CPD assessment, including performance reviews, skill inventories, interviews, and questionnaires. Management must equip respective units and sections of the institution responsible for PD activities with the necessary skills and tools to collect and analyse data effectively to inform decision-making and programme improvement.
3. Management of the CoEs must establish feedback mechanisms within their institutions to solicit input from tutors, students, and other stakeholders on CPD needs and priorities. Regularly review and incorporate feedback into CPD planning processes to ensure alignment with institutional objectives and individual needs.
4. Management of the CoEs must emphasise the importance of evidence-based practices in CPD assessment and planning. Encourage the utilisation of

data-driven insights from analytical methods to identify trends, patterns, and areas for improvement in teaching and learning outcomes.

Key Finding 3

The results reveal that:

1. Tutors predominantly preferred ONTJB practices that were collaborative and interactive in nature, particularly one-on-one instruction, small group discussions, talking to colleagues, and watching colleagues teach.
2. There was the preference for self-directed learning through reading articles, books, and reports, collectively emphasising the value placed on modes that encourage personal meaning, teamwork, transparency, and trust to enhance professional practice and institutional objectives.
3. ONTJB practices such as talking to colleagues, reading articles, books, and reports, and discussion in small groups were the most frequently used PD activities by the CoEs, which occurred at least once a semester.
4. Except for engagement in small research projects, which is ONTJB, all other considered relevant PD practices fell under OFTJB practices, including workshops/conferences/seminars, and attending short live college courses.

Conclusions

1. ONTJB PD practices were more desirable than OFTJB.
2. CoEs should recognise the importance of integrating ONTJB practices into their PD programmes since these activities directly connect to the daily work of tutors and contribute significantly to their professional growth.

3. CoEs should place much emphasis on ONTJB practices since they were mostly preferred learning mode of tutors. Regular exposure to real teaching scenarios enhances tutor competence.
4. However, the CoEs should maintain the diverse range of CPD offerings since they compliment each other. Different tutors may benefit from various approaches, so a mix of activities ensures inclusivity.

Recommendations

1. Management of the CoEs should prioritise ONTJB training by providing opportunities for tutors to observe and collaborate with colleagues. This fosters practical skills development and real-world application.
2. SDRC, HR and QA units should incorporate into their ONTJB training reflective components where tutors analyse their experiences and learn from them.
3. The QA and HR units of the CoEs should regularly assess the effectiveness of all CPD programmes, including workshops, conferences, and research projects. Adaptation based on feedback is essential.

Key Findings 4

The results from reveal that:

1. Both ONTJB and OFTJB practices have a significant negative influence on tutor effectiveness with respect to PVA and PK. As tutors engage more in ONTJB and OFTJB practices, their effectiveness in terms of PVA and PK decreased but had a small effect size.

2. ONTJB practices did not significantly predict PP, while OFTJB practices positively predicted PP. Thus, highly engaged OFTJB training was associated with improved PP.

Conclusions

1. CPD practices have not adequately improved tutor effectiveness.
2. The unexpected negative influence suggests that the CoEs need to reassess their CPD programmes in terms of PVA and PK.
3. The non-prediction of ONTJB practices suggests that the CoEs need to reassess their ONTJB programmes. It is crucial to identify the specific components of ONTJB practices that hinder tutor PP effectiveness.
4. The positive prediction of PP by OFTJB practices indicates that despite their potential limitations in fostering PVA and PK, they provide tutors with experiences and intitiatives that directly translate into improved PP.

Recommendations

1. Addressing the negative influence on PVA and PK, Management of CoEs must:
    a. Reassess the content and delivery of both ONTJB and OFTJB practices to ensure they align with the core values, attitudes, and foundational knowledge required for effective teaching. Tailor PD activities to address specific needs and context of tutors within the CoEs.
    b. Encourage tutors to engage in reflective practice to critically evaluate the effectiveness of PD activities in enhancing their PVA.

Provide opportunities for ongoing feedback and self-assessment to identify areas for improvement and growth.

2. Leveraging on the positive Influence on PP, Management of the CoEs must:
    a. Capitalise on the positive prediction of PP by OFTJB practices to design and deliver PD initiatives that focus on practical skills, instructional strategies, and classroom management techniques directly applicable to teaching contexts.
    b. Create a supportive environment that encourages tutors to apply the knowledge and skills gained from OFTJB practices in their day-to-day teaching practice. Offer mentoring, coaching, and peer collaboration opportunities to reinforce effective teaching strategies and promote continuous improvement.

Key Finding 5

Tutors reactions to PD practices have significant influence on their effectiveness. Specifically, the results revealed that:

1. Tutors reacted negatively to OFTJB practices on both PVA and PK. Tutors unfavourable reaction to most of the 'trainee characteristics', 'training design' and 'work environment' factors show dissatisfaction with the design, orientation and implementation of PD programmes in the CoEs. For instance they found OFTJB programmes too theoretical that fail to address their concerns and promote creativity; inconvenient timing and locations; and perceived uninteractive materials. These invariably contradict the adult learning theory principles that guarantee effective professional learning.

OFTJB programmes were also found expensive coupled with little or no support from Management of the CoEs. However, they acknowledged relatively proper conditions of the venues, such as room temperature as well as comfortable tables and chairs compared to ONTJB practices.

2. Tutors reacted favourably to the 'trainee characteristic' acknowledging that facilitators for both ONTJB and OFTJB were knowledgeable and helpful which served as a major source of motivation. However, poor 'training design' and 'work environment' factors hindered ONTJB practices. There appears to be equall variances in satisfaction and dissatisfaction of the predictor variables ('trainee characteristics', 'training design' and 'work environment') relative to ONTJB practices, hence they could not significantly predict tutor effectiveness in terms of PVA, PK and PP.
3. Tutors' reacted unfavourably to 'work environment' factors related to support and recognition of both ONTJB and OFTJB practices. They had the worst reaction towards these factors indicating dissatisfaction with the level of support and recognition provided. Lack of resources and financial support, inflexible workloads, and poor recognition hindered effective transfer of competencies and commitment to organisational objectives.
4. Tutors perceived OFTJB programmes expensive with huge financial cost on them, yet, there was no or little financial support. It was also evident that, after the huge financial burden on tutors, there was no recognition in terms of promotion, salary increment, allowances, or bonuses as a result of improved performance and enhanced qualifications. This is a major threat

to the CoEs succession plan of maintaining experienced staff with a rippling effect on high attrition rate. ONTJB programmes on the other hand did not impose any financial cost. However, ONTJB programmes did not impose any financial burden on them.

Conclusions

1. Tutors' engagement, motivation, and satisfaction with CPD (ONTJB and OFTJB activities play a pivotal role in determining their overall effectiveness (PVA, PK and PP).
2. CPD practices in the CoEs lack enjoyment and attractiveness due to their non-rewarding orientation, poor organisation, design, and delivery.

Recommendations

Addressing the negative reaction to OFTJB PD practice:

1. Management of the CoEs should establish well-defined relationships with providing institutions for their OFTJB programmes tailored to:
    a. Incorporate more practical, hands-on components that directly address tutors' concerns and promote creativity in teaching practices.
    b. Offer more convenient times and locations to accommodate tutors' schedules and reduce logistical barriers.
    c. Develop interactive materials and delivery methods that increase engagement and effectiveness.

2. Management of the CoEs should allocate resources to provide financial support for tutors participating in OFTJB programmes, such as subsidies or reimbursement for expenses incurred.
3. Management of CoEs should implement a recognition system that acknowledges tutors' participation and achievements in OFTJB programmes through promotions, salary increments, allowances, or bonuses.

Addressing poor training design and work environment factors:

1. Management of the CoEs should ensure that providers of PD practices enhance the design of both ONTJB and OFTJB programmes to ensure they are engaging, relevant, and conducive to learning. They should consider incorporating adult learning principles such as active participation, relevance to practice, and opportunities for reflection.
2. Management of the CoEs should allocate resources and support services to address tutors' needs related to workload flexibility, access to resources, and recognition for their efforts in both ONTJB and OFTJB practices.
3. The employer (Government through GTEC) of the CoEs should introduce extrinsic motivators such as promotions and pay increases to incentivise participation and engagement in PD activities.
4. Management of the CoEs must establish a culture of recognition within the institution that values and celebrates the contributions of tutors to professional learning and organisational objectives.

Key Finding 6

There was no significant difference in overall tutor effectiveness with respect to gender.

Conclusion

The absence of a significant gender effect suggests that tutor effectiveness is not inherently tied to whether a tutor is male or female.

Recommendation

Management of the CoEs should continue to focus on individual competencies and professional development rather than assuming gender-based differences. Encourage all tutors to engage in CPD practices equally.

Other Findings

1. The conducted interviews reveal that most CoEs lack a comprehensive HRD policy that codifies the needs assessment procedure. Such a policy should acknowledge the unique culture and practices of the institution, ensure the quality and appropriateness of PD practices aimed at producing the right number of skilled and experienced staff, and establish a supportive work environment. This environment should include a staff welfare policy that ensures the implementation of incentives to retain staff after their training.
2. Relative to the objective that sought the suitability of available PD programmes in the CoEs, the results demonstrate a notable disparity between perceived relevance and actual implementation of PD practices in the CoEs. The results reveal that:

a. Engagement in small research projects to solve problems is recognised relevant but not frequently practiced within an academic year.

b. The cascade model, in which tutors attend training events and disseminate information afterward, was among the least preferred modes of learning and was considered irrelevant. However, it was the most frequently used approach by most CoEs.

3. Extrinsic motivators like promotions and pay increases are preferred, especially among tutors.

Other Conclusions

1. Due to the lack of HRD policy that codifies standardized and uniform needs assessment procedures, the CoEs are unable to identify and address the specific needs of tutors leaving the outcomes of most of their PD practices to chance.
2. Due to the notable disparity between perceived relevance, tutors best learning mode and actual implementation of PD practices in the CoEs, most CPD practices in the CoEs appear not suitable to tutors.
3. The CoEs are unable to identify the appropriate competency gaps before their CPD practices which leads to several diring consequences.
4. There is no career succession planning, and retention of experienced tutors in most of the CoEs due to lack of support and recognition of PD practices.

Other Recommendations

1. Following best practices observed in other established tertiary institutions, Management of the CoEs should prioritise the establishment of a well-resourced HR unit with a dedicated Training and Development (T&D) section solely responsible for PD activities that will develop and institutionalise a comprehensive HRD policy that clearly define:
    a. proper needs assessment procedure that acknowledges the unique culture and practices of the institution;
    b. the quality and appropriateness of PD practices aimed at producing the right number of skilled and experienced staff;
    c. a supportive work environment including a staff welfare policy that ensures the implementation of incentives in retaining them after their training;

    This measure will help to address two key issues:
        i. identify and address the specific needs of tutors to ensure that PD practices are tailored to meet the individual needs and requirements of tutors, increasing the effectiveness of the programmes;
        ii. develop career pathways and provide support and recognition for tutors who engage in PD practices to address the issue of career succession planning.
2. Management of the CoEs should re-evaluate the design of PD programmes to ensure they are aligned with the needs and preferences of tutors. This could involve restructuring programmes to incorporate more interactive and

engaging elements that foster active learning and problem-solving, such as small research projects.

3. Instead of relying heavily on the cascade model, the SDRC should diversify their approaches to PD delivery. This could involve incorporating more varied and innovative methods, such as sponsored seminars and peer learning communities, to cater to different learning preferences and promote active participation.
4. Recognising the preference for extrinsic motivators like promotions and pay increases, Management of the CoEs should consider implementing reward systems that incentivize active participation in PD activities. This could include establishing clear pathways for career advancement based on PD engagement and performance, as well as providing financial incentives for completing relevant training programmes.
5. Management of the CoEs should establish channels for open communication and feedback between tutors and PD programme organisers. This would allow tutors to express their preferences, provide input on programme design, and offer suggestions for improvement, ultimately leading to more effective and relevant PD experiences.
6. Given the recognition of small research projects as relevant but underutilised, Management of the CoEs should encourage collaboration among tutors to undertake such projects. Creating opportunities for peer learning and collaboration will not only enhance the effectiveness of PD

initiatives but also foster a culture of continuous improvement and knowledge sharing within the institution.

Contribution of the Study

The study on the influence of CPD practices on tutor effectiveness in the CoEs in Ghana makes significant contributions to academia and educational practice as follows:

1. It uncovers specific CPD practices that positively influence tutor effectiveness and conceptualises key factors essential for effective CPD as comprehensive needs assessment, accurate identification of training needs, suitable PD programmes, and positive tutor reactions. The study emphasises the need to replace the reliance on 'mandated institutional policy' with a more dependable 'task analysis,' which accurately identifies competency gaps and ensures effective PD practices. Practical recommendations are provided for CoEs, policymakers, and educational stakeholders to enhance CPD practices.
2. It addresses issues concerning the quality of CPD practices in Ghana's CoEs, contributing to the overall quality of teacher education. It highlights the negative impact of factors such as trainee characteristics, training design, and work environment on CPD practices, emphasising the need for improvement in these areas. Successful CPD strategies are identified, informing policy decisions and curriculum development in teacher training institutions and guiding the design of targeted CPD programmes for tutors.

3. It provides scientific evidence on the link between CPD and tutor effectiveness, measuring effectiveness across dimensions of Professional Values and Attitudes (PVA), Professional Knowledge (PK), and Professional Practice (PP). It reveals the complex nature of tutor effectiveness in different areas and emphasises the importance of tailoring CPD practices to suit the unique Ghanaian educational landscape. Additionally, the study dispels potential gender biases by finding no influence of gender on tutor effectiveness, highlighting the importance of equitable opportunities for professional development.
4. Finally, it contributes to research methods through its rigorous mixed-method approach, employing techniques such as multivariate multiple linear regression (MMLR), multiple analysis of variance (MANOVA), independent samples t-test, and chi-square. Complementary analyses were utilised to address existing gaps in the literature, with textual analysis providing further clarification of quantitative results. This comprehensive approach enhanced the validity and reliability of the study's findings, advancing our understanding of CPD practices and tutor effectiveness in Ghana's educational context. The comprehensive approach adopted in this study not only contributes to our current understanding of CPD practices and tutor effectiveness but also provides a solid foundation for further research endeavours aimed at advancing the field of professional development in education.

Suggestions for Future Research

1. Educational researchers and Managers of the CoEs should collaborate to conduct a longitudinal study examining the long-term effects of CPD practices on tutor effectiveness. This study should track tutors' development and performance over an extended period, providing a comprehensive understanding of how CPD impacts their professional growth and effectiveness.
2. The Ministry of Education, research institutes, and Managers of the CoEs should investigate the link between tutor effectiveness, as influenced by CPD practices, and student outcomes. This research should examine how effective tutors contribute to student achievement, motivation, and engagement, and explore the mechanisms through which CPD practices translate into improved student outcomes.
3. Educational researchers and Managers of the CoEs should explore the impact of specific CPD programmes or interventions on tutor effectiveness. This investigation should focus on the effectiveness of initiatives such as mentoring programmes, collaborative lesson planning, and technology integration workshops, assessing their influence on tutor performance and student outcomes.
4. Educational administrators and policymakers should investigate the organisational factors that affect the successful implementation of CPD practices. This research should examine the role of leadership support,

resource allocation, institutional culture, and other contextual factors in promoting effective CPD and enhancing tutor effectiveness.

5. Educational researchers, administrators, and policymakers should conduct a qualitative study to determine the influence of CPD practices on professional practice within CoEs. This study should provide comprehensive insights into how CPD practices impact tutors' professional development and effectiveness, offering valuable information for stakeholders to refine and improve CPD initiatives.

REFERENCES

Abonyi, U. K., Yeboah, R., & Luguterah, A. W. |. (2020). Exploring work environment factors influencing the application of teacher professional development in Ghanaian basic schools. *Cogent Social Sciences*, *6*(1), 1–16.

Abreh, M. K. (2018). Heads of departments' perception of teachers' participation in continuous professional development programmes and its influence on science and mathematics teaching in Ghanaian secondary schools. *African Journal of Educational Studies in Mathematics and Sciences*, *14*, 85–99.

Abubakari, A. (2020). Exploring the Impact of Professional Development on Teaching and Learning from the Perspective of Teachers in Ghana. *The International Journal of Humanities and Social Studies*, *8*(2), 30–35.

