EFFECTS OF CONTINUOUS PROFESSIONAL DEVELOPMENT ON TEACHERS' JOB PERFORMANCE IN PUBLIC PRIMARY SCHOOLS NAKURU NORTH SUB COUNTY, KENYA

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MDS/NKR/4888/15

A Dissertation Submitted to the Faculty of Social Sciences, in Partial Fulfilment of the Requirements for the Award of Master of Development Studies, of St. Paul's University Kenya

August, 2018

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August, 2018

DECLARATION

This is entirely my original work and has not been presented for the award of a degree in this or any other university. I agree that this dissertation may be available for reference and photocopying at the discretion of the University.

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APPROVAL

This research dissertation has been presented for examination purposes with our approval as the university supervisors.

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DEDICATION

This dissertation is dedicated to my daughter Joy. She gave me a humble time during my study. This is due to her understanding, patience and prayers. It is my wish that she follows my footsteps and develops interest in her education. May God protect and guide her always.

ACKNOWLEDGMENT

This dissertational was a success with the guidance of my supervisors Dr. Paul Gesimba from the Department of Business and Communication and Dr. Peter Koome from the Department of Social Sciences, St. Paul's University, Nakuru Campus who offered important guidance during supervision. My gratitude also goes to my colleagues who have continually offered me their support in this process and the respondents who sacrificed their time in order to take part in filling the questionnaires for my study. I thank the school administration in the schools I collected the data for their support and all government offices for their cooperation. I cannot forget my family too for their support. God bless you all.

I thank the Kenya government for the effort of making education affordable to the Kenyans. I also appreciate the founder members of St.Paul's university it has offered education to me and other people from all over the world. And many more are to benefit from the institution for many years. I thank the post Graduate Studies and the entire faculty for their effort and commitments towards our success in education. Thanks for the valuable guidance and useful feedback on my dissertation presentation.

I express my appreciation to my family and church members for their contribution in any way and prayers which they offered to me. They have been there for me throughout my course. All those who offer me anything during my studies I say, Thanks for everythingincluding the time spent to encourage me. God bless you always.

ABSTRACT

Continuous professional development is an educational improvement, in order to gain skills and knowledge. It can be attained through in-service courses, workshops, seminarsand non-formal learning opportunities. It provides teachers with knowledge to use during teaching/learning activities, apply new technology and proper use of teaching/ learning resources well in classroom. The purpose of this study is to find out the effects of continuous professional development on teachers' job performance in public primary schools in Nakuru North Sub County, Nakuru County. The study was carried in 22 public primary schools in the sub county among the 22 head teachers and 170 school teachers, specifically the effect of training on pedagogical content knowledge on teachers' performance, established the effect of teaching strategy choice on teachers' performance, findout the effect of teachers' self-efficacy on teachers' performance; determined the effect of teachers' mastery of subject matter on teachers' performance in schools within Nakuru North Sub-County. The study was based on Campbell's theory of performance and social cognitive theory. A sample of 8 head teachers and 51 public primary school teachers was used. The sample for the head teachers was selected using purposive sampling technique while that of the teachers was selected using simple random sampling technique. Data for the study was collected using questionnaires for teachers and interview schedules for head teachers respectively. Prior to use, the questionnaires were subjected to validity checks and reliability tests. Data collected was analysed using descriptive statistics (frequencies, means and percentages.)Pearson moment correlation (r) was used to establish the relationship between the variables. The study established that training on pedagogical content knowledge, teaching strategy choice, teachers' self-efficacy and teachers' mastery of subject matter had a positive effect on teachers' performance in schools within Nakuru North Sub-County. There was a negative Pearson correlation between Training on Pedagogical Content Knowledge and Teachers' Performance ($r = -0.37$, $p = 0.802$); and a positive Pearson correlation between teachers' self-efficacy and teachers' performance ($r = 0.117$, $p = 0.427$); and teachers' mastery of subject matter and teachers' performance ($r = 0.213$, $p = 0.147$). The findings of the study may be significant to the Ministry of Education, Quality assurance officers and Primary school teachers.

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LIST OF ABBREVIATIONS AND ACRONYMS

APHRC - African Population and Health Research Centre

CK - Content Knowledge

CPD - Continuous Professional Development

IQMS - Integrated Quality Management System

KCS - Knowledge of Contents and Students

KNEC - Kenya National Examinations Council

NCATE - National Council for Accreditation of Teacher Education report

PBL - Problem-Based Learning

PCK - Pedagogical Content Knowledge

CPD - Continuous Professional Development

TALIS - Teaching and Learning International Survey

TIMSS - Trends in International Math and Science Study

TSE - Teacher Self-Efficacy

TTL - Traditional Teaching and Learning

MOE- Ministry of Education

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Continuous professional development is an educational improvement, in order to gain skill and knowledge. It can be attained through in service courses, learning workshops, seminars and non-formal learning opportunities. It provides teachers with knowledge during teaching/learning activities; most teachers are able to change their methods of teaching, use of new technology and proper use of teaching/learning resources through the gained potential. They improve with the changing world and improving their skills through systematic process in order to bring change in school, to produce good future citizens to manage various organizations in the country. They also achieve their goals for better results and good performance in the National Examination, as well as future career development. The key premise of organizational development is that schools are social systems that keep on changing (Oldenburg &Glanz, 2008, (Reference for Business, 2016, Toolpack Consulting, 2015).

In the world today there is a demand for teachers who are effective, dynamic and effective in the field of education. The content of problem solving, collaboration and mastery of facing challenges in the field of education is a requirement for the development of effective communication among learners. (Darling-Hammond et al, 2017). Effective Continuous professional development (CPD) is a chief determinant of teachers' learning and refining the pedagogies required in the teaching skills. This means that schools should focus much on enhancing teacher quality for this will in turn influence the teacher performance. In this study teachers' performance is measured through effectiveness and efficiency of service delivery with outputs such learner performance in examinations. However, studies on these aspects are scanty in developing countries (Metzler and Woessmann, 2012). Two main ways of teaching quality improvement for primary school learners in developing countries include improving

incentives for teachers (Loyalka*et al.,* 2015) and teacher continuous professional development (CPD) programs (Vegas, 2007). The key premise of organizational development is that schools are social systems that keep on changing (Oldenburg & Glanz, 2008).

In education, research has shown that teachers' performance is one of the determining factors on pupils' achievement in education. (Mizell, 2010). Darling-Hammond *et al*. (2017) define effective continuous professional development as structured professional learning that yields positive changes in teacher practices and improvements in pupils' learning outcomes. The researchers posit that effective continuous professional development brings most of the changes in teachers performance that are content focused, and these include: active learning, provides coaching and expert support, supports collaboration, uses models of effective practice, offers feedback and the effect is sustainable for a long duration of time.

Past studies have demonstrated that CPD of teachers is the foundation of a qualitative and effective teaching. This is due to the fact that, through CPD, educators are empowered with the skills and knowledge for quality service delivery. Among the countries that have invested heavily in CPD programs are China, Chile, and India, whose investment towards these programs is in billions of their currencies. A survey by OECD conducted in 11 countries, the country with the lowest percentage is South Korea which is (under 30%) where the Korea government funds for the program fully or those who can undertake the program during school time (OECD, 2011). In Finland teachers' CPD is mainly funded by the government and it forms part of the school timetable to enable most teachers to be involved in continuous professional development without affecting the school calendar. In Africa studies in Nigeria (Fareo, 2013) and in Zambia (Mubiana, 2011) and the Universal Primary Education Development Program UPEDP in Tanzania (Nkumbi, 2008) demonstrate that CPD has a positive impact on teachers' performance.

The focus of escalating the information and efficiency of teachers within a school there is needed to focus on continuous professional development, at the core of development. For professionals, one must be ready to deal with increasingly complex social, economic and

environmental issues (Martin and Hall 2002). All teachers need to engage in continuous professional development in order to deliver the light content to pupils in their schools.

School teachers need to undertake Continuous professional development to enable them to adapt to the ever-changing world and the new innovations in technology, and the increasingly diverse backgrounds of their pupils, communal and ethnic backgrounds (Field, et al 2007). There is a need to evaluate CPD to justify decisions according to School management and funding agencies. The dimensions of CPD outcome include teachers' pedagogical knowledge and content knowledge, teachers' self-efficacy in teaching their subject, the frequency of specific behaviours in the classroom and in teaching and learning activities and pupils' attainment outcomes in enhancing teacher performance (Field *et al.*, 2007).

Continuous Professional development for teachers includes practices such as attending workshops, seminars, professional meetings, formal experience, reading professional publications, mentoring, as well as viewing informative television documentaries with useful academic discipline messages (Ganser, 2000). The Teaching and Learning International Survey (TALIS) carried out in twenty-three in three countries identified characteristics of CPD for teachers, in teaching that can be positively influenced through CPD for teachers to improve their performance in school. These were teaching strategy choice, pedagogical content knowledge, either direct or constructivist or, in an ideal world, a suitable mixture of the two and teachers' self-efficacy (Hendriks*et al*, 2010).

According to Bunyi et al (2013), content knowledge involves the subject matter to be taught and pedagogic content knowledge (PCK) involves engaging with pupils and managing a classroom. (PCK) is about knowledge on representing and formulation of the subject matter, in Bunyi's case of mathematics and early reading, which make it understandable to learners.

According to Arong and Ogbadu (2010), teachers' PCK and classroom practice as an impediment to pupils learning and achievement. The problem can be solved by CPD, through the school head teachers who can be the major source of reliance and support for teachers in a learning process and instructional development in order to improve teachers' performance in school. As such, it would be fitting to look into how the role of the

Headteacher in assisting teachers on CPD to improve their classroom performance, and the school administration can organize how teachers can be attending various CPD and provide financial support for teachers in order to motivate them. The continuous professional development also includes aspects that boost teachers' self-efficacy for it is reported to be effective in teachers' performance and a useful ingredient for teacher teaching. Self-efficacy refers to an individual's belief about his / her proficiencies, which in this regard are greatly linked to the perception of performance that can positively or negatively affect educational outcomes (Bandura, 1994). More specifically, teacher self-efficacy concerns the teacher's desire to improve his / her pupils' knowledge (Ruble, et.al 2011) Usher &McGre, 2011).

In Kenya, the government introduced (FPE) program, which had an impact on the education system since most teachers had not been trained on how to handle a large class. Following this, an enrolment increase of over one million pupils or by 17.6 percent was reported across public primary schools in the country (Ministry of Education, 2008). These enrolments were immediately followed by high dropout, due to the poor quality of education provided by the teachers. It was done to attain the second Education for All goal of basic education by 2015 and is keen on ensuring the quality of education provided it was not raised, so as teachers could have been trained before a large number of enrolment.