Acquah, B. Y. S. (2012). *Continuing education programs and staff development of tutors in the colleges of education in the central region of Ghana*. Institute of Development Studies, University of Cape Coast.

Addy, N. A. (2006). Teacher education and professional development in Ghana. *International Education Journal*, *7*(3), 341–348.

Adu, E. O., Asante, K. O., & Badu-Nyarko, S. K. (2019). Professional development of teacher educators in Ghana: The case of colleges of education. *Journal of Education and Practice*, *10*(12), 99–107.

Agezo, C. K., & Christian, G. (2002). The impact of economic environment on primary school attendance. *Journal of Educational Management*, *4*(10), 137–144.

Agnaia, A. A. (1996). *Assessment of management training needs and selection for training: The case of Libyan companies.* Emerald Group Publishing Limited.

Agyenim-Boateng, E. O. (2008). Problems associated with the management performance appraisals in University: The case of Ghanaian public sector universities. *Journal of Educational Management*, *5*(9), 134–153.

Akyeampong, K., Lussier, K., Pryor, J., & Estbrook, J. (2007). Improving teacher education in sub-Saharan Africa: Sustainable ways forward. *International Journal of Educational Development*, *27*(2), 220–234.

Ali, T. (2014). Development of teacher leadership: a multi-faceted approach to

bringing about improvements in rural elementary schools in Pakistan. *Professional Development in Education*, *40*(3), 352–375.

Alise, M. A., & Teddlie, C. (2010). A continuation of the paradigm wars? Prevalence rates of methodological approaches across the social/behavioral sciences. *Journal of Mixed Methods Research*, *4*(2), 103–126.

Amankwah, K. (2020). *Ministry of Education conducts cascade training for 152 master trainers on distance learning programme. Africa Education Watch.* https://africaeducationwatch.org/ghana-ministry-of-education-conducts-cascade-training-for-152-master-trainers-on-distance-learning-programme/

Amankwah, K., Boateng, R., Asamoah, E., & Karikari, P. (2019). Cascade training of tutors in colleges of education on the use of information and communication technology (ICT) in teaching and learning. *Education and E-Learning Research*, *6*(3), 77–83.

Amedahe, F. K. (1998). Introduction to e*ducational measurement and evaluation.* Cape Coast: University of Cape Coast Printing Press.

Amoako, G. K., & Atta-Boateng, E. A. (2014). Understanding the teacher education system in Ghana: An overview of policy, practice, and challenges. *Journal of Education and Practice*, *5*(1), 96–101.

Anasi, S. N. (2017). *In fl uence of gender on attitude towards the use of social media for continuing professional development among academic librarians in Nigeria*. *2003*. https://doi.org/10.1108/ILS-11-2017-0114

Antwi, D., Dela, F., Mensah, I. A., & Awuddy, P. (2018). *trends in education and school management in Ghana* (P. K. Akwesi & D. K. Aboagye (eds.)). Accra: EDO Printing Press.

Asante-Darko, D., & Amoako, G. K. (2020). A community of practice model for sustainable knowledge sharing in the informal sector. *Journal of Knowledge Management, 24(1), 96-116.*, *24*(1), 96–116. https://doi.org/10.1108/JKM-05-2019-0277

Asante, K. O., & Agbesi, P. (2017). An overview of teacher professional development in Ghana: Insights from policy and practice. *Journal of Education and Practice*, *8*(16), 135–142.

Asiama, M., & Amedahe, F. K. (2017). Teacher education and professional development in Ghana: An overview of policies and practices. *Journal of Education and Practice, 8*(16), 89-98.

Atta, G., & Mensah, E. (2015). Exploring Teachers' Perspectives on the Availability of Professional Development Programs: A Case of One District in Ghana. *International Journal of Humanities and Social Science, 5*(7), 48–59.

Ayorogo, R. B. (2014). *The Effectiveness ofTraining and Development of Public Sector Teachers within the Bolgatanga Municipality*. Unpublished Dissertation, Department of Accounting and Finance, University of Cape Coast.

Baafi-Frimpong, S. (2019). *History and management of education in Ghana*. Cape Coast: University of Cape Coast Printing Press.

Bailey, M., & Sorensen, P. (2013). Reclaiming the ground of master's education for teachers: lessons to be learned from a case study of the East Midlands Masters in Teaching and Learning. *Journal of Education for Teaching: International Research and Pedagogy*, *39*(1), 39–59.

Baraldi, A. N., & Enders, C. K. (2010). An introduction to modern missing data analyses. *Journal of School Psychology*, *48*(1), 5–37.

Bartholomew, K. H., & Houle, T. T. (2016). Transformative learning as pedagogy for the health professions: A scoping review. *Medical Education*, *50*(4), 340–349.

Baumgartner, J., Eichhorn, J., & Gläser-Zikuda, M. (2017). Using a communities of practice approach to support teacher professional development in primary schools. *Professional Development in Education*, *43*(4), 577–596. doi: 10.1080/19415257.2016.1269654

Beyer, L. (2002). The Politics of Standardization: teacher education in the USA. *Journal of Education for Teaching, 28*(4), 239-245.

Boama, R. (2014). *The effect of motivation on employee performance: empirical evidence from the Brong ahafo Directorate*. Kwame Nkrumah Universityt of Science and Technology.

Borko, H., & Mayfield, V. (2018). *Gender, teacher professional development, and the workplace. In Handbook of Research on Teacher Education and Professional Development (pp. 234-250).* Hershey, Pennsylvania: IGI Global.

Boud, D., Keogh, R., & Walker, D. (1985). *Promoting reflection in learning: A model Reflection: Turning experience into learning* (D. Boud, R. Keogh, & D. Walker (eds.). London. UK: Routledge.

Buckler, R., & Caple, J. (2000). *The theory and practice of training (4th ed.).* London, UK: Kogan Page Ltd..

Burbank, M. D., & Kauchak, D. (2003). An Alternative Model for Professional Development: investigations into effective collaboration. *Journal of Teaching and Teacher Education, 19(*12), 499–514.

Burgess, J., & Ayentimi, D. T. (2022). Why are women opting out of academic careers in higher education in Ghana? Implication for policy and practice. *Higher Education Research and Development, 42*(4), 1-15

Burns, R. (1995). *The adult learner at work.* Sydney: Business and Professional Publishing.

Campbell, M. J., & Swinscow, T. D. V. (2009). *Statistics at Square One* (11th ed.). Chichester: Wiley-Blackwell.

Casson, R. J., & Farmer, L. D. M. (2014). Understanding and checking the assumptions of linear regression: a primer for medical researchers. *The Royal Australian and New Zealand College of Ophtalmologist Journal*, *42*(4), 590–596.

Clarke, N. (2007). *Learning transfer: A review of the research in adult education and training. Commissioned Report for the National Centre for Vocational Education Research.* https://www.ncver.edu.au/data/assets/file/0031/417.pdf

Coldwell, M., & Simkins, T. (2011). Level models of continuing professional development evaluation: a grounded review and critique. *Professional Development in Education, 37*(1), 143-157. http://shura.shu.ac.uk.html%OD

Cole, G. A. (2006). *Management theory and practice (6th ed.).* london: BookPower

Cole, G. A., & Kelly, P. (2015). *Management Theory and Practice* (8th Edition). London: Andrew Ashwin Publishing Company.

Conlan, J., Grabowski, S., & Smith, K. (2003). *Adult learning: Emerging perspectives on learning, teaching, and technology*. London: Routledge

Cope, A., Bezemer, J., & Kyratsis, Y. (2017). Evaluating the use of continuing professional development (CPD) frameworks for improving continuing professional development provision for health professionals in Europe. *Journal of European CME, 6*(1), 131–135.

Creswell, J. W., & Creswell, J. D. (2018). R*esearch design (qualitative, quantitative and mixed method approaches)* (5th ed.). Sage Publications Inc.

Cronk, B. C. (2016). *How to use IBM SPSS statistics: A step-by-step guide to analysis and interpretation.* London: Routledge.

Dampson, D. G., Eshun, H., & Antor, P. (2018). Improving Basic Schools through Continuous Professional Development: The Case of Amia-Ba Circuit of Ajumako Enyan Essiam District. *Journal of Education and Practice, 9*(8), 104–112.

Dandy, G. D., Eshun, H., & Antor, P. (2018). Improving Basic Schools through Continuous Professional Development: The Case of Amia-Ba Circuit of Ajumako Enyan Essiam District. *Journal of Education and Practice, 9*(8), 104-112.

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development.* Palo Alto, CA: Learning Policy Institute.

Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan, 76*(8), 597–604.

Desimone, R., & Harris, D. (1998). *Human resource development* (2nd ed.). Fort Worth, TX: Dryden Press.

Dudzi, V. M., & Owusu-Ansah, F. E. (2020). *Policies and practices for professional development of teachers in Ghana. In Teacher Education and Professional Development in Ghana.* Cham: Springer.

Eraut, M. (1994). *Developing Professional Knowledge and Competence.* London: Falmer Press.

Eshiet, I. (1987). Remedy for student's poor performance. In science involvement

of local scientific experience in curriculum implementation to motivate learning. *Journal of the STAN*, *125*(2), 11–17.

Feiman-Nemser, S., & Parker, M. B. (1990). Preparation for mentoring. *Phi Delta Kappan*, *72*(9), 688–693.

Fettersl, M. D., Curry, A. L., & Creswell, J. W. (2013). Achieving Integration in Mixed Methods Designs-Principles and Practices. *Health Research and Educational Trust*, *48*(6), 44-53

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London: SAGE Publications Ltd.

Field, A. (2017). *Discovering statistics using IBM SPSS statistics:* London: SAGE.

Fisher, S. R. A. (1954). *Statistical methods for research workers* (12th ed.). New York: Hafner Publishing Company Inc.

Fleiss, J. L., Levin, B., & Paik, M. C. (2003). *Statistical methods for rates and proportions* (3rd ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.

Fobi, G. A., Adzahlie-Mensah, V., & Attikrah, E. (2017). Using the cascade model to deliver effective professional development to tutors in colleges of education in Ghana. *Journal of Education and Practice*, *8*(24), 54–62.

Fogarty, R. J., & Pete, B. M. (2004). *The adult learner: some things we know.* Thousand Oaks, California: Corwin Press.

Friedman, A., & Phillips, M. (2004). Continuing Professional Development: developing a vision. *Journal of Education and Work*, *17*(3), 361–376.

Gaisie, I., Addae, E., & Agyapong, D. (2017). Tutors' perceptions of the effectiveness of Continuing Professional Development (CPD) practices in Colleges of Education in Ghana. *International Journal of Research in Education*, *1*(1), 1-13.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, *38*(4), 915–945. doi: 10.3102/00028312038004915

Ghansah, S. (2009). *Comparative study of HRD practices in public and private sector organisation: The case of UG and Central university College.*

University of Cape Coast.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International Journal of Endocrinology and Metabolism, 10*(2), 486–597.

Gilley, W. J., & Eggland, S. A. (1992). *Principles of human resource development.* Cambridge, Massachusetts: Perseus Publishing.

Gravetter, F. J., & Forzano, B. (2006). *Research methods for the behavioural sciences.* Belmont, CA: Thompson Wadsworth Corporation.

Gravetter, F. J., & Wallnau, L. B. (2004). *Statistics for the Behavioral Sciences* (6th ed.). Belmont, CA: Wadsworth/Thomson Learning Publishers.

Guskey, T. R. (2000). *Evaluating professional development.* California: Corwin Press.

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching*, *8*(3), 381-391.

Hacket, P. (2002). *Introduction to training.* London: The Crumwell Press.

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis: A global perspective (Vol. 7).* New Jersey: Pearson Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis (Vol. 6)*. New Jersey: Pearson Prentice Hall.

Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school.* New York: Teachers College Press.

Hoban, G. F. (2002). *Teacher Learning for Educational Change.* Berkshire: Open University Press.

Howard, K. W. (1989). A comprehensive expectancy motivation model: Implications for adult education. *Quaterly Journal*, *39*(4), 199–210.

Isenberg, S. (2007). *Applying andragogical principles to internet learning.* Amherst, New York: Cambria Press.

Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods*, *18*(1), 3–20.

Jackson, S. L. (2009). *Research methods ans statistics: a critical thinking approach*

(3rd ed.). Belmont, California: Wasworth Publishers.

Jang, H. (2019). The use of case-based teaching in colleges of education in Ghana: A cascade model of professional development for tutors. *Journal of Education and E-Learning Research*, *6*(1), 16–23.

Jones, M. (2015). Mentoring and coaching in education practitioners ' professional learning Realising research impact. *International Journal of Mentoring and Coaching in Education*, *4*(4), 293–302. https://doi.org/10.1108/IJMCE-09-2015-0027

Jooste, K., & Kilpert, O. (2002). The role of management in promoting a motivational work setting for nurses. *Health SA Gesondheid Journal*, *7*(2), 14–24.

Joyce, B., & Calhoun, E. (1999). *Models of Teaching: Tools For Learning.* Open Buckingham, England: University Press.

Kaija, C., Heijden, B. V. R., & Lewis, P. (2017). Continuing Professional Development. *International Journal of Training and Development*, *16*(3), 155–163.

Kennedy, A. (2005). Models of Continuing Professional Development : *Journal of In-Service Education*, *31*(2), 235–250.

Kennedy, A. (2014). Models of continuing professional development: A framework of analysis. *Professional Development in Education*, *40*(3), 336–351.

Kennedy, A. (2015). Understanding CPD: The need for theory to impact on policy and practice. *Professional Development in Education*, *40*(5), 688–697.

Khanka, S. S. (2007). *Human resource management.* New Delhi: S. Chand & Company.

King, F. (2014). Evaluating the impact of teacher professional development: an evidence-based framework. *Professional Development in Education*, *40*(1), 89–111.

Knowles, M. S. (1980). *The modern practice of adult education: from pedagogy tyo andragogy* (2nd ed.). New York: Cambridge books.

Kothari, C. R. (2004). *Research Methodology: methods and techniques* (2nd ed.). New Delhi: New Age International Limited Publishers.

Kuo, Y.-C., Walker, A. E., & Belland, B. R. (2013). Design principles for developing effective professional development: An iterative best-evidence synthesis. *Review of Educational Research, 83*(4), 494–527.

Kyei, K. A., Opoku, A., & Dwomoh, E. (2019). Mentoring as a Continuing Professional Development (CPD) practice in colleges of education in Ghana. *Journal of Education and Practice*, *10*(33), 119–126.

Leong, T. W., & Yazdanifard, R. (2014). The impact of positive reinforcement on employees' performance in organisations. *American Journal of Industrial and Business Management*, *4*(1), 9–12.

Maina, M., Kiumi, K. J., & Gilthae, P. (2020). Gender factor in Public Secondary School Teacher's job satisfaction in Nakuru County, Kenya. *British Journal of Education*, *9*(1), 59–67.

Mensah, D. K. D. (2016). Teacher professional development: Keys to basic school teachers' curriculum practice success in Ghana. *International Journal of Interdisciplinary Research Method*, *3*(2), 33–41.

Mensah, J. K., & Ofori, F. K. (2017). The use of action research as a continuing professional development practice in colleges of education in Ghana. *Journal of Education and Practice*, *8*(10), 35–44.

Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). *Learning in adulthood: A comprehensive guide* (3rd ed.). San Francisco: Jossey-Bass.

Ministry of Education (2013). *The ICT in Education Country Report. Global Symposium on ICT in Education 2013.* Accra, Ghana: Ministry of Education.

Ministry of Education (2013). *Education strategic plan 2010-2020.* Accra, Ghana: Ministry of Education.

Ministry of Education (2017). *National Teachers' Standards for Ghana*. Accra, Ghana: Ministry of Education.

Mphale, L. M. (2014). The Effectiveness of Teachers' Professional Development Initiatives in Enhancing Teachers Growth in Botswana Secondary Schools Education. *International Journal of Scientific Research in Education*, *7*(1), 75–90.

Mugisha, J. F. (2015). Impact of continuing professional development for health

workers. *The American Journal of Innovative Research and Applied Sciences*, *24*(3), 18–25.

Muijs, D., Kyriakides, L., van der Werf, G., Creemers, B., Timperley, H., & Earl, L. (2014). State of the art – teacher effectiveness and professional learning. *Educational Research Review*, *9*(1), 1–23.

Mullins, L. J. (2003). *Management and organizational behavior.* Harlow: Prentice Hall, Harlow.

Murphy, C., Cross, C., & McGuire, D. (2006). The motivation of nurses to participate in continuing professional education in Ireland. *Journal of European Industrial Training*, *30*(5), 365–384.

National Accreditation Board (2007). *Report on the assessment of teacher training colleges in Ghana. Accra, Ghana:* National Accreditation Board.

National Council for Tertiary Education (2011). *Report on the state of physical infrastructure of colleges of education. Accra, Ghana:* National Council for Tertiary Education.

National Council for Tertiary Education (2015). *Harmonised scheme of service for staff of the colleges of education*. Accra, Ghana: National Council for Tertiary Education.

National Council for Tertiary Education (2017). *Report on Tertiary Education for 2016/2017 Academic Year*. Accra, Ghana: National Council for Tertiary Education

Newman, E. (2013). The Upgrading of Teacher Training Institutions to Colleges of Education Issues and Prospects. *African Journal of Teacher Education*, *3*(2), 10–18.

Ní Chróinín, D., O'Mahony, J., & Dennehy, M. (2017). Implementing a professional inquiry model of teacher professional development in Ireland. *Irish Educational Studies*, *36*(1), 45–63.

Nieto, S. (2003). Challenging Current Notions of 'Highly Qualified Teachers' through Working a Teachers' Inquiry Group. *Journal of Teacher Education*, *54*(5), 386-398.

Nkrumah, K. (2012). *Impact of university of cape coast distance education*

program on the professional development of basic school teachers in the Kumasi Metropolis in the Ashanti Region, Ghana. College of Distance Education. University of Cape Coast.

Noe, R. (1999). *Employee training and development.* New York: McGraw-Hill Companies.

Nortey, S. (2010). *Attitudes of basic school teachers toward professional development programmes in the Assin North District*. Institute of Educational Planning and Administration, University of Cape Coast.

Nsiah, K. A., & Mensah, D. D. (2021). Quality of Continuing Professional Development Programs in Colleges of Education in Ghana: Tutors' Perception. *Journal of Education and Learning*, *10*(2), 159–173.

Odoom, D., Opoku, E., & Ntiakoh-ayipah, D. (2016). Staff Development Needs at the Colleges of Education in Ghana : Evidence from the Agogo College Staff Development Needs at the Colleges of Education in Ghana : Evidence from the Agogo College. *International Journal of Innovative Research and Development*, *5*(1), 127–137.

Oduro, G. K., & Afari, E. (2019). The use of professional inquiry model in enhancing the professional development of tutors in Colleges of Education. *Journal of Education and Practice*, *10*(12), 47–54.

Ofori-Dankwa, J., & Adu, E. O. (2017). Mentoring for new entrants into teaching: Lessons from some colleges of education in Ghana. *Journal of Education and Practice*, *8*(1), 80–88.

Opare, J. A. (1992). Academic achievement in private and public schools: Management makes the difference. *Journal of Educational Management*, *2*(1), 1–12.

Opare, J. A., Quist, H., Anyagre, P., & Frimpong, B. (1992). *Philosophical and Social Foundations of Education*. Cape Coast, Ghana: University Printing Press.

Opoku-Amankwaah, A., Oduro, G. K., & Arthur, D. (2020). Gender and professional development in colleges of education in Ghana: Evidence from the Ashanti region. *International Journal of Education and Development*

Using Information and Communication Technology, *16*(2), 63–77.

Oseyemon, E. P., & Ojeaga, J. O. (2011). Motivation, an eesential ingredient for optimal performance in emerging markets. *An International Multi-Disciplinary Journal*, *5*(1), 89–106.

Owusu-Ansah, E., & Opoku-Amankwaah, A. (2020). Gender and professional development of teachers in colleges of education in Ghana. *Journal of International Women's Studies*, *21*(1), 199–214.

Owusu-Fordjour, C., Koomson, C. K., & Hanson, D. (2020). The use of professional development workshops to upgrade the knowledge and skills of teacher educators in Ghana. *International Journal of Education and Development Using Information and Communication Technology*, *16*(1), 1–18.

Owusu, C. (2011). *Comparative Study of Human Resource Development Practices in the University of Cape Coast and Valley View University*. Institute of Development Studies, University of Cape Coast.

Perez-Ferra, M., Martín-Pascual, M. A., & Pardo-del-Val, M. (2018). Communities of practice as a tool for school leaders' professional development. *Professional Development in Education*, *44*(3), 401–414. doi: 10.1080/19415

Reid, M. A., & Barrington, H. (1997). *Training interventions: Managing employee development* (5th ed.). London: IPD.

Rhodes, C., & Beneicke, S. (2002). Coaching, Mentoring and Peer-networking: challenges for the management of teacher professional development in schools. *Journal of In-Service Education*, *28*(12), 297–309.

Rhodes, C., & Beneicke, S. (2003). Professional Development Support for Poorly Performing Teachers: challenges and opportunities for school managers in addressing teacher learning needs. *Journal of In-Service Education*, *29*(13), 123–140.

Rudolph, J. L., Etkina, E., & Gentile, M. (2016). Using communities of practice to support science teachers' learning and teaching: A case study of a middle school science teacher professional development program. *Journal of Science Teacher Education*, *27*(4), 455–477. doi: 10.1007/s10972-016-9463-x

Saleem, A., Gul, R., & Dogar, A. A. (2021). Effectiveness of Continuous Professional Development Program As Perceived By Primary Level Teachers. *Elementary Education Online*, *20*(3), 53–72. http://ilkogretim-online.org

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach.* Hoboken, New Jersey: John Wiley & Sons.

Senge, P. (1998). *The fifth discipline: The art and practice of learning organisations.* New York: Doubleday/Currency.

Senyefia, S. D., & Armah, F. A. (2020). Colleges of Education in Ghana as Learning Organizations: A Critical Analysis of Organizational Learning Processes. *Journal of Education and Practice*, *11*(8), 43–51.

Ghana Education Service (2019). *Highlights of the new curriculum framework.* Accra, Ghana: Ghana Education Service.

Sherry, A., & Gibson, D. (2002). Collaboration, communities of practice, and professional development. *Journal of Educational Technology & Society*, *5*(3), 126–135.

Skinner, B. F. (1953). *Science and human behavior.* New York: Free Press.

Smith, G. (2014). An innovative model of professional development to enhance the teaching and learning of primary science in Irish schools. *Professional Development in Education*, *40*(3), 467–487.

Smyth, J. (1991). *Teachers as Collaborative Learners.* Open University Press.

Solomon, J., & Tresman, S. (1999). A Model for Continued Professional Development: knowledge, belief and action,. *Journal of In-Service Education*, *4*(25), 307–319.

Somekh, B., & Lewin, C. (2005). *Research methods in the social sciences.* London: SAGE.

Subedi, D. (2016). Explanatory Sequential Mixed Method Design as the Third Research Community of Knowledge Claim. *American Journal of Educational Research*, *4*(7), 570–577.

Sulley, R. (2018). *Analysing the effects of Professional Development Programmes on the performance of Teachers in the Sagnarigu District*. University of Development Studies.

Sywelem, M. G., & Witte, J. E. (2013). Continuing Professional Development: Perceptions of Elementary School Teachers in Saudi Arabia. *Journal of Modern Education Review*, *3*(12), 881–898.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics: International edition.* London: Pearson

Takyiwaa, A. E. (2010). *The Impact of In-Service Training on Non-Profesiional Teachers in West Akim District*. Unpublished Dissertation, Institute for Educational Planning and Administration, University of Cape Coast.

Talbert, J. E., & McLaughlin, M. W. (1994). Teacher professionalism in local school contexts. *American Journal of Education*, *10*(2), 123–153.

Tannehill, D., Giyasettin, D., Petra, C., & Zuleyha, A. (2020). Continuing professional development for physical education teachers in Europe. *Journal of European Physical Education*, *10*(1), 1–18. https://doi.org/10.1177/13563

Tannenbaum, S. (1997). Enhancing Continuous Learning: Diagnostic findings from multiple companies. *Human Resource Management*, *36*(4), 437–452.

Teddlie, C., & Tashakkari, A. (2009). *Foundations of mixed methods research: Integrating qualitative and quantitative approaches in social and behavioral sciences.* London: Sage publication.

Terrell, S. R. (2012). Mixed-Methods Research Methodologies. *The Qualitative Report*, *17*(1), 254–280. http://www.nova.edu/ssss/QR/QR17-1/terrell.pdf

Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration [BES]*. Ministry of Education.

Tracey, J. B., Tannenbaum, S. I., & Kavanagh, M. J. (1995). Applying trained skills on the job: The importance of the work environment. *Journal of Applied Psychology*, *80*(2), 239–252.

Trotter, Y. D. (2006). Adult Learning Theories : Impacting Professional Development Programs. *Adventures in Learning Journal*, *4*(2), 8–13.

UNESCO. (2015). *Teaching and learning: Achieving quality for all.* Paris: United Nations.

Villar, A., & Strong, M. (2010). The effectiveness of a coaching programme in

developing teachers' skills and practice in the classroom. *Journal of Education for Teaching*, *36*(3), 299–315.

Villegas-Reimers, E. (2003). *Teachers Professional Development: An International Review of Literature.* International Institute for Educational Planning. Paris: UNESCO.

Vroom, V. H. (1964). *Work and motivation.* New York: Wiley.

Weiner, G. (2002). *Professional development, Teacher Education, Action research and Social Justice: a recent initiative in North Sweden.* Paper presented at the Annual Conference, Inservice and Professional Development Association, Birmingham, 1-3 November 2002.

Wells, G., Boohan, R., Elliott, J., & McCartney, E. (2019). Teachers' professional inquiry: Challenges and opportunities. *Journal of Education for Teaching*, *45*(2), 145–158.

Wenger, E. (2000). Communities of practice and social learning systems. *Organization*, *7*(2), 225–246. doi: 10.1177/135050840072002

Wong, S., & Cooper, P. (2016). Reliability and Validity of the Explanatory Sequential Design of the Mixed Methods adopted to explore the influences online learning in Hong Kong bilingual cyber higher education. *International Journal of Cyber Society and Education*, *4*(9), 45-64.

Yaqub, E. N., Owusu-cole, C., & Frempong, C. O. (2020). Challenges facing continuing professional development (CPD) of academic staff of the colleges of education in Ghana. *International Journal of Educational Administration and Policy Studies*, *12*(2), 112–120. https://doi.org/10.5897/IJEAPS2020.065

Yara, P. O., & Otieno, K. O. (2010). Teaching/Learning Resources and Academic Performance in Mathematics in Secondary Schools in Bondo District of Kenya. *Asian Social Science Journal*, *6*(12), 126–132.

Yidana, I., & Kwarteng, M. A. (2017). The Continuing Professional Development of Teachers in Colleges of Education in Ghana: A Study of Its Effectiveness. *International Journal of Higher Education*, *6*(5), 139–149.

Zepeda, S. J. (2011). *Professional development: what works* (2nd ed.). New York: Eye on Education.

Zuboff, S. (1988). *In the Age of the Smart Machine*. New York: Basic Books Incorporation.

APPENDICES

Appendix A: Questionnaire on CPD Practices for the Academic Staff of the CoEs

This questionnaire has been designed to solicit information on CPD Practices for Colleges of Education as a requirement for the award of a Ph.D Degree Programme. Data required are purely for academic purposes only and you are assured that all information provided would be treated with maximum confidentiality. Kindly respond to all questions as objectively as you can. Thank you.

SECTION A

Background Information

1. Gender: a. Male [ ] b. Female [ ]
2. How long have you served in this College? ……
3. What is your academic qualification?
   A. Diploma B. Degree C. M.Ed/M.Sc/MA/M.Tech D. M.Phill E. Ph.D
4. What is your area of specialisation? ……..
5. What is your rank please?
   A. Assistant tutor B. Tutor C. Senior tutor D. Principal tutor E. Chief tutor
6. What subject do you teach? ……

SECTION B

Factors that influence needs assseement practices in the CoEs

7. Kindly indicate your level of agreement to each of the following needs assessment criterion in selecting tutors' for Professional Development Programmes in your College.

KEY: **SA** = Strongly Agree; **A** = Agree; **N** = Neutral/Don't Know; **D** = Disagree; **SD** = Strongly Disagree

Assessment criterion	SA	A	N	D	SD
Training needs of the College by considering the institutional strategic plans and policies.					

Resources available					
Support system available from the government, institution and individuals					
Training needs of the department					
Training needs of the staff involved (person analysis)					
Lack of knowledge, skills and abilities of tutor (task analysis)					
Readiness of the tutor					
Rank of tutor					
Length of employment of tutor					
Qualification of tutor					
Type of knowledge, skill and behaviour that need to be emphasised					

8. Kindly indicate your level of agreement to each of the following needs assessment methods used by your college **KEY**: **SA** = Strongly Agree; **A** = Agree; **N** = Neutral/Don't Know; **D** = Disagree; **SD** = Strongly Disagree

Assessment method	**A**	**A**	**N**	**D**	**D**
Through reflection of my own practice by evaluating my knowledge and skill gap.					
Through personal development plan of my career progression					
Through discussion with colleagues.					
Through skill inventory					
Through my personal interest in particular CPD.					
Through mandated institutional policy (organizational climate)					

Through performance review as indicated by my students' response and feedback.					
Through interview used by the College					
Through questionnaire used by the College					

SECTION C

Suitability of Continuous Professional Development Practices

9. How do you learn best? Indicate by ticking either 'Yes' or 'No'

Learning mode	**Yes**	**No**
One-on-one instruction		
Discuss topics in small groups		
Watch demonstration and lectures on video, TV or film		
Talking to colleagues		
Reading articles, books and reports		
Engaging in small research projects to solve problems		
Watching colleagues (mentors) teach		
Listening to lectures		
Engaging in online courses		
Workshops/Conferences/Seminars		
Attending short live college courses		
Attending long live college courses		
Receiving information from colleague tutor after attending a training event		

10. On a scale of 0-3, indicate as appropriate how often you have engaged in any of the following CPD programmes in a Semester. **KEY**:

Frequently (3 times a semester); Occasionally (1 once a semester); Never (0)

On-the-Job technique	**Freq.**	**Occ.**	**Rarely**	**Nev.**
One-on-one instruction				
Discuss topics in small groups				

Watch demonstration and lectures on video, TV or film				
Talking to colleagues				
Reading articles, books and reports				
Engaging in small research projects to solve problems				
Watching colleagues (mentors) teach				
Listening to lectures/Talks				
Engaging in online courses				
Off-the-job technique				
Workshops/Conferences/Seminars				
Attending short live college courses				
Attending long live college courses				
Nominee tutor attending 'training events' and disseminating information afterwards				

11. Indicate how relevant (in terms of the knowledge, skills and abilities) any of the listed CPD programmes have been to you in your area of specialisation.

On-the-Job technique	**Relevant**	**Not Relevant**
One-on-one instruction		
Discussing topics in small groups		
Watching demonstration and lectures on video, TV or film		
Talking to colleagues		
Reading articles, books and reports		
Engaging in small research projects to solve problems		
Watching colleagues (mentors) teach		
Listening to lectures/Talks		
Engaging in online courses		
Off-the-job technique		
Workshops/Conferences/Seminars etc		
Attending short live college courses		

Attending long live college courses		
Nominee tutor attending 'training events' and disseminating information afterwards		

SECTION D

CPD and Tutor Reaction

12. Indicate your level of agreement to each of the following statements that influence CPD practices. **KEY**: **SA** = Strongly Agree; **A** = Agree; **N** = Neutral/Don't Know; **D** = Disagree; **SD** = Strongly Disagree

Statement	**SA**	**A**	**N**	**D**	**SD**
Content of off-the-job CPD programmes are too bookish.					
Content of on-the-job CPD programmes are too bookish.					
Activities of off-the-job CPD programmes make little effort to relate learning experiences to work place conditions.					
Activities of on-the-job CPD programmes make little effort to relate learning experiences to work place conditions.					
Activities of off-the-job CPD programmes do not promote inquiry & creativity.					
Activities of on-the-job CPD programmes do not promote inquiry & creativity.					
Off-the-job CPD programmes are insensitive to my concerns.					
On-the-job CPD programmes are insensitive to my concerns.					
Off-the-job CPD programmes are offered at times that are not convenient to me.					
On-the-job CPD programmes are offered at times that are not convenient to me.					
Off-the-job CPD programmes are offered at locations that are not convenient to me.					
Off-the-job CPD programmes are organised at venues with poor conditions like room temperature and uncomfortable tables and chairs.					
On-the-job CPD programmes are organised at venues with poor conditions like room temperature and uncomfortable tables and chairs.					