There are worrying trends on teachers' performance as demonstrated by unsteady performance in national examinations. A study was carried out by UWEZO (2010) to address the concern as to whether children were learning under the new arrangement. The study assessed pupils within the age group of six to sixteen years in reading and mathematics at their homes. The survey revealed that almost half of the Standard four learners did not have the ability to read class two text books. Most disturbingly, only half of the pupils from Class one up to class eight, registered the desired a higher level of numeracy competency, expected of Standard two learners. In another study by the KNEC involving Standard three pupils, poor learning achievement was reported in numeracy and literacy. The centrality of the teacher in the teaching and learning process is widely acknowledged and the link between low pupil achievement and the skills and

competence of teachers is consistent. This situation brings to test of teachers' performance.

A study by the APHRC (2010) carried looked at primary school teachers in mathematics subject knowledge. The study revealed that primary teachers' performance in delivering / teaching mathematics content to pupils was poor. The researchers recommended the need to strengthen teachers' mathematics subject knowledge (APHRC, 2010). According to a survey done by Uwezo (2010), in Kenya on any given day thirteen out of one hundred teachers are not in school and there is a shortage of four teachers per every public primary school in Kenya leading to high pupil-teacher ratio, and subsequently poor job performance. The absence of teachers from school may be due to lack of motivation and low self-efficacy and this negatively affected children's performance.

In Nakuru County, a study by Mburu (2013) established that limited training resulted in low-performance levels. Mburu suggested that besides good staffing in primary schools, teachers need to be adequately trained to manage the large classroom sizes due to over enrolment as a result of free primary education. A report by the Centre for International Education (CIE) (2018), revealed disturbing in primary teacher education. There is no specialization all teachers have to teach any subject even though it is not a subject he/she has no adequate knowledge, and thus, there is no subject specialization for them.

1.2 Problem Statement

The fact that Kenya has made great headway and practically replaced untrained teachers from the public primary schools cannot be slighted. CPD is in line with Kenya's Vision 2030 and the Sustainable development goal No 4 which emphasizes on inclusive and equitable quality and promotion of lifetime learning opportunities. However, the effect of CPD on teachers' performance is still not well understood. There is documented evidence of learners' performance at all levels in primary school education. According to the KNEC (2010) report, the standardized mean of 300, yet the achievement in reading and numeracy was (297.58) and (295.6) respectively. Uwezo (2010) showed that seven out of ten pupils in class three cannot do class two work and there was poor performance among lower primary school pupils innumeracy. In addition, of much concern is that teacher education policies have failed to focus on ensuring that trainees undertaking the

primary school teacher course acquire the knowledge, pedagogical skills and pedagogical content knowledge that they will need to help lower primary school pupils learn (Bunyi*et al.* 2013). With these in mind, it remains unclear how continuous professional development contributes significantly towards the performance of teachers' performance in public primary schools in county and more specifically in Nakuru North Sub County, considering limited research in the area.

1.3 Broad Objective

The purpose of the study was to find out the effects of continuous professional development on teachers' job performance in public primary schools in Nakuru North Sub County.

1.4 Specific Objectives of the Study

- To determine the effect of training on pedagogical content knowledge on teachers' job performance in schools.
- To establish the effect of teaching strategy choice on teachers' job performance in school.
- To find out the effect of teachers' self-efficacy on teachers' job performance in school.
- To determine the effect of teachers' mastery on subject matter onteachers' job performance in school.

1.5 Research Questions

i. What is the effect of training on pedagogical content knowledge on teachers 'job performance in schools?

ii. What is the effect of teaching strategy choice on teachers' job performance in schools?

iii. What is the effect of teachers' self-efficacy on teachers' job performance in schools?

iv. What is the effect of mastery of subject matter on teachers' job performance in schools?

1.6 Scope of the Study

The study was conducted in public primary schools in Nakuru North Sub County, the targeted population was teachers from public primary schools in Nakuru North Sub County, and they were the Head teachers and teachers. The confine of the study was the effects of continuous professional development on job performance of teachers in public primary schools in Nakuru North Sub County. The teachers' CPD focused on improvement of teaching/learning skill, new methods of teaching and use of new technology of teaching.

1.7 Justification of the Study

The findings of the study may be significant to primary school teachers, Headteachers, ministry of Education and teachers Educators. The study findings may enlighten teachers on how to change their method of teaching by attending, workshops and short courses on continuous professional development. The Head Teacher can organize CPD for his/her teachers in order to improve teachers' teaching/ learning knowledge, thus improving pupils' performance. The findings may also bring to attention the (MOE) and the teacher Educators to start a program to offer teachers' training at a certain time, over the term dates. The research cans form the basis for further research in the area and thus beneficial to academicians, researchers and students interested in the study area. It would add to the existing body of literature on Effects of Continuous Professional Development on teachers' job performance in public primary schools

1.8 Limitations of the Study

The study was limited on the following limitation.

The findings of the study are based on self-reported data which has some built in limitations such as desirability factors, meaning that teachers may have reported what they perceived to be desirable. This wasdelimited by discussing the significance of the study with the respondentsince advance and requesting them to beast sincere as possible. Some of the schools the head teachers were absent for the interview schedule, it was delimited by requesting for another appointment to conduct the interview from the head teacher's office.

1.9 Assumption of the Study

The study was based on the following assumption that, Continuous professional development has enabled teachers to use better instructional methods during teaching/learning activities and teachers have been able to apply the acquired knowledge, skills and methods during teaching/learning in the class.

In the school, there is conducive environment in most schools, due to good relationship between the teacher and the pupils. Most of the teachers are able to teach well due to continuous professional development.

OPERATIONAL DEFINITIONS OF TERMS

Continuous Professional Development: Updating of teachers'

Pedagogical Content Knowledge (PCK): This refers to a form of knowledge exclusive to teachers, basing mainly on the manner in which teachers relate their instructive knowledge (that is what the teachers know about teaching) to their subject matter knowledge (what the teachers know about what they teach)

Professional development: Refers to the art of acquiring knowledge to sustain specialized certified documentations such as academic certificates, diplomas or degrees to formal coursework, as well as conferences and informal learning opportunities situated in practice**.**

Subject Matter: Refers to what something, (course, topic or lesson) is about.

Teachers' Self-Efficacy: Teachers' confidence in own ability to perform a job or undertaking despite facing myriad of challenges

Teacher Performance: Refers to how the teachers respond to duty in terms of punctuality in attending lessons, giving and marking assignments, syllabus coverage, preparation of professional documents, supervising school activities and being regular in schools.

Teaching/Learning Strategies: This refers to the different methods / approaches of teaching and learning used in primary schools.

Teaching strategies: This refers to approaches employed by teachers in helping pupil learn the desired course contents and enhance their ability in developing achievable goals in the future.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presented a review of concepts and empirical studies touching on teachers' continuous professional development on school performance. The study variables were also conceptualized into a framework. Theories based on professional development are also reviewed. The reviewed literature was summarized and critiqued with an aim of establishing research gaps.

2.2 Theoretical Literature

The theories informing the study included the Campbell's (1990) Theory of Job Performance and Albert Bandura's Social Cognitive Theory of 1977. The theories are explained in this section.

2.2.1 Campbell's (1990) Theory of Job Performance

Since this study seeks puts much emphasis on teachers' job performance, Campbell *et al* (1990)'s theory of job performance guides this study. Campbell, *et al* (1990) suggested that performance in entry-level jobs in the United States of America Army can be measured using five dimensions namely. physical fitness / military bearing, personal discipline, core proficiency, general soldier proficiency and physical fitness. This taxonomy was further later expanded by Campbell, et al. (1993) into a general model of job performance consisting of eight distinct factors for non-job-specific task proficiency, written and oral communication task proficiency, demonstrating effort, personal discipline maintenance, facilitating peer and team performance, supervision / leadership, job-specific task proficiency and management / administration.

As the theorist argues, by making a commitment to the children they teach and by displaying persistence to educating children, teachers demonstrate effort in the classroom by making. Such a commitment is noted when they take seriously roles such as preparation of lessons, adapting to diverse learners and conducting themselves

appropriately within the pupil /teacher relationships. Besides holding themselves accountable individually, teachers hold each other accountable as peers, when they function as a team. In addition, they embrace both the spirit of collectivism and individualism with regard to job-related performance.

The relevance of the theory is construed thus, from the fact that the school management has an obligation of ensuring that teachers' performance is nurtured along with this model. The theory upholds the view that teachers must perform as expected of them and provides a grounding that instructional leaders can influence teachers' job performance by engaging in positive practices along these study variables.

2.2.2 Social Cognitive Theory

This study is informed by the Social Cognitive Theory whose proponent was Albert Bandura in 1977. The theorist argues that the theory refers to employees' judgment of their organization and execution capabilities with regard to courses of action requisite for attaining designated types of performances. The theorists place the self-efficacy construct and the centre of social cognitive theory. Bandura argues that self-efficacy is an important basic element of individual behaviour and attitudes in the work environment (Harrison *et al.,* 1997). Wood and Bandura (1989) later defined self-efficacy as beliefs in an individual's competencies in mobilizing the motivation, cognitive resources, and courses of action required in meeting situational workloads".

Kanfer and Kanfer (1991) added that the central principle of self-efficacy is that self-influence greatly influences behaviour. Other scholars like Harrison, Rainer and Kelly (1997) observed self-efficacy if a forerunner of task-motivated behaviour and employee performance level beneficial. Therefore, individual behaviour and attitudes have a relationship with self-efficacy construct (Bandura, 1978). Bandura (1997) proposes 4 sources of efficacy expectations, mastery experiences, physiological and emotional states, social persuasion and vicarious experiences. First, mastery experience is cited as an important source of efficacy information in that the perception of an efficacious performance typically raises self-efficacy while the perception of failure lowers self-efficacy (Milner, 2002). Second, another important source of efficacy is emotional

arousal, which is measured through excitement or anxiety, and thus, adds to the feeling of mastery or incompetence (Milner, 2002). Third, secondhand experiences are those in which someone else models the tasks in question. When a person with whom the observer identifies performs well, the efficacy of the observer is often enhanced. The efficacy prospects of the observer decrease is a function of the performance of the model In other words, the argument here is that performance of certain tasks is perfected by watching what others do Fourth, social persuasion involves a specific performance feedback. Feedback depends much on the influence of factors such as trustworthiness, credibility, and expertise of the persuader (Bandura, 1986, 1997, Milner, 2002)

Job performance theory is relevance to the study, it can be attributes to the reasoning, and the theory links self–efficacy with empowerment and teachers job performance. Teachers' job is not measurable, but the examination result can reveal the teachers' way of performance in fact, based on the basic foundation of self-efficacy, the argument is that teachers' self-efficacy is improved when the level of teachers' empowerment is high. In addition, teachers' positive sense of self-efficacy is associated with pupil learning. Therefore, teachers work improves and his/her teaching/learning methods changes for better improves the quality of classroom management strategies chosen and used and helps teachers' adopt new innovations (Woolfolk, et.al 1990).