Off-the-job CPD programmes use materials that are not interactive enough to me.					
On-the-job CPD programmes use materials that are not interactive enough to me.					
On-the-job CPD programmes are organised without proper and adequate refreshment.					
Off-the-job CPD programmes are organized without adequate refreshments					
Off-the-job CPD programmes are too expensive.					
Facilitators of on-the-job practices are knowledgeable and helpful					
Facilitators of off-the-job practices are knowledgeable and helpful					
There is no reduced wotkload in terms of teaching credit hours whilst embarking on off-the-job programmes					
Management allows colleagues to manage my teaching credit hours whilst embarking on off-the-job programmes					
Time allocated for on-the-job programmes are well spent					
Time allocated for off-the-job programmes are well spent					
I like on-the-job CPD programmes					
I like on-the-job CPD programmes					
There is no transfer of competences acquired through CPD programmes to the workplace due to lack of resources.					
There is no or little financial support by Management for CPD programmes.					
There is no recognition (promotion, salary increment, bonus) of improved performance and qualification acquired through CPD programmes from Management.					

SECTION E
CPD and Tutor Effectiveness

13. Kindly, indicate your level of agreement to each of the following learning outcomes that determine tutor effectiveness after engaging in CPD practices. **KEY**:
SA = Strongly Agree; **A** = Agree; **N** = Neutral/Don't Know;
D = Disagree; **SD** = Strongly Disagree
After engaging in CPD programmes…

Learning Outcome	SA	A	N	D	SD
I am able to identify gaps in knowledge and go beyond textbook knowledge.					
I am able to carry out self-directed study through the use of the libraries, internet, experienced colleagues etc.					
I am able to act within policies that define my professional duties and responsibilities.					
I am an active participant of local and school events.					
I have a positive commitment to support peers and colleagues.					
I am able to express my own philosophy of what it means to be a professional teacher.					
I am more confident and takes pride of my profession					
I am more tolerant and promote inclusion of all learners in my lessons to improve their progress.					
I am able to bring improvement in my College through the development of innovative local materials in teaching.					
I am better equipped to engage in gender analysis of my students to determine vulnerability and provide support.					
I am able to articulate knowledge in discussions and in portfolio write-ups					
I have secured content knowledge, pedagogical knowledge and pedagogical content knowledge of the new B.ED programme					
I have good technological pedagogical knowledge e.g., incorporation of ICT into my practice.					
I am able to articulate high standards of literacy and correct use of oral and written language.					
I am more confident in my approaches as a tutor.					
I have built a more positive relationship with students than before.					
I understand changes in children development and learning in diverse context.					
I am able to plan and deliver varied and challenging lessons.					

I am able to show a clear grasp of intended outcomes of my teaching.					
I am able to carry out small scale action research to improve practice.					
I am able to create a safe, encouraging learning environment.					
I am able to manage behaviours and learning in small and large classes.					
I am able to employ a variety of instructional strategies that encourage learner participation and critical thinking					
I am able to pay attention to all learners especially girls and learners with Special Educational Needs to ensure their progress.					
I am able to employ instructional strategies appropriate for mixed ability, multi-lingual and multi-age classes.					
I am able explain concepts clearly using examples familiar to learners.					
I am able to produce and use a variety of teaching and learning resources that enhance learning including ICT					
I am able to integrate a variety of assessment modes into teaching to support learning.					
I am able to listen to learners and give constructive feedback.					
I am able to identify and remediate learners' difficulties or misconceptions.					
I am able to keep meaningful records and communicate students' progress regularly to stakeholders (learners or management or parents).					
I am able to demonstrate awareness of national and school levels of attainment of learners.					

Appendix B: Semi-Structured Interview Schedule (SSIG)

Interview schedule for Vice-Principals of the Colleges of Education on Continuous Professional Development (CPD) Practices. This interview has been designed to solicit information on CPD Practices for Colleges of Education as a requirement for the award of a Ph.D Degree Programme. All data required are purely for academic purposes only and you are assured all information would be treated with maximum confidentiality. I entreat you to kindly respond to all questions as objectively as you can. Thank you.

SECTION A: Background Information

1. How long have you served in this College? ……
2. What is the level of your academic/professional qualification? .....

SECTION B: Institutional Needs Assessment

3. The findings of this study show that organisational factors take precedence over other equally important factors like task analysis and person analysis, which are prerequisites for any successful CPD practice. Why do you prioritise organisational factors over equally important indicators?
4. Does your College have a Human Resource Development Policy document that define your Continuous Professional Development programmes?
5. In the assessment procedure of the Colleges's CPD programmes, does your outfit determine whether the knowledge and skill gap is as a result of a training deficit, motivational factor or a work design factor?
6. Why do you prioritise organisational culture over the use of analytical method like skill inventory and performance review through students feedback, questionnaires and interviews with the participants (tutors) themselves?

SECTION C: Suitability of Available CPD Programmes

7. Do you consider how best your tutors learn in the determination of the kind of CPD programmes to use?
8. What possibly could account for the unpopular nature of 'tutor's engagement in action research' in your college?
9. Why do tutors' consider 'long live college courses' as one of the least preferred learning mode as well as irrelevant (n = 305, 53.5%) to them, yet it is one of the frequently used off-the-job practice?
10. Why is the practice of a 'nominee tutor attending a PD session and disseminating information afterwards to collegues' mostly used by your college, in spite of its attendant problems?
11. How do you consider the overall suitability of CPD programmestot tutors?

SECTION D: Tutors Reactions to CPD practices

12. Tutors revealed that on-the-job programme is one of their best learning modes, yet they are poorly planned, designed and implemented in the Colleges. For example, they intimated that on on-the-job programmes are organised under poor conditions like unattractive venue with poor furniture and room temperature and in some situations lack the proper refreshment. How do you respond to this findings?

SECTION E: CPD practices and Tutor Effectiveness

13. Considering the several institutional CPD practices tutors have engaged in over the period, have they contributed in meeting your institution's target?
14. Are you satisfied with the CPD practices adopted by your College?

Appendix C: CoE in Ghana and their Affiliated Universities

Colleges of Education	Affiliated University
1. Accra CoE 2. Peki CoE 3. Mount CoE 4. Enchi CoE 5. Gambaga CoE 6. E.P CoE, Amedzofe 7. Gbewaa CoE, Pusiga	UNIVERSITY OF GHANA (UG)
1. Tumu CoE 2. McCoy CoE, Nadowli 3. Dambai CoE 4. Gambaga CoE 5. St. Vincent CoE, Yendi 6. Al-Faruq CoE, Wenchi	UNIVERSITY OF DEVELOPMENT STUDIES (UDS)
1. Akrokerri CoE 2. Wesley CoE, Kumasi 3. St. Joseph's CoE,Bechem 4. Tamale CoE 5. E.P CoE	KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (KNUST)
1. St. Louis CoE, Kumasi 2. Presby CoE, Aburi 3. S.D.A. CoE Asokore-Koforidua. 4. Agogo Presby CoE 5. Methodist CoE, Oda 6. Presby CoE, Akropong-Akwapim 7. Komenda CoE 8. Mampong Tech. CoE 9. Ada CoE 10. Akatsi CoE	UNIVERSITY OF EDUCATION, WINNEBA (UEW)

11. Bagabaga CoE, Tamale	
12. N.J. Ahamadiyya CoE	
13. St. John Bosco's CoE	
14. Wiawso CoE	
1. Foso CoE	
2. St.Francis CoE, Hohoe	
3. OLA CoE, Cape Coast	
4. Kibi Presbyterian CoE	
5. Holy Child CoE, Takoradi	UNIVERSITY OF
6. St. Teresa's CoE, Hohoe	CAPE COAST
7. Jasikan CoE	(UCC)
8. Berekum CoE	
9. St. Monica's CoE, Mampong-Ash.	
10. Atebubu CoE	
11. Offinso CoE	
12. S.D.A. CoE, Agona-Ashanti.	
13. Abetifi Presbyterian CoE	
14. St. Ambrose College of Education	

Source: SDA CoE Weekly Journal (2021)

Appendix D: Reliability Results for Tutors Views of CPD practices

Item	Squared Multiple Correlation	Cronbach Alpha if item is deleted
A chore in my professional practice	.428	.743
Bureaucratic in it orientation	.314	.798
An enjoyable activity	.615	.700
Natural part of professional life	.384	.799
Means to enhance tutor efficiency and effectiveness	.338	.796
Necessary for my career progression	.428	.790
Not extrinsically rewarding	.290	.797
Practices that do not satisfy my professional needs	.561	.702
An activity mandated due to organisational policy	.253	.801
A means of obtaining higher qualification	356	.802
A means to satisfy the needs, wishes and aspirations of tutors.	.429	.786

Source: Field survey (2022)

Appendix E: Reliability Results for Assessment Criterion of CPD Practices

Assessment criterion	Squared multiple correlation	Cronbach Alpha if item is deleted
Training needs of the College by considering the institutional strategic plan and policies.	.384	.799
Resources available	.253	.802
Support system available from the Government institution and individuals.	.428	.741
Training needs of the department	.356	.854
Training needs of the staff involved (person analysis)	.574	.764
Lack of knowledge, skills and abilities of tutor (task analysis)	.429	.786
Readiness of the tutor	.457	.721
Rank of tutor	.652	.668
Length of employment of tutor	.431	.631
Qualification of tutor	.435	.610
Type of knowledge, skill and behavior that need to be emphasised		

Field survey (2022)

Appendix F: Reliability Results for Assessment Methods of CPD Practices

Assessment method	Squared multiple correlation	Cronbach Alpha if item is deleted
Through reflection of my own practice by evaluating my knowledge and skill gap.	.384	.799
Through personal development plan of my career progression.	.253	.802
Through discussion with colleagues.	.428	.741
Through my personal interest in particular CPD.	.356	.854
Through mandated institutional policy (organisational climate).	.574	.764
Through performance review as indicated by my students' response and feedback.	.429	.786
Through interview used by the College	.457	.721
Through questionnaire used by the College	.652	.668

Field survey (2022)

Appendix G: Reliability Results for Suitability of available CPD Practices

	Squared multiple correlation	Cronbach Alpha if item is deleted
Tutors Learning mode		
One-on-one instruction	.155	.617
Discuss topics in small groups	.157	.628
Watch demonstration and lectures on video, TV or film	.539	.651
Talking to colleagues	.061	.614
Reading articles, books and reports	.076	.696
Engaging in small research projects to solve Problems	.253	.656
Watching colleagues (mentors) teach	.041	.618
Listening to lectures/talks	.469	.620
Engaging in online courses	.648	.618
Workshops/Conferences/Seminars	.141	.682
Attending short live college courses	.465	.639
Attending long live college courses	.371	.667
Receiving information from nominee tutor(s) who attend(s) training event.	.226	.634
Frequency of PD Practices		
One-on-one instruction	.092	.727
Discuss topics in small groups	.073	.719
Watch demonstration and lectures on video, TV or film	.349	.669
Talking to colleagues	.115	.725
Reading articles, books and reports	.026	.725
Engaging in small research projects to solve Problems	.081	.692
Watching colleagues (mentors) teach	.211	.719

Listening to lectures/talks	.774	.658
Engaging in online courses	.771	.659
Workshops/Conferences/Seminars	.328	.682
Attending short live college courses	.599	.655
Attending long live college courses	.360	.693
Nominee tutor attending training events and disseminating information afterwards.	.550	.660
Relevance of PD practices		
One-on-one instruction	.308	.886
Discuss topics in small groups	.254	.884
Watch demonstration and lectures on video, TV or film	.253	.856
Talking to colleagues	.328	.791
Reading articles, books and reports	.419	.879
Engaging in small research projects to solve Problems	.381	.772
Watching colleagues (mentors) teach	.433	.881
Listening to lectures/talks	.232	.862
Engaging in online courses	.422	.860
Workshops/Conferences/Seminars	.347	.859
Attending short live college courses	.309	.857
Attending long live college courses	.353	.855
Nominee tutor attending training events and disseminating information afterwards.	.620	.701

Field survey (2022)

Appendix H: Reliability Results of Tutor Reaction to CPD issues

Statement	Squared multiple correlation	Cronbach Alpha if item is deleted
Content of off-the-job CPD programmes are too bookish.	.928	.847
Content of on-the-job CPD programmes are too bookish.	.955	.820
Activities of off-the-job CPD programmes make little effort to relate learning experiences to work place conditions.	.889	.851
Activities of on-the-job CPD programmes make little effort to relate learning experiences to work place conditions.	.890	.875
Activities of off-the-job CPD programmes do not promote inquiry & creativity.	.824	.841
Activities of on-the-job CPD programmes do not promote inquiry & creativity.	.839	.867
Off-the-job CPD programmes are insensitive to my concerns.	.955	.852
On-the-job CPD programmes are insensitive to my concerns.	.941	.872
Off-the-job CPD programmes are offered at times that are not convenient to me.	.956	.853
On-the-job CPD programmes are offered at times that are not convenient to me.	.822	.868
Off-the-job CPD programmes are offered at locations that are not convenient to me.	.906	.848
On-the-job CPD programmes are offered at locations that are not convenient to me.	.938	.842
Off-the-job CPD programmes are organised at venues with poor conditions like room temperature and uncomfortable tables and chairs.	.913	.844
On-the-job CPD programmes are organised at venues with poor conditions like room temperature and uncomfortable tables and chairs.	.977	.839
Off-the-job CPD programmes use materials that are not interactive enough to me.	.869	.862

On-the-job CPD programmes use materials that are not interactive enough to me.	.856	.845
Off-the-job CPD programmes are organised without proper and adequate refreshment.	.906	.838
On-the-job CPD programmes are organised without proper and adequate refreshment.	.946	.843
Off-the-job CPD programmes are too expensive.	.952	.841
Facilitators of on-the-job practices are knowledgeable and helpful	.930	.843
Facilitators of off-the-job practices are knowledgeable and helpful	.092	.727
Time allocated for on-the-job programmes are well spent	.073	.719
Time allocated for off-the-job programmes are well spent	.349	.669
I like on-the-job CPD programmes	.115	.725
I like on-the-job CPD programmes	.026	.725
There is no transfer of competences acquired through CPD programmes to the workplace due to lack of resources.	.081	.692
There is no or little financial support by Management for CPD programmes.	.211	.719
There is no recognition (promotion, salary increment, bonus) of improved performance and qualification acquired through CPD programmes from Management.	.774	.658

Field survey (2022)

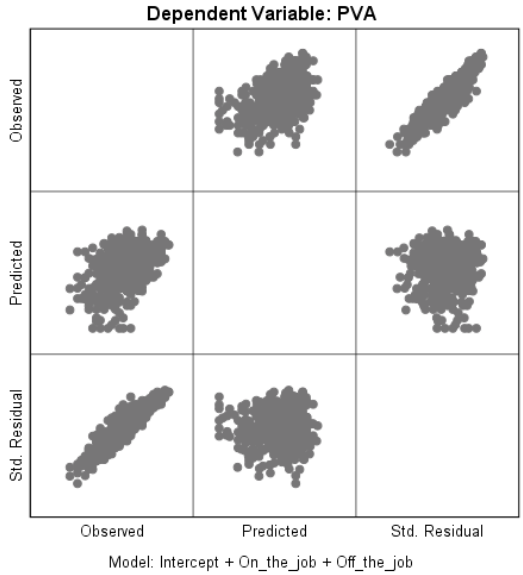
Appendix I: Reliability Results for CPD and Tutor effectiveness