2.3 Continuous Professional Development

According the European Commission (2017), the term Continuous Professional Development (CPD) is a wide range of developing through formal and informs activities for teachers, designed to address individual teachers' development needs and improve their professional practice. The activities are those done within the school such as team teaching, support provision to individual teachers through performance management interviews, coaching, mentoring, sharing good practice, lesson observation and feedback, and whole-school development activities such as school networks, cross-school or virtual mentor networks, to share good practice, sharing effective practice, knowledge and skills through cross-local authority regional education consortia, courses, conferences, external activities such as accredited postgraduate study, international study visits and exchanges.

The EU (2017) report further shows that there is no time limit, teachers can spend or legal minimum requirement duration of CPD exercise, it can be done during working hours or outside working hours. As a consequence, CPD can take as long as a few hours and even stretch for several days or months. There are cases where the exercise can take the form of full or part-time studies over a defined period depending on the nature of program and certification required, in preparation for generally recognized qualifications. The statutory conditions of service for teachers require them to be available for work under the direction of the head teacher for 1,265 hours per year, including five days when the school is not open to pupils. Teachers need to be adequately equipped with the relevant skills necessary for effective service delivery within the stipulated hours.

According to Hayes (2008), there are a range of organizations that be been given the responsibility for the organization and provision of CPD. It can either be offered internally by the schools themselves or externally by accredited institutions or individual professionals. Schools can provide CPD on their own –and these provide training internally, through: days or sessions organized by individual head teachers; senior staff who provide professional guidance and development for their colleagues, schools choosing to appoint teachers to 'leading practitioner' posts whose primary purpose is to model and lead the improvement of teaching skills. 'Leading' or 'lead' practitioners are paid on a separate pay range, higher than the ranges for classroom teachers and also provide support to other schools in the local area through regional education consortium arrangements. This can also be conducted by Schools working with other schools in collaborative networks, Local authorities and the regional consortia providing local support for CPD through, for example, 'Professional Learning Hubs' to support schools in developing their leadership, Collaborative organizations, Private companies and the Governments through relevant education ministries.

Macheng (2016) mentions the dynamism or changeability of the teaching / learning environment in schools and stresses the necessity for CPD promotion in schools. This can also be attributed to the universality of international educational goals for instance, lifelong learning, life skills education, the universal basic education by 2015, competency in the use of ICT, and HIV/AIDS education, emotional intelligence, Consequently,

teachers experience new responsibilities and challenges that require acquisition of new skills, knowledge and new roles, thus, making CPD a necessity.

Boyle, *et al.* (2005) carried out a study on teacher change, with a focus on what makes professional development effective. The researchers noted that school effectiveness and school improvements points out that professional development of teachers influences a school's effectiveness as well as learners' outcomes. However, the researcher noted that CPD's effectiveness is influenced by several factors, and these include: teacher commitment, collaboration, school leadership, schools culture, time and financial resources.

The complexity and challenging work of teachers makes CPD a requisite antecedent, and this is because teachers are able to acquire requisite specialized skills and knowledge for pupil learning. Improving the learning outcomes of all students irrespective of their socio-economic background or geographic location is the key objective for education. Therefore, schools have a moral obligation of enhancing teachers' skills and knowledge in a quest to steering academic achievement (Guskey, 2002). In-depth subject knowledge is necessary for teachers to enable them to deliver subject content effectively. They need to fully understand the operational environment and optimize learning. Quality professional learning opportunities to develop are a requirement to teachers for enhancement of the necessary skills and understandings (Smith, 2002). This is because such skills and understandings are useful determinants of teachers' job performance in schools. The Kenya government has not set up a system on how teachers can engage themselves on CPD.

Carlisle, et.al (2011) found that teacher knowledge had a positive influence on pupil reading comprehension. The scholars concluded that a CPD program that was keen on ensuring that teachers were well equipped with pedagogical content knowledge and appropriate teaching strategies was necessary for enhancing teacher effectiveness and efficiency in schools.

Grossman and Salas (2011) view training as an endeavour that mould people to develop desirable knowledge, skills, and attitudes needed in solving real-life problems. On the other hand, Grossman and Salas (2011) argue from another perspective, training is the

process by which individual's ability to execute a task is enhanced through the acquisition of skills, knowledge and positive attitude necessary forharmonious coexistence in a social set up. On the same note, Njeri, (2010), since training is perceived as the process of acquisition of knowledge, skills and desirable attitudes needed in addressing threats in real life, an institution that seeks to solve its job performance challenges must consider investing in human capital.

Harland and Kinder (1997) cited in Rose and Reynolds (2007) discusses nine likely types of outcomes of teachers' continuous professional development. These outcomes include the following. Materials and resources, teaching provisions, referring to fact-based information ,the new awareness, explained as a perceptual shift, teachers becoming aware of new ideas and values, Value congruence, referring to teachers' ownership of values and attitudes and matching these to CPD program, that is, how teachers feel emotionally after the CPD, may be negative, towards change, Knowledge and skills which includes both curricular and pedagogical, Institutional outcomes on groups of teachers, such as consensus, collaboration and support, and Impact on practice.The final aim of CPD which focuses on the effect of CPD on learners. These outcomes are argued to translate into requisite teachers' job performance towards set school goals.