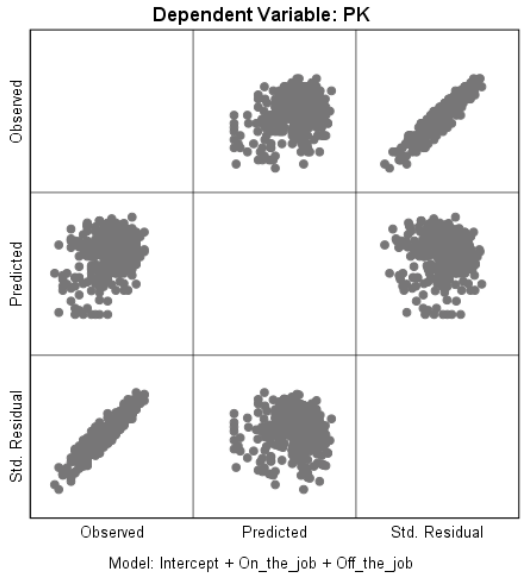
Statement	Squared multiple correlation	Cronbach Alpha if item is deleted
I am able to identify gaps in knowledge and go beyond textbook knowledge.	.518	.930
I am able to carry out self-directed study through the use of the libraries, internet, experienced colleagues etc.	.595	.931
I am able to act within policies that define my professional duties and responsibilities.	.531	.931
I am an active participant of local and school events.	.472	.935
I have a positive commitment to support peers and colleagues.	.495	.931
I am able to express my own philosophy of what it means to be a professional teacher.	.404	.930
I am more confident and takes pride of my profession	.498	.958
I am more tolerant and promote inclusion of all learners in my lessons to improve their progress.	.544	.929
I am able to bring improvement in my College through the development of innovative local materials in teaching.	.599	.934
I am better equipped to engage in gender analysis of my students to determine vulnerability and provide support.	.304	.931
I am able to articulate knowledge in discussions and in portfolio write-ups	.335	.932
I have secured content knowledge, pedagogical knowledge and pedagogical content knowledge of the new B.ED programme	.448	.931
I have good technological pedagogical knowledge e.g., incorporation of ICT into my practice.	.483	.931
I am able to articulate high standards of literacy and correct use of oral and written language.	.502	.931
I am more confident in my approaches as a tutor.	.228	.932
I have built a more positive relationship with students than before.	.577	.931

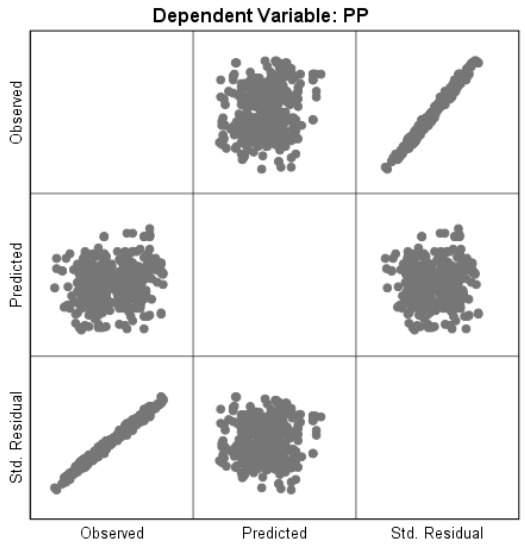
I understand changes in children development and learning in diverse context.	.470	.931
I am able to plan and deliver varied and challenging lessons.	.455	.943
I am able to show a clear grasp of intended outcomes of my teaching.	.469	.931
I am able to carry out small scale action research to improve practice.	.329	.932
I am able to create a safe, encouraging learning environment.	.416	.931
I am able to manage behaviours and learning in small and large classes.	.435	.934
I am able to employ a variety of instructional strategies that encourage learner participation and critical thinking	.581	.930
I am able to pay attention to all learners especially girls and learners with Special Educational Needs to ensure their progress.	.438	.933
I am able to employ instructional strategies appropriate for mixed ability, multi-lingual and multi-age classes.	.340	.935
I am able explain concepts clearly using examples familiar to learners.	.484	.931
I am able to produce and use a variety of teaching and learning resources that enhance learning including ICT	.205	.932
I am able to integrate a variety of assessment modes into teaching to support learning.	.407	.932
I am able to listen to learners and give constructive feedback.	.496	.930
I am able to identify and remediate learners' difficulties or misconceptions.	.461	.932
I am able to keep meaningful records and communicate students' progress regularly to stakeholders (learners or management or parents).	.231	.765
I am able to demonstrate awareness of national and school levels of attainment of learners.	.658	.843

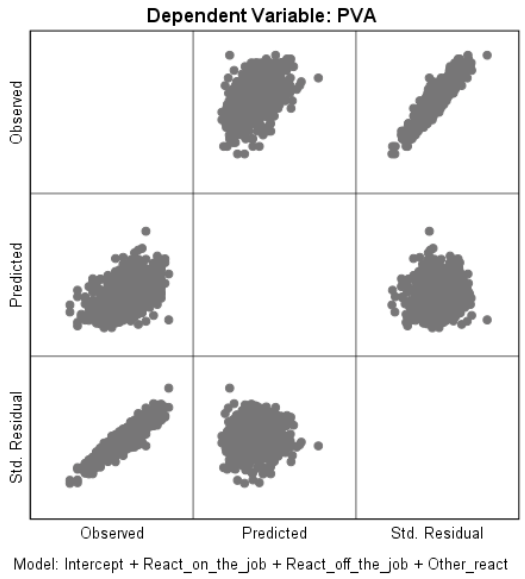
Field survey (2022)

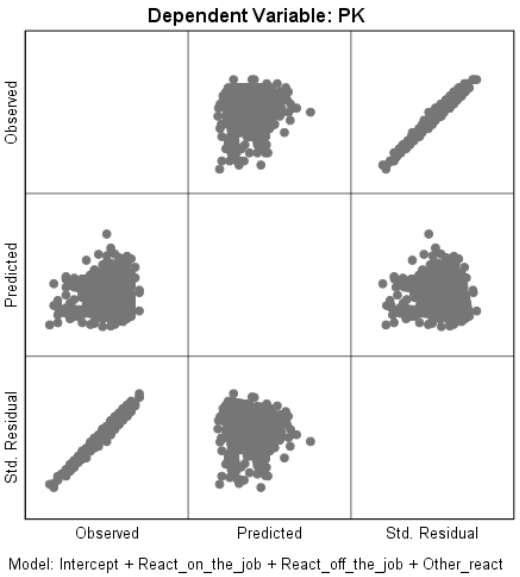
Appendix J: Homoscedasticity and Linearity

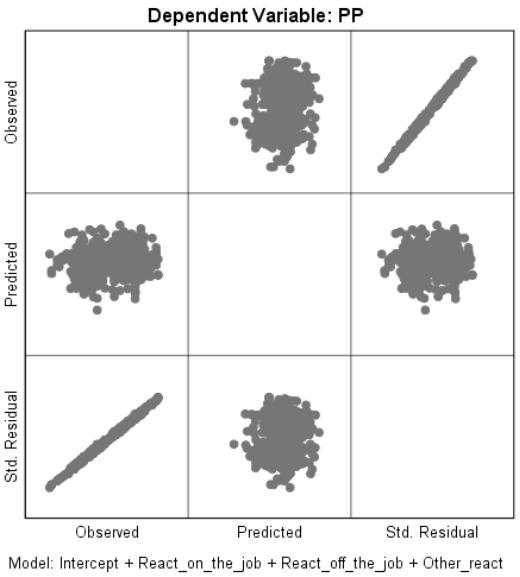








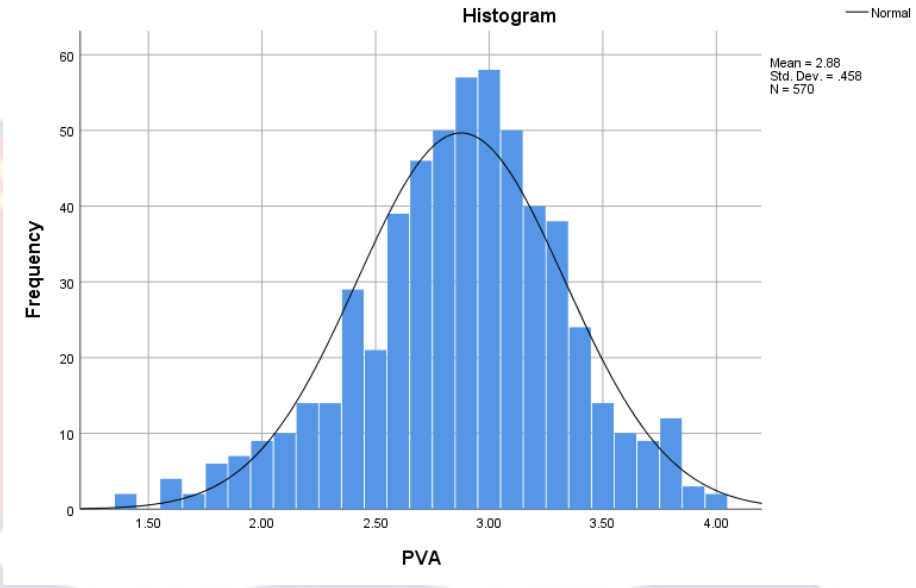


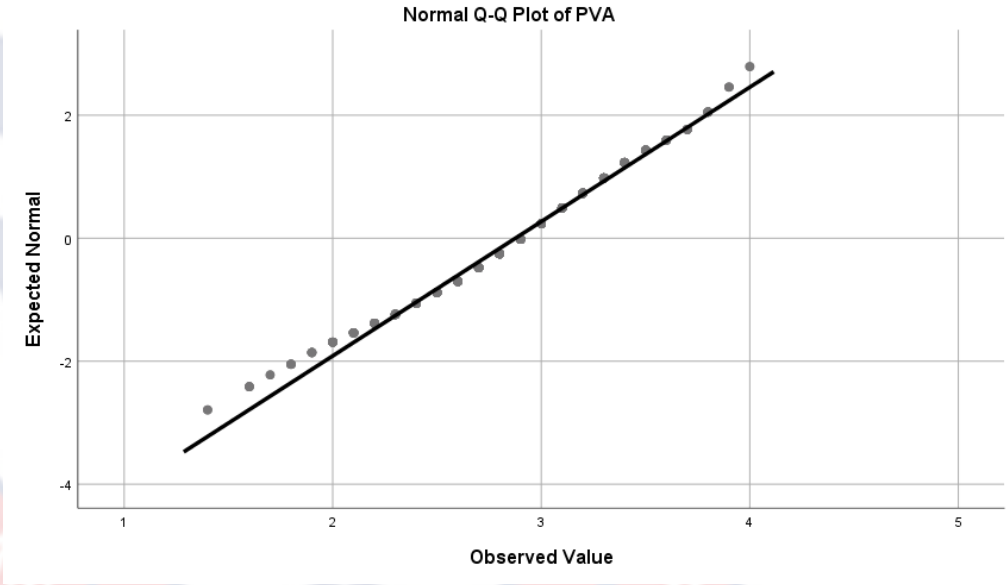


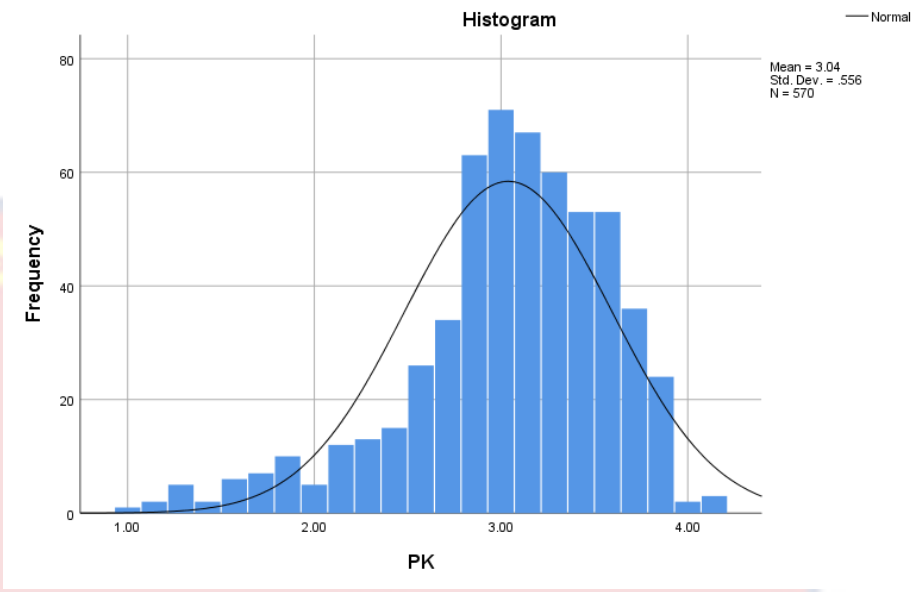
Appendix K: Homogeneity of Variance

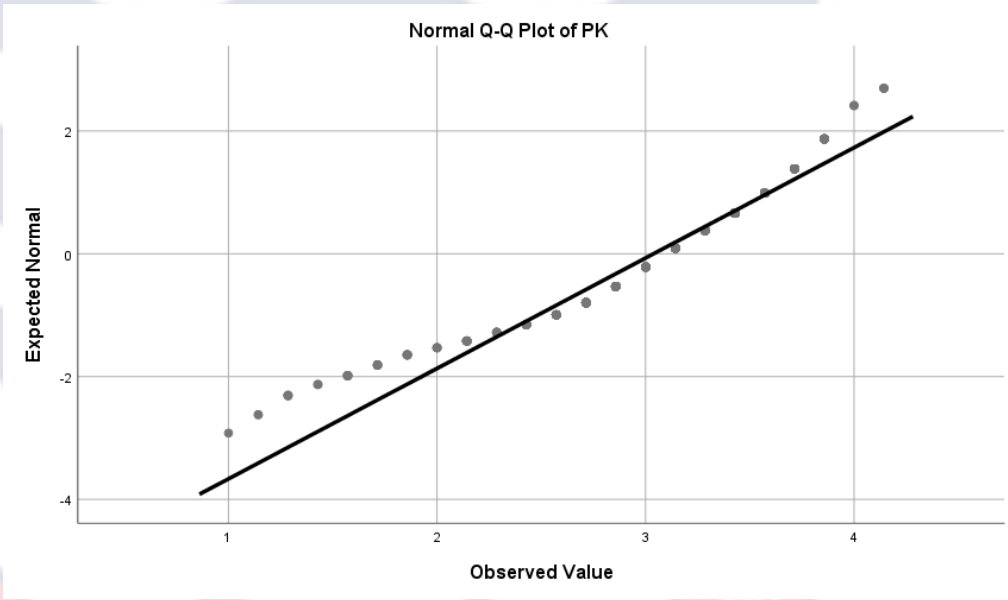
Levene's Test of Equality of Error Variances[a]					
		Levene Statistic	df1	df2	Sig.
PVA	Based on Mean	1.144	1	568	.285
	Based on Median	.873	1	568	.351
	Based on Median and with adjusted df	.873	1	556.543	.351
	Based on trimmed mean	1.049	1	568	.306
PK	Based on Mean	.293	1	568	.589
	Based on Median	.089	1	568	.766
	Based on Median and with adjusted df	.089	1	549.240	.766
	Based on trimmed mean	.150	1	568	.699
PP	Based on Mean	3.482	1	568	.063
	Based on Median	3.817	1	568	.051
	Based on Median and with adjusted df	3.817	1	567.586	.051
	Based on trimmed mean	3.616	1	568	.058
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.					
a. Design: Intercept + Gender					