According to Gathumbi, et.al (2013), the pre-service courses for teachers offered by Universities' Schools of Education and Teacher Training Colleges (TTCs),] have been mocked for its inability to produce graduates whose skills are matched with the field expectations. This situation presents challenges that if unmet can cause an upset to the quality of education offered by teachers in schools. The researchers emphasize the need for scaling up continuous professional development for the teachers affected. Comparatively, in Nigeria, Olakulehin (2007) found that there was a shortage of qualified teachers in public primary schools and this affected their performance as teachers. Teachers' situation in Kenya, calls for continuous professional development to help seal these inadequacies, for their performance is a requirement tied to the success of the education sector. Public primary schools should, therefore, strive hard to strength CPD, for instance, by ensuring that teachers are able to employ appropriate teaching strategies.

2.3.1 Teacher Training on Pedagogical Content Knowledge

Ma'rufi, et.al (2018) studied teacher's knowledge of students in learning mathematics on the limit of function subject. The study focused on the association between PCK and knowledge of students. The study revealed limitations among the teachers which include their inability to analyse the reasons responsible for learners' difficulty, mistake, and misconception in the course of learning. The use of re-explanation to difficulty, mistake, and misconception was well understood by students.

Maryani and Martaningsih (2015) studied the relationship between teacher's PCK (pedagogical content knowledge) and pupils' motivation in primary schools in Yogyakarta, Indonesia. The study aimed at determining the situation of PCK of primary school teachers and establishing the relationship between the teacher's PCK and pupils' motivation in learning. The study was done using primary school pupils and teachers. The study found that pedagogical content knowledge had a significant influence on teachers' performance in the schools. With a sig value of 0.000 and correlation at 0.0907, the study findings demonstrated that pedagogical content knowledge had a significant influence on teachers' performance in the schools. Therefore, schools had appreciated the value attached to the CPD of teachers. But most of the teachers have not taken part in CPD since they started teaching, they have remained in the same grade they attained when they were employed.

Gess-Newsome (2013) studied pedagogical content knowledge focusing on mathematics and the science subjects. The study established that continuous professional development programs that enhanced teachers' PCK had a significant influence on students' learning and performance in the schools. Pupils' learning performance was considered an important yardstick in measuring teachers' performance. With this mindset, the researcher pointed out that PCK enabled teachers to perform effectively and efficiently. Constructively, arguing professional development of educators enhance their effectiveness and overall efficiency of the education system.

Chordnork and Yuenyong (2018) investigated how teachers understanding and associated teaching practice influencing their effectiveness in teaching a topic such as global

warming. The study was carried out among primary science teachers, specifically, science education graduates. The case study method was adopted and data collected using questionnaires. The findings revealed a lack of understanding of science teaching practice among teachers, which negatively affected their performance. Graduates had a better understanding than non-graduates and thus performed better. Science graduates expressed the pedagogical content knowledge in terms of assessment, the goal of teaching and linking to the context of social-cultural. In contrast, pupils understanding of content global warming, knowledge and belief of curriculum, and strategies of teaching were expressed unclearly by the non-graduate science teacher.

According to Muller (2012), content knowledge embraces the propositional knowledge / 'knowing what' and the procedural knowledge/ 'knowing how' of a discipline. Teachers need to know more than just the 'facts' of their discipline, they need to know the deep underlying principles and the discipline structure, and they need to know what procedures are used to generate knowledge in the field. Muller argues that 'knowing what' comes down to knowing why something is accepted as knowledge in the relevant field, but this implies knowing how to substantiate the knowledge, knowing how to make such arguments, so that all 'knowing what' also comes down to the particular 'knowing-how.'

According to Kuhn (2016), the theoretical paradigm of knowledge is made up of two elements, which specifically are content structure and cognitive structure. Firstly, content component refers to the knowledge of teaching objectives, content, and methods. The interdependence of teaching content, objectives, and methods represents the traditional European discourse on didactics. Secondly, content element refers to the knowledge of students' learning process, which is composed of awareness of common errors students make and their causes. Both content elements are entrenched in a wider context, which, for the employment sector precisely, is characterized by a high heterogeneity.

Smith (2009) explored the relationship between teacher content knowledge and student learning in the context of middle grades force and motion instruction. The study used a sample of 25 teachers. The process involved expert review, domain specification, cognitive interviews with teachers and students, and large-scale piloting and field testing.

The study established that teacher content knowledge significantly influenced pupils' learning in schools.

Krauss et al. (2008) mentions three measurements of PCK and argues that they are important in teaching mathematics. These include teacher's knowledge of students' prior knowledge of possible difficulties and misunderstandings, teacher's knowledge of mathematics assignments, and teacher's knowledge of representations, analogies, illustrations or any acceptable innovative and productive ways. The researchers indicated that teachers need to utilize CPD opportunities available in their schools to enhance their capacity along these three constructs.

Langsajo (2014) studied the impact of Subject Matter Knowledge of a Teacher in Teaching and Learning Process. The study adopted the survey method. Researcher, specifically, reviewed 22 authors covering the United States of America, the United Kingdom, and Korea. The study concluded that teachers who understood the subject matter were able to effectively deliver the required subject themes to learners. Langsajo also noted that clarification of misunderstandings of knowledge was a function of teachers understanding of the subject matter through which, the impact is made on learning through enhanced learners' ability utilize the subject matter taught in class and actively participate in their environment.