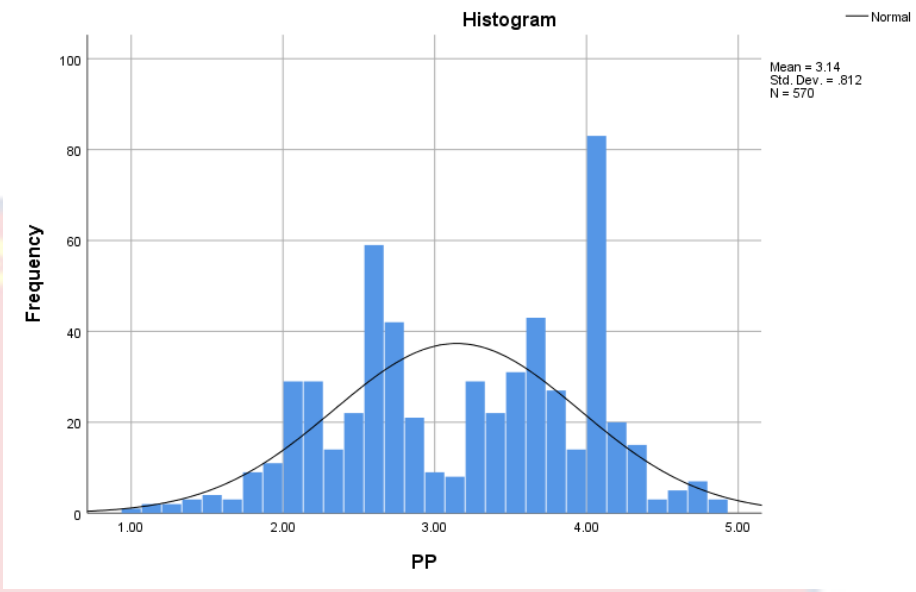
Appendix L: Normality Assumption

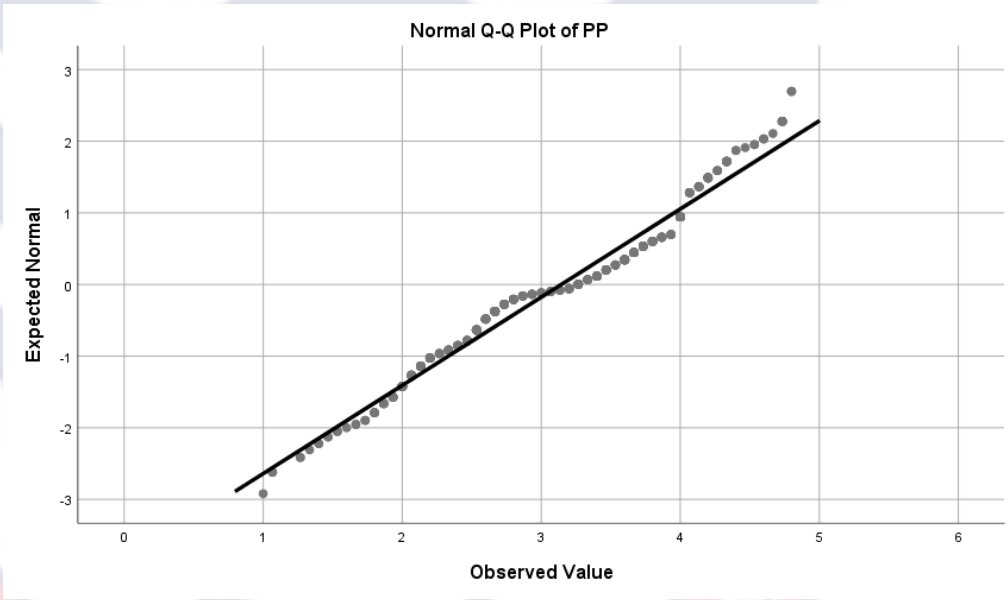


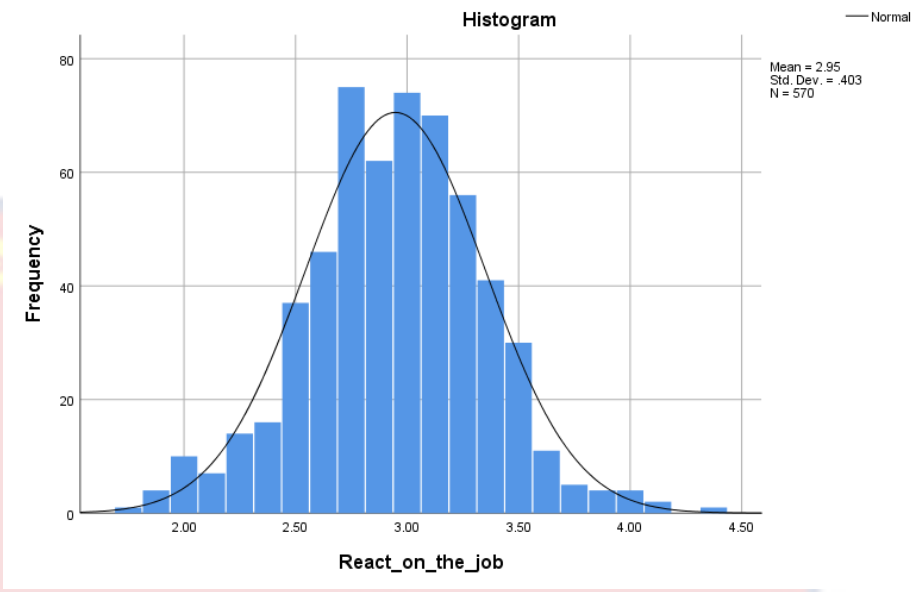


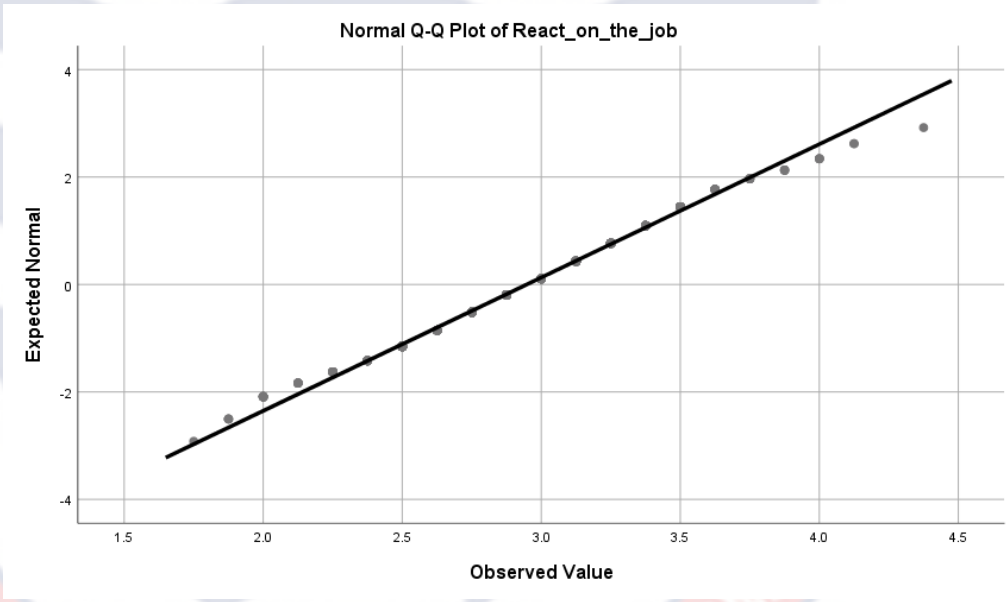


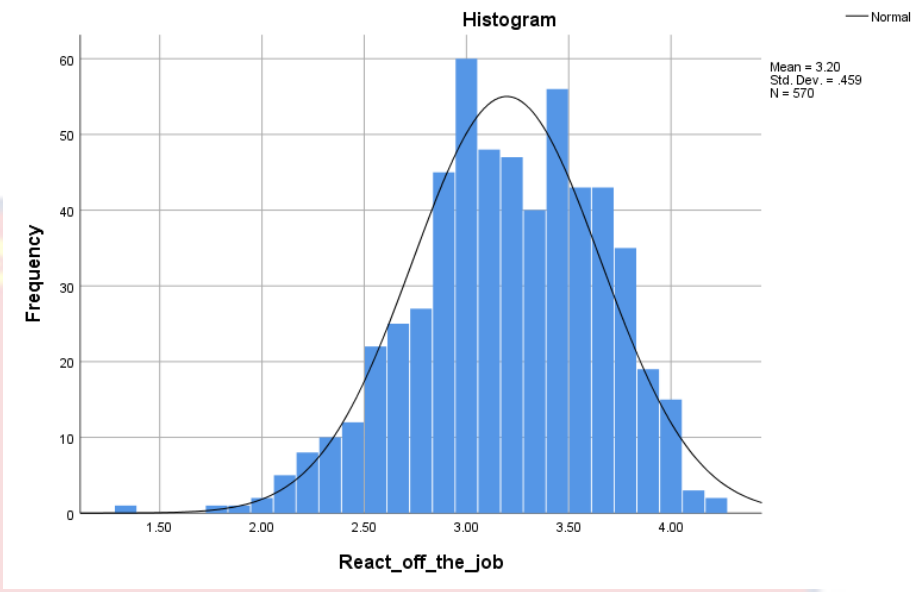


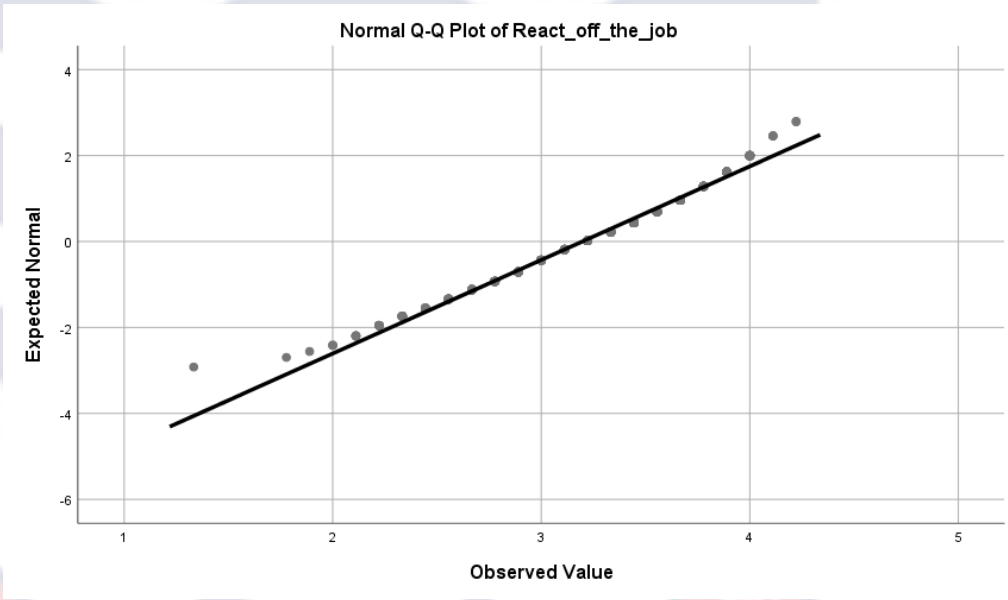


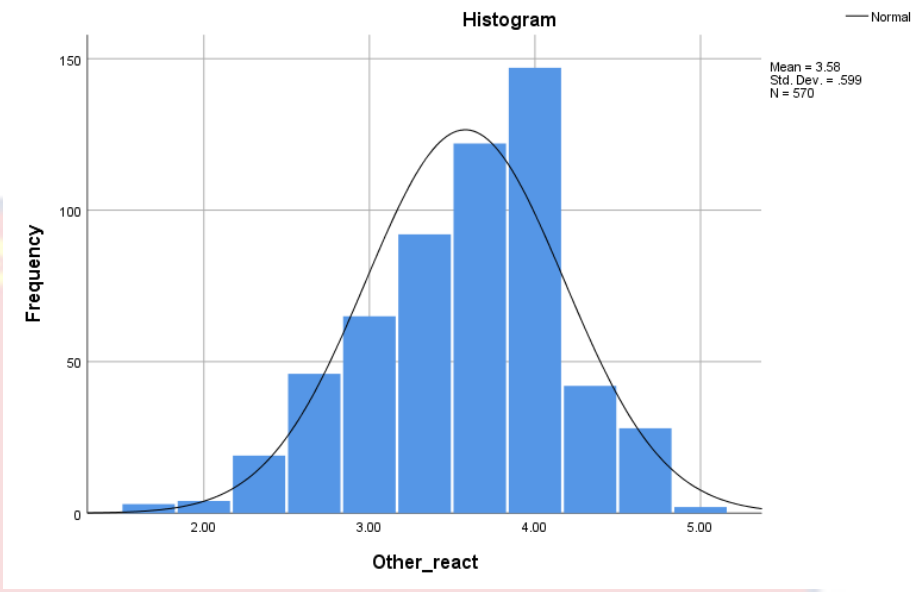


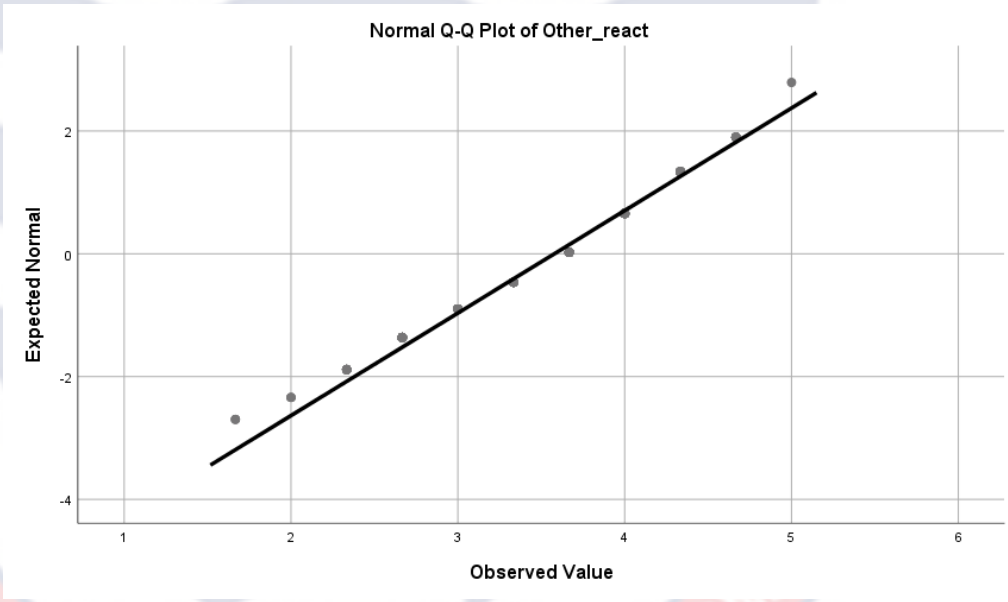












Appendix M: Gender Difference in Criterion used in determining CPD Practices

Assessment criterion		M(%)	F(%)	χ^2	Sig.
Considering the institutions strategic plan, policies, mission, vision and objectives	A	132(32.4)	56(34.4)	.87	.649
	N	144(35.4)	51(31.3)		
	D	131(32.2)	56(34.4)		
Resources available	A	293(72.0)	116(71.2)	.21	.899
	N	20(4.9)	7(4.3)		
	D	94(23.1)	40(24.5)		
Support system available from the government, institution and individuals	A	295(72.5)	117(71.8)	.05	.987
	N	28(6.9)	11(6.7)		
	D	84(20.6)	35(21.5)		
Training needs of the department	A	163(40.0)	63(38.7)	.35	.846
	N	70(17.2)	26(16.0)		
	D	174(42.8)	74(45.4)		
Training needs of the staff involved (person analysis)	A	220(54.1)	88(54.0)	.07	.960
	N	74(18.2)	31(19.0)		
	D	113(27.8)	44(27.0)		
Lack of knowledge, skills and abilities of tutor	A	205(50.4)	77(47.2)	2.84	.245
	D	90(22.1)	30(18.4)		
	N	112(27.5)	56(34.4)		
Readiness of the tutor	A	209(51.4)	79(48.5)	1.52	.479
	N	74(18.2)	37(22.7)		
	D	124(30.5)	47(48.9)		
Rank of tutor	A	179(44.0)	86(52.8)	4.04	.132
	N	93(22.9)	28(17.2)		
	D	135(33.2)	49(30.1)		
Length of employment of tutor	A	185(45.5)	71(43.6)	1.24	.541
	N	96(23.6)	34(20.9)		
	D	126(31.0)	71(35.6)		
Qualification of tutor	A	197(48.4)	74(45.4)	1.52	.476
	N	89(21.9)	32(19.6)	32(19.6)	
	D	121(29.7)	121(29.7)	57(35.0)	

Type of knowledge, skill and behaviour that need to be emphasised	A	144(35.4)	68(41.7)	2.20	.336
	N	129(31.7)	44(27.0)		
	D	134(32.9)	51(31.3)		

Source: Field survey (2022); *Significant, $p < .05$;