According to a survey by NCATE (2013), an international organization, divergence and variation international approaches in subject matter preparation and developing effective teachings are reported across the Continents, Regions, and Countries. The survey shows that there is heavy investment in teacher preparation programs and perform well in Industrialized nations, such as Singapore, Republic of Korea, Belgium, Germany and Japan, and this is reflected in the Trends in International Mathematics and Science Study (TIMSS) data. Contrary, smaller and not so affluent nations, such as Ghana, Tunisia, Morocco, Chile, cannot afford much to spend in their teacher preparation program and appear at the bottom of the TIMSS list.

Kar (2014) studied the subject matter preparation for (effective) teaching of Mathematics. The study established that teachers' content knowledge was critical for their effectiveness. The researcher noted that the preparation of teacher' and / knowledge of

teaching / learning, subject matter knowledge, experience, and the combined set of qualifications measured by teacher licensure were all precursors for teacher efficacy. Kar opined that a CPD program that focused on subject matter preparation resulted in higher level of teachers' performance in schools.

Hill, et.al (2008) proposed the Knowledge of Contents and pupils (framework (See Figure 2.2) as a guiding step towards conceptualizing, identifying, measuring, and ultimately improving teachers' PCK. The framework also addresses the ability of teachers to design effective instruction and measuring teachers' skills in motivating pupils to learn mathematics. The researchers stress the need for teachers' ability to forestall pupils' problems and hurdles, hear and respond appropriately to students' thinking, and choose appropriate examples and representations while teaching. The researchers argued that teachers must show awareness of students' conceptions and misconceptions about a mathematics topic both in planning and teaching (Hill, et.al, 2008).

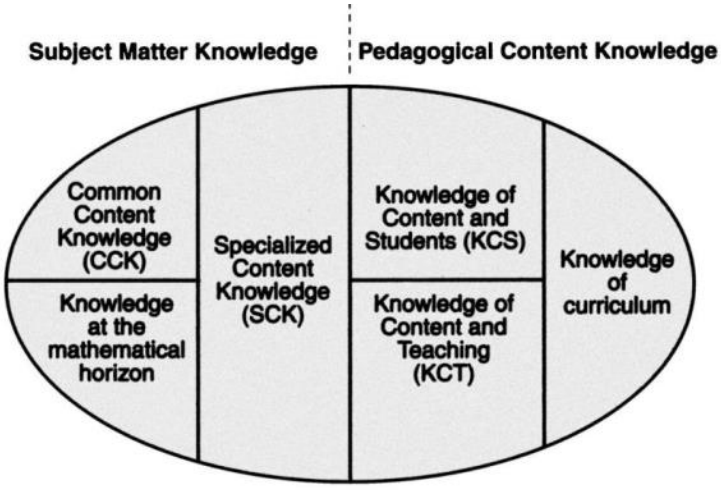


Figure 2.1: Mathematical knowledge for teaching

Source: Hill, Ball, and Schilling, (2008)

According to KCS framework, a teacher might have strong content knowledge but weak knowledge of how students learn the content or vice versa. KCS provides knowledge of how to anticipate what students are likely to think and relate mathematical ideas to the developmentally appropriate language used by children.

2.3.2 Teachers' Choice of Teaching Strategies

Bertram et al. (2015) in their study on Teacher Knowledge and Learning Perspectives and Reflections found that teacher performance was a function of the appropriate application of teaching strategies. The researchers noted that the notions and presumptions that learners of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons made teaching complex. The necessity of CPD id emphasized. The researchers noted that if these misunderstandings, teachers need knowledge of the strategies most likely to be fruitful in reorganizing the understanding of learners because those learners are unlikely to appear before them as blank slates.

Bauml (2011) examined the role of teacher preparation in novice kindergarten/primary teachers' practice. The researcher established that correct choice of teaching strategies by teachers resulted in higher teachers' effectiveness and higher learner achievement. The researcher observed that modification, adaptation, imitation, and avoidance is thus possible when teachers encounter new material in the program. This ultimately means that the teachers are able to change the strategies and approaches available so as to enhance their effectiveness. Bauml notes that this CPD aspect help ensures that teachers were able to effectively apply learned teaching strategies in the classroom in ways which enhance learning.

Maslovaty (2010) examined teachers' choice of teaching strategies for dealing with socio-moral dilemmas in the elementary school. The researcher used a sample of 480 elementary school teachers' strategies for coping with socio-moral conflicts which arise in the classroom. Importantly, it was observed that teachers believed that dealing with socio-moral conflicts in the classroom was within their mandate. The content of the dilemma and the teachers' personal belief systems had a strong influence on the choice of a strategy. The researcher argues that mastery of the subject matter by instructors was superior to the instructors' background and demographic characteristics, as far as content delivery was concerned.

Mestry, et.al (2009) studied the perceptions of teachers on the benefits of teacher development program in a South African province. The study collected data using

questionnaires. Quantitative analysis was computed. The study found that C program such as the Integrated Quality Management System (IQMS) had enhanced teachers' ability to appropriately choose teaching strategies as well as use these strategies effectively.

Ensor, *et al.* (2009) studied the specialization of pedagogic text and time in pre-primary school classrooms. They established that tests scores obtained by South African students on international tests are much lower than those obtained by students of the same age in France, Hong Kong, Singapore and South Korea. The researchers attributed this to poor choice of teaching strategies by teachers. The study found evidence of teaching that holds learners back by focusing on concrete counting based strategies rather than supporting the shift over time towards more abstract calculation based strategies.