M-Male; F-Female; A – agree; N – neutral; D – disagree

Appendix N: Gender Difference in Learning Mode

Learning mode		M(%)	F(%)	χ^2	Sig.
One-on-one instruction	Yes	240(59.0)	91(55.8)	.47	.512
	No	167(41.0)	72(44.2)		
Discuss topics in small groups	Yes	367(90.2)	158(96.9)	7.3*	007
	No	40(9.8)	5(3.1)		
Watch demonstration and lectures on video, TV or film	Yes	306(75.2)	119(73.0)	.29	.590
	No	101(24.8)	44(27.0)		
Talking to colleagues	Yes	364(89.4)	150(92.0)	.88	.348
	No	43(10.6)	13(8.0)		
Reading articles, books and reports	Yes	313(76.9)	158(96.9)	32.5*	.000
	No	94(23.1)	5(3.1)		
Engaging in small research projects to solve problems	Yes	84(20.6)	44(27.0)	2.70	.100
	No	323(79.4)	119(73.0)		
Watching colleagues (mentors) teach	Yes	377(92.6)	136(83.4)	10.9*	.001
	No	30(7.4)	27(16.6)		
Attending short live college courses	Yes	288(70.8)	108(66.3)	1.11	.291
	No	119(29.2)	55(33.7)		
Attending long live college courses	Yes	143(35.1)	46(33.2)	2.51	.113
	No	264(64.9)	117(71.8		
Engaging in online courses	Yes	197(48.4)	41(25.2)	25.9*	.001
	No	210(51.6)	122(74.8)		
Workshops/Conferences/Seminars	Yes	115(28.3)	34(20.9)	3.3	.074
	No	292(71.7)	129(79.1)		

Source: Field survey (2022); *Significant, $p < .05$; M-Male; F-Female

Appendix O: Gender difference in PD Relevance

Learning mode		M(%)	F(%)	χ^2	Sig.
One-on-one instruction	R	298(73.2)	86(52.8)	22.2*	.000
	NR	109(26.8)	77(47.2)		
Discuss topics in small groups	R	344(84.5)	132(81.0)	1.1	.304
	NR	63(15.5)	31(19.0)		
Watch demonstration and lectures on video, TV or film	R	232(57.0)	63(38.7)	15.7*	.000
	NR	175(43.0	100(61.3)		
Talking to colleagues	R	317(77.9)	117(71.8)	2.4	.129
	NR	90(22.1)	46(28.2)		
Reading articles, books and reports	R	306(75.2)	118(72.4)	.48	.490
	NR	101(24.8)	45(27.6)		
Engaging in small research projects to solve problems	R	330(81.1)	125(76.7)	1.4	.238
	NR	77(18.9)	38(23.3)		
Watching colleagues (mentors) teach	R	325(79.9)	133(81.6)	.22	.636
	NR	82(20.1)	30(18.4)		
Listening to lectures/Talks	R	184(45.2)	56(34.4)	5.6*	.018
	NR	223(54.8)	107(65.6)		
Engaging in online courses	R	161(39.6)	56(34.4)	1.3	.248
	NR	246(60.4)	107(65.6)		
Workshops/Conferences/Seminars	R	266(65.4)	83(50.9)	10.2*	.001
	NR	141(34.6)	80(49.1)		
Attending short live college courses	R	263(64.6)	79(48.5)	12.7*	.000
	NR	144(35.4)	84(51.5)		
Attending long live college courses	R	195(47.9)	70(42.9)	1.2	.283
	NR	212(52.1)	93(57.1)		
Nominee tutor attending 'training events' and disseminating information afterwards	R	189(46.4)	43(26.4)	19.4*	.000
	NR	218(53.6)	120(73.6)		

Source: Field survey (2022); *Significant, $p < .05$; R-Relevanr; NR-Not Relevant; M-Male; F-Female

Appendix P: Gender Difference in Methods used in Determining CPD Practices

Statement		M(%)	F(%)	χ^2	Sig.
Through reflection of my own practice by evaluating my knowledge and skill gap.	Yes	395(97.1)	154(94.5)	2.17	.141
	No	12(2.9)	9(5.5)		
Through personal development plan of my career progression.	Yes	391(96.1)	158(96.9)	.25	.621
	No	16(3.9)	5(3.1)		
Through discussion with colleagues.	Yes	347(85.3)	112(68.7)	20.3	.000
	No	60(14.7)	51(31.3)		
Through my personal interest in particular CPD.	Yes	315(77.4)	104(63.8)	11.04	.001
	No	92(22.6)	59(36.2)		
Through mandated institutional policy	Yes	380(93.4)	136(83.4)	13.38	.000
	No	27(6.6)	27(9.5)		
Through performance review as indicated by my students' response and feedback.	Yes	81(19.9)	39(21.1)	1.13	.287
	No	326(80.1)	124(76.1)		
Through interview used by the College	Yes	69(17.0)	27(16.6)	1.20	.357
	No	338(83.0)	136(81.4)		
Through questionnaire used by the College	Yes	57(14.0)	15(9.0)	1.34	.497
	No	350(86.0)	148(88.6)		

Source: Field survey (2022); *Significant, $p < .05$; M-Male; F-Female

Appendix Q: Summary Statistic of Preliminary Analysis to Hypothesis 1

	On-the-job	Off-the-job	PVA	PK	PP
Mean	2.54	2.25	2.88	3.04	3.14
SD	0.46	0.46	0.46	0.56	0.81
Skewness	0.63	-0.60	-0.35	1.0	-0.17
Kurtosis	-0.01	1.00	0.29	1.15	-0.93

Source: Field survey (2022)
On-the-job = On-the-job engagement
Off-the-job = Off-the-job engagement
PVA = Effectiveness in Professional Values and Attitude
PK = Effectiveness in Professional Knowledge

Correlation Coefficients among On-the-job and Off-the-job Training and Tutor Effectiveness

Variable	1	2	3	4	5
On-the-job	1				
Off-the-job	.422**	1			
PVA	-.401**	-.307**	1		
PK	-.260**	-.302**	.329**	1	
PP	.022	.110**	.031	-.005	1

Source: Field survey (2022); **Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).
On-the-job = On-the-job engagement
Off-the-job = Off-the-job engagement
PVA = Effectiveness in Professional Values and Attitude
PK = Effectiveness in Professional Knowledge
PP = Effectiveness in Professional Practice

Appendix R: Summary statistic of preliminary analysis to hypothesis 2

	PVA	PK	PP	Rn-ONTJ	Rn-OFTJ	Sup. & Recg.
Mean	2.88	3.04	3.14	2.95	3.20	3.56
SD	0.46	0.56	0.81	0.40	0.46	0.60
Skewness	-0.35	-1.0	-0.17	-.06	-.38	-.42
Kurtosis	0.29	1.15	-0.93	.40	.007	-.04

Source: Field survey (2022)

PVA = Effectiveness in Professional Values and Attitude
PK = Effectiveness in Professional Knowledge
PP = Effectiveness in Professional Practice
Rn-ONTJ = Reaction to on-the-job training
Rn-OFTJ = Reaction to off-the-job training
Sup. & Recg. = Support and recognition of CPD

Correlation Coefficients among Reaction to ONTJB and OFTJB Training and Tutor Effectiveness

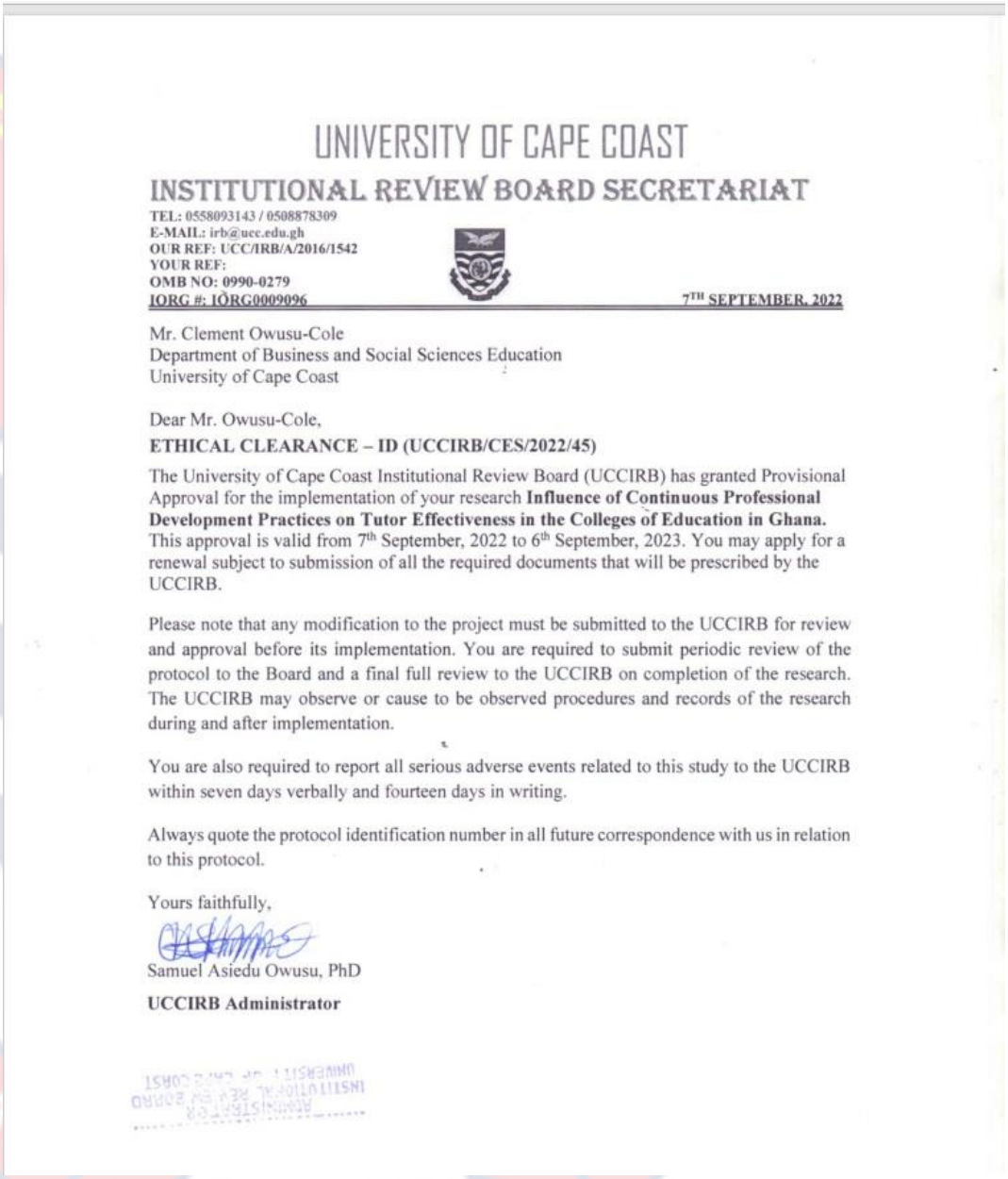
Variable	1	2	3	4	5	6
PVA	1					
PK	.329**	1				
PP	.031	-.005	1			
React-ONTJ	-.104*	-.033	.002	1		
React-OFTJ	-.414**	-.168**	.029	.071	1	
Support & recognition	.000	-.031	-.049	.060	.035	1

Source: Field survey (2022); **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed).

Note:
PVA = Effectiveness in Professional Values and Attitude
PK = Effectiveness in Professional Knowledge
PP = Effectiveness in Professional Practice
React-ONTJ = Reaction to on-the-job training

React-OFTJ = Reaction to off-the-job training

Appendix S: Ethical clearance from the Institutional Review Board, UCC



UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309
E-MAIL: irb@ucc.edu.gh
OUR REF: UCC/IRB/A/2016/1542
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0009096

7TH SEPTEMBER, 2022

Mr. Clement Owusu-Cole
Department of Business and Social Sciences Education
University of Cape Coast

Dear Mr. Owusu-Cole,

ETHICAL CLEARANCE – ID (UCCIRB/CES/2022/45)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your research **Influence of Continuous Professional Development Practices on Tutor Effectiveness in the Colleges of Education in Ghana.** This approval is valid from 7th September, 2022 to 6th September, 2023. You may apply for a renewal subject to submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

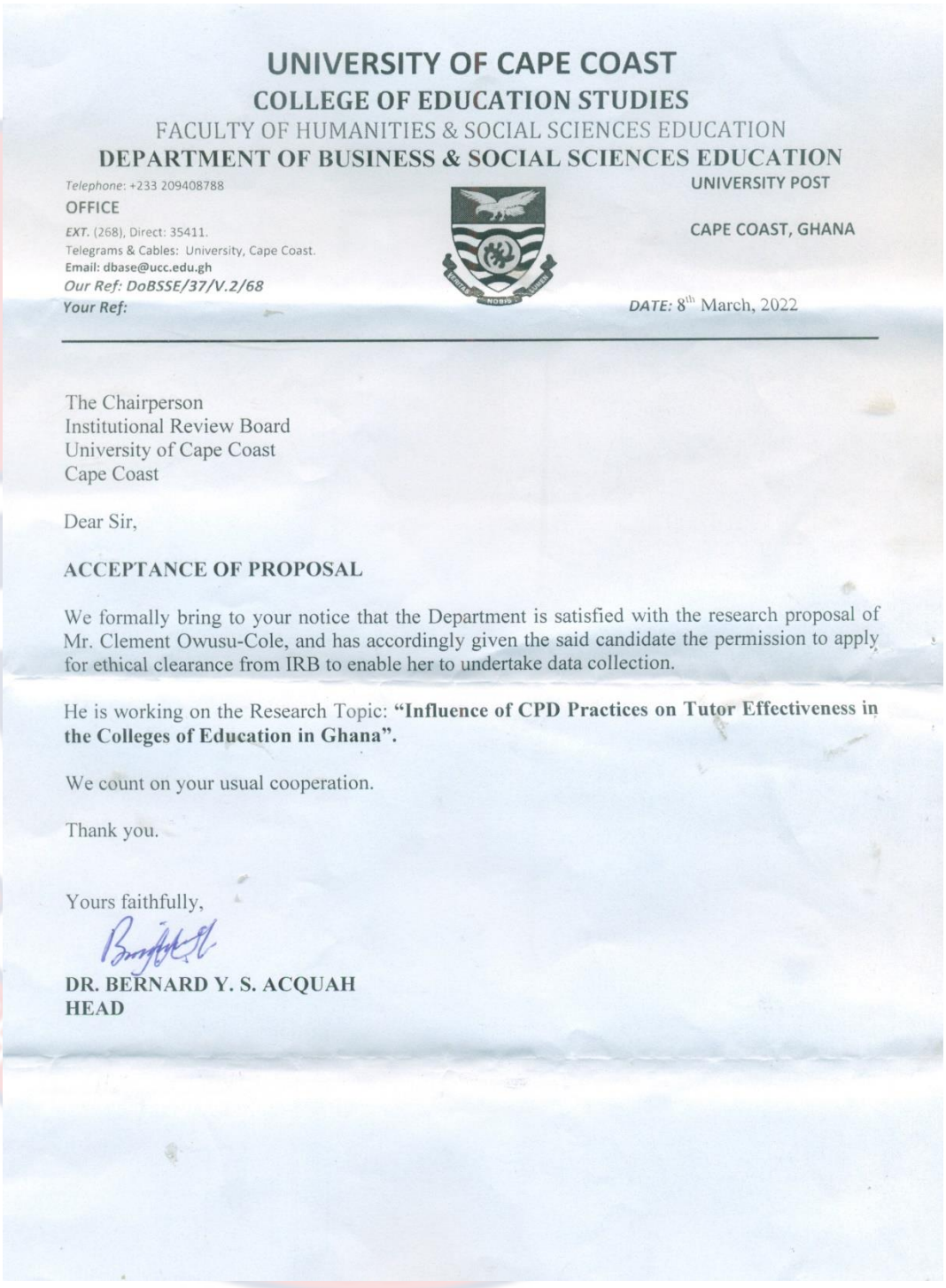
Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Samuel Asiedu Owusu, PhD

UCCIRB Administrator

Appendix T: Department's Consent Letter



UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF HUMANITIES & SOCIAL SCIENCES EDUCATION
DEPARTMENT OF BUSINESS & SOCIAL SCIENCES EDUCATION

Telephone: +233 209408788
OFFICE
EXT. (268), Direct: 35411.
Telegrams & Cables: University, Cape Coast.
Email: dbase@ucc.edu.gh
Our Ref: DoBSSE/37/V.2/68
Your Ref:

UNIVERSITY POST
CAPE COAST, GHANA

DATE: 8th March, 2022

The Chairperson
Institutional Review Board
University of Cape Coast
Cape Coast

Dear Sir,

ACCEPTANCE OF PROPOSAL

We formally bring to your notice that the Department is satisfied with the research proposal of Mr. Clement Owusu-Cole, and has accordingly given the said candidate the permission to apply for ethical clearance from IRB to enable her to undertake data collection.