Nyakundi (2012) studied the effect of teaching strategies used in teaching integrated English on performance in public secondary schools, Kasarani division, Nairobi, Kenya. The sample size comprised of 208 learners sampled using randomly stratified technique and the sample of 12 English teachers was selected using simple random sampling. It was revealed that there was a positive relationship between teaching and learning strategies and teachers' performance. The study concluded that teachers of English in Kasarani Division are aware of the teaching and learning strategies recommended by the Ministry of Education in teaching Integrated English, learners have a negative attitude towards the teacher-centred strategies predominantly used by teachers of English and finally, teaching and learning strategies influence performance of Integrated English. In addition, Nyakundi observed that there are two major types of teaching-learning strategies; teacher-centred and learner-centred. When the latter is used, it is believed that learning is more interactive and fulfilling.

Varughese and Fehring (2009) studied the effects of students' approaches to learning on performance in two pedagogical environments. The study found that learners performed better when taught using Problem-Based Learning (PBL) method as compared to those who learn using the Traditional Teaching and Learning (TTL) method. The researchers

noted that learning style was a personal quality that influenced teachers' effectiveness in enhancing learners' ability to acquire information and participate in learning experiences.

Zhi-hong (2004) studied the Effect of Learning Strategies on Reading Comprehension. The researcher used experimentation design in the quest to investigate quantitatively the relationship between learning strategies and reading comprehension. The experiment proved that the learners who were using the cognitive strategies in reading had a better command of cognition as compared to those who were not.

Akuboe (2008) studied some strategies in effective teaching with particular reference to social studies in Nigeria. The study found that appropriate use of teaching and learning strategies boosted teacher effectiveness in providing quality education. Specifically, the researcher found that the use of an appropriate strategy in teaching brought about effective teaching and the achievement of lesson objectives. Akuboe's interpretation was that for the objectives to have been achieved, the result reflected must be good.

Pryor, *et al*. (2012) studied the relationship between teacher preparation and professional development in Africa. The researchers focused analysed how the curriculum of teacher education in the teaching of early reading and mathematics was associated with their efficacy.'' The scholars stressed the need for teachers' professional development that enhances their ability to make correct choices on teaching strategies. The researcher observes that such inadequacies compromised curriculum implementation. The researcher also noted pre-service training in Kenya was marred with inadequacies in time allocation to reading. However, preference much attention was paid to language subject knowledge, subsequently creating challenges related to the teaching of reading by the affected teachers.

Nyarigoti (2013) carried out a study on CPD needs for English language teachers in Kenya. The study revealed that most English teachers indicated that they were inadequately prepared to handle the task of teaching integrated English subject owing to the fact that this had not been comprehensively covered at the college. This made them experience challenges of making informed choices as to the appropriate strategies to be used in teaching the subject.

2.3.3 Teachers' Self-Efficacy

According to Richardson (2011) efficacy has to do with how a teacher feels about his or her ability to do his/her job. Another definition of teachers' efficacy is that by Tschannen-Moran and Woolfolk (2001) who described it as the individual teacher's belief in his or her capabilities to bring about desired results of student engagement and learning, even among problematic and unmotivated pupils. Similarly, Hackett and Betz (1989) had offered a definition of mathematics self-efficacy as a situational or problem-specific assessment of an individual teacher's confidence in his or her ability to perform or accomplish a specific mathematics task or problem.

Klassen and Tze (2014) systematically analysed two psychological characteristics namely personality and self-efficacy and explored their relationship with teaching effectiveness. The scholar measured effectiveness through teaching performance and student achievement. The researchers analysed 43 studies, representing a sample of 9216 participants. According to the findings, self-efficacy was found to have the strongest effect on teachers' performance. The findings revealed that teachers' self-efficacy had a strong positive effect on teachers' performance.

A study done by Siegle and McCoach (2007) found that the provision of trained teachers has a direct relationship with increased pupils' mathematics self-efficacy leading to improved performance in mathematics. This is because properly trained teachers have the capability to modify their instructional strategies requisite in producing more confident and viceversa.Allinder (2016) noted that the self-efficacy of teachers is interrelated with different areas of their professional lives. In particular, three areas which are: teachers' professional practice such as classroom management; beliefs about the relationship between teachers and students such as teachers' personal responsibility for pupils learning; and emotional aspects such as emotional exhaustion or job satisfaction. Earlier Tschannen-Moran and Hoy, (2001) gave a summary of the areas as.efficacy of instructional strategies, the efficacy of student engagement, and efficacy for classroom management. The dimensions of self-efficacy include. Theirsuccessfulness in

pupils' engagement; efficacy in instructional strategies and efficacy in classroom management by letting pupils participate in the lesson, improving teaching practices and carrying out a good orchestration of the learning environment.

Türkoğlu, et.al (2017) examined the relationship between teachers' self-efficacy and job satisfaction in the district of Beyoğlu, İstanbul. The sample for the study was made up of 489 elementary, middle and school teachers. The results showed that there was a significant positive relationship between teacher self-efficacy and job satisfaction. Teacher self-efficacy was, therefore, is a significant predictor of job satisfaction. The study assumed that satisfied teachers registered higher performance levels.

Kandie (2014) studied the relationship between lower primary school teachers' mathematics self-efficacy and their pupils' performance in mathematics in Kericho Sub-County, Kenya. Stratified random sampling technique was used to select 40 lower primary school teachers from 156 primary schools in the District. A questionnaire and interview schedule was used to collect data. There was a correlation between lower primary school teachers' mathematics self-efficacy and pupils' performance in mathematics. Lastly, Pearson's Product Moment Correlation results indicated that there was a positive correlation between lower primary school teachers' mathematics self-efficacy and teachers' score in mathematics, teaching experience, and professional qualifications