He is working on the Research Topic: **"Influence of CPD Practices on Tutor Effectiveness in the Colleges of Education in Ghana".**

We count on your usual cooperation.

Thank you.

Yours faithfully,

DR. BERNARD Y. S. ACQUAH
HEAD

Appendix U: Supervisors's Consent Letter

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF HUMANITIES & SOCIAL SCIENCES EDUCATION
DEPARTMENT OF BUSINESS & SOCIAL SCIENCES EDUCATION

Telephone: 0209408788
EXT. (268), Direct: 35411.
Telegrams & Cables: University, Cape Coast.
Email: dbsse@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: DoBSSE/17/V.3/
Your Ref:

DATE: 8th March, 2022

The Chairperson

Institutional Review Board

University of Cape Coast

Cape Coast

Dear Sir,

LETTER OF CONSENT

As a supervisor, I write to formally inform you that I have given my consent for Mr. Clement Owusu-Cole to apply for ethical clearance from IRB to enable him undertake data collection for Ph.D. Thesis titled **"Influence of CPD Practices on Tutor Effectiveness in the Colleges of Education in Ghana."**

As such, I would be glad if you would assist him in every necessary way to enable him collect the needed data for his work.

I am counting on your usual cooperation.

Thank You.

Yours faithfully,

Rev. Prof. Seth Asare-Danso

(Principal Supervisor)

Appendix V: CPD Models

Training model

Literature indicates that this is the most prevalent model of CPD used for teachers (Little, Kelly and McDiarmid as cited in Kennedy, 2005) and useful in situation where teachers need to be re-educated due to change in corporate culture resulting from policy change (Hoban, 2002). The model assumes that the acquisition of new knowledge and skills is sufficient to enhance job performance and effectiveness (Kuo, Walker, & Belland, 2013). They include specific activities such as workshops, short-courses and themed lectures, usually occurring in standard teaching environments, and delivered by experts in the topic. The model adheres to national standards thereby leaving little space in addressing specific gaps in classroom practices as well as teachers' own developmental needs. Standardisation, though can be linked to improvements in teaching and students learning outcomes, it stifles teachers' creativity. Studies have shown other limitations such as: emphasis on skills and content, rather than instilling meaningful change in values, understanding and reflection; dealing with subjects only narrowly and superficially; 'expert' delivering determine the agenda with the participant mostly placed in a passive role; and teaching content that is irrelevant to classroom practice that leads to lack of sustainability and transferability of learning to the workplace (Kuo et al., 2013; Kennedy, 2005). Despite its drawbacks, King (2014) is of the opinion that the model is noted for its fairly quick implementation. It is evident from the discussion that this model does not lend itself to professional autonomy and transformational practice that defies the adult learning theory. It is

therefore deficient in producing the anticipated results to a large extent. However, developments in the CoEs since 2017 indicate that tutors have experienced this model through workshops organised by T-TEL, NCTE and IoE due to reforms resulting from the tertiarisation process. What is unknown is their suitability in improving tutor effectiveness. My study therefore seeks to ascertain the the sutability or otherwise of this PD practices in the CoEs.

Award-bearing model

The award-bearing model operates just like the training model with differences experienced in its administration, performance and assessment. It involves the attainment of a formal qualification or certification upon successful completion of a CPD programme. The awards of certificates are not automatic but contingent upon successful completion of defined curriculum that acknowledges proper assessments. This model is increasingly popular in many institutions globally, particularly in professional courses that require accreditation or certification especially in the fields of education and healthcare (Cope, Bezemer & Kyratsis, 2017). The model is most recognisable in the CoEs in Ghana in recent years due to the change in institutional corporate culture resulting from government policy reforms with special programmes designed to enable tutors acquire new knowledge, skills, and competencies to enhance their teaching and research activities (NCTE, 2019).

The model has programmes including regular live university courses, on-line courses, sandwich and distance courses that are usually validated by the award-bearing universities but not exclusive to these providing institutions alone. As noted

by Cope et al. (2017), award-bearing PD practices have been found to be effective in enhancing the skills and knowledge of practitioners in various fields but the PD programme could be enhanced by external validation from the quality assurance units of sponsoring institutions. This is largely seen as a control mechanism to ensure value for money. Perhaps, a common critique is the gap between academic theory and practical needs due to it overly indulgence in intellectual theories. However, Solomon and Tresman (1999) provides a remedy when they advocate for award-bearing courses to focus on classroom practice, often at the expense of issues of values and beliefs. Obviously, if these are achieved, the use of the award-bearing model of CPD in the CoEs in Ghana could enhance the performance of tutors and improve the quality of education in the country.

Deficit model

The 'deficit model' is a term used in CPD to describe an approach that focuses on the weaknesses or gaps in the knowledge, skills, or attitudes of educators, rather than building on their strengths (Mansell, 2013). The deficit model is a prevalent approach to CPD in many institutions, including the CoEs in Ghana used to identify and address skill gaps in their workforce, assuming that employees are deficient in certain areas and need to be fixed through training, workshops, and other PD activities (Day & Sachs, 2004; Dowling, 2010; Spearritt, 2018). Rhodes and Beneicke (2003) point out that perceived teacher failure to demonstrate the desired competence has multi-facet dimensions including organisational and management practices. A situation that cannot be addressed using only CPD but an analyses of the entire environment within which teachers operate. Really, to accuse

individual teachers and view CPD as a resort of remedying individual weaknesses is a narrow perspective of the model whereby collective responsibility is not considered. This invariably has led to the growing recognition of the need for more strengths-based approaches to CPD that build on the existing knowledge and skills of educators (Hargreaves & Fullan, 2012). Thus, if teachers feel that PD practices are focused on their weaknesses rather than building on their strengths, they may be demotivated and disengaged, leading to a lack of effectiveness.

Cascade model

The cascade model is a common approach to professional development that involves training a select group of individuals, who then go on to train others in the institution (Munro, 2018). From it orientation, this model is useful when managers want to be economical due to scarce resources; and wishes to build competences like collaboration and ownership that characterise individuals who participate in training (Kennedy, 2005). Arguably, it neglects a range of learning context within which knowledge is gained and used (Eraut, 1994). Thus, Solomon and Tresman (1999) argue that this model only supports a technical view of teaching, where skills and knowledge are given priority over attitudes and values. Acquisition of knowledge and skills however, only answers the questions of 'what' and 'how' which are inadequate for teachers to compete and remain relevant in the current technological and dynamic society. There is therefore the need for a change in orientation from the questions of "what" and "how" to the question of "why" in PD sessions (Nieto, 2003). There is also the tendency of the original content being diluted or misinterpreted. Contrary to the several identified deficits inherent in this

model, it is still popular in Ghana and the CoEs. For instance, the Ministry of Education has used the model to train teachers on new pedagogies and technologies (Amankwah, 2020) and train teachers on the new curriculum (Ghana Education Service, 2019). A few studies (Fobi, Adzahlie-Mensah, & Attikrah 2017; Amankwah, Boateng & Asamoah, 2019; Jang, 2019) equally highlight the potential effectiveness of the cascade model in delivering CPD programmes to tutors in the CoEs where a group of tutors from some CoE were trained by external experts and then acted as trainers for the other tutors in their respective CoEs. This study therefore seeks to ascertain the frequency and relevance of this model in the CoEs.

Coaching/mentoring Model

The defining feature of this model is the one-on-one engagement between two professionals where there is usually a difference or similarity in hierarchical status and expertise between the two parties. It involves pairing experienced mentors or coaches with less experienced individuals to provide guidance, support, and feedback, with the aim of improving their skills and effectiveness in the workplace. Coaching tends to focus on skills and strategies whereas mentoring involves interpersonal qualities including counselling, professional friendship and guidance on values and ethics. Mentoring provides broader support in terms of personalised development and growth. However, it can be time and work intensive, and may require training and special interpersonal skills by mentors. This model is economical as it can take place within the school context and can be enhanced by ensuring an anxiety free environment to allow for an open dialogue between the mentor and the mentee. Depending on the type of relationship that is established

between the two parties, KSA's could be transmissive or transformational (Robbins as cited in Rhodes & Beneicke, 2002). There is a transmission view of PD practices from the more experienced professional to the less experienced professional making the relationship a one-way linear direction. In contrast, there is a transformational view of PD practices when there is equitable relationship between the two professionals which allows for a mutually beneficial relationship. This equity undoubtedly, provides a supportive but challenging interrogation of practice in a less antagonistic and hostile environment. Underpinning the success of this model, is the quality of the interpersonal relationship (Rhodes & Beneicke, 2003) and the recognition of confidentiality as opposed to accountability (Robbins as cited in Rhodes & Beneicke, 2002). Research has shown that coaching and mentoring can have a positive impact on CPD effectiveness in the education sector (Villar & Strong, 2010; Muijs, Kyriakides, Van der Werf, Creemers, Timperley & Earl, 2014). Ofori-Dankwa & Adu, 2017 for example, describe a mentoring program in a Ghanaian CoE that aimed to support newly qualified teachers to enhance their teaching skills.

Communities of practice model

A community of practice (CoP) is defined as "a group of individuals who share a common interest in a particular domain and engage in shared activities and discussions to learn and develop their understanding of that domain" (Wenger, 1998). Kennedy (2015) re-labeled this model as 'Professional Learning Communities (PLC) to reflect a more explicit emphasis on learning as opposed to a simple practice. The CoP/PLC model shares with the mentoring element a focus

on collaboration. However, in the PLC model the element works in a many-to-many mode, often across peers and colleagues, including activities of shared learning, group discussions, networking events and joint exercises. Hence, the model is described as 'bottom-across, rather than top-down' as evident in the 'training model' and the 'award-bearing model'. The model has been shown to be effective in promoting collaboration, sharing of best practices and peer support among the faculty members; supportive learning environment; and a powerful means of facilitating teacher learning and development in terms of content and pedagogical knowledge (Wenger, 2000; Garet, Porter, Desimone, Birman & Yoon, 2001; Sherry & Gibson, 2002; Rudolph, Etkina & Gentile, 2016; Baumgartner, Eichhorn, & Gläser-Zikuda, 2017; Perez-Ferra, Martín-Pascual & Pardo-del-Val, 2018; Asante-Darko & Amoako, 2020). Wenger argues that achieving these, require that CoP take place within a context that is neither a form of accountability nor performance management. Thus, CoP must create entirely new knowledge and skills by virtue of its collaborative nature, unlike coaching/mentoring model that predominantly involves the transmission of knowledge. CoP is characterised by weaknesses such as: difficulty to assess and demonstrate accountability for lack of proper evaluative system; model occurring in an inefficient and fragmented way; and, requiring support mechanisms (including technology) that can be challenging to set up and maintain especially in the CoEs that are technologically ill-equipped and under resourced. Not much evidence exist for the frequency and suitability of CoP in the CoEs. However, through a routine weekly PD sessions in the CoEs since 2017 institutionalised by the NCTE through the support of TTEL, CoP is sparingly being

used and their suitability to tutor effectiveness is of utmost importance to stakeholders.

Professional inquiry (PI) model

The PI model has equally undergone modification just as the CoP model. (Kennedy 2015). It metamorphosed from the original 'Action Research model' to 'Individual Research and Reflection Model' and now 'Professional Inquiry (PI) model. PI focuses on reflective practice and encourages professionals to engage in critical thinking, questioning, and exploration to improve their practice. It includes reading relevant articles, reflecting on ethical decision-making, and devising new strategies for improvement. These efforts are self-initiated devoid of any form of coercion with results documented in writing such as position papers and published articles, to validate their authenticity and demonstrate their value to other professionals in the field. Proponents of this model (Weiner, 2002; Burbank & Kauchak, 2003) suggest that it has a greater impact on practice and can be made more efficient when merged with the PLC as one model (collaborative professional inquiry). Kennedy contends that, this model is convenient as it allows teachers to take ownership of their own work and focus on areas of interest and importance to them. It also ensures the practice is transformative in nature and provides professional autonomy. It however, records some drawbacks like isolation, difficulty of ensuring accountability and demonstrating improved results. But collaboration in PLC prevents the issue of isolation. Similarly, peer review and scrutiny from other professionals as has been the practice in publications, helps to relatively curtail the problem of accountability. PLC and PI was not a tradition in

the CoEs prior to their conversion into tertiary public university colleges in 2018. It was a relatively new phase and daunting PD activity due to some defining characteristics. However, literature shows that it has the potential to help tutors identify areas of focus for their CPD, gather evidence to inform their practice, and evaluate the impact of their actions (Ní Chróinín, O'Mahony & Dennehy, 2017; Wells, Boohan, Elliott & McCartney, 2019; Oduro & Afari, 2019).

Standard-based model (SBM)

In this model, PD is designed to align with established standards, which serve as benchmarks for professional growth and development (Darling-Hammond, Hyler & Gardner, 2017). The underpinning objective of the SBM is therefore to create a scientific system on which PD practices must proceed in improving teacher effectiveness. Invariably, this model undermines teaching as a complex enterprise that is context specific and influenced by factors such as experience, politics and moral behaviour (Beyer, 2002). The model is seen as an affront to creativity due to the external standards; compromises quality assurance and accountability from institutions that require critical inquiry; and also considers participants as blank slates who must be told 'what ought' and 'what is' to be done at all times (Smyth, 1991; Beyer, 2002; Smith, 2014); Smyth and Smith observations suggest that the model narrows teaching to only a concept of 'science' and not an 'art'. Despite the shortcomings, Bailey and Sorensen (2013) argue for the model's relevance based on its ability to empower professionals to compete globally through improved international status. That is to say, the standards provide a common platform that ensures teachers engage in discussions about their professional practice with ease.

The orientation of the SBM from the discussion suggest that the model is not necessarily independent in itself but could be part of the embedded process in the training, award-bearing, cascading and the deficit models. Meanwhile, a study by Mwinlaaru and Asof (2021) show that the model has also been used as a technique in tutor CPD in the CoEs eventhough its frequency and suitability are unknown.

Transformative model

The transformative model of PD focuses on empowering individuals to critically reflect on their practice and make changes to improve student learning outcomes (Guskey, 2002). The model emphasises the need for teachers to engage in ongoing learning and development that leads to changes in their beliefs, attitudes, and practices. Kennedy (2005) indicates that a fundamental feature of the 'transformative model' of CPD is the effective integration of varying practices and conditions drawn from the range of models. In this sense, it could be argued that the transformative model is also not a clearly definable model in itself but rather a combination of range of experiences and contextual factors required for transformative agenda. Kennedy therefore reviewed the models in 2015 and completely removed this model thereby reducing the model to eight. In the context of the current social and educational environment in the CoEs in Ghana, the remaining eight models could further be condensed into six (training model, award-bearing model, cascading model, deficit model, coaching/mentoring model, collaborative professional inquiry model (CPI). Thus, CoP and PI could be merged as collaborative professional inquiry and place under the transformative model.

Literature shows the uniqueness of the transformative model in teacher PD (Akyeampong, Lussier, Pryor & Westbrook, 2007; Timperley, Wilson, Barrar & Fung, 2007; Bartholomew & Houle, 2016) and particularly important in the CoEs in Ghana, where the quality of teacher education is a key concern. By using the transformative model, tutors can engage in critical reflection and collaborative learning activities that enhance their professional growth and improve their effectiveness in the classroom. Table 1 shows a summary of the spectrum of CPD models after review that position the various models within the current state of literature.

Spectrum of CPD Models

Purpose of Model	**Examples of models of CPD which may fit within this category**
Transmissive	Training models Deficit models Cascade model
Malleable	Award-bearing models Coaching/mentoring models
Transformative	Collaborative professional inquiry models

Source: Adapted from Kennedy (2015);

Key: Increasing capacity for professional autonomy and teacher from the transmissive to the transformative model

The ‘award-bearing model’ was originally placed in the transmissive category owing to the context and environment in which much award-bearing CPD was being promoted at the time of writing, particularly in Scotland. Bailey and Sorensen argued that the ‘award-bearing model’ would be more accurately placed

in the 'malleable' category, illustrating its responsiveness to contingent factors such as who pays and the motivation for study. The spectrum does not suggests that all CPD experiences must be transformative in nature, but rather should have transformative purpose while still acknowledging that some KSAs can be best acquired through transmissive approaches. This spectrum is significant to my study as it provides a conceptual framework for the analysis and discussion of the various elements of activities being used by the CoEs in the professional development of tutors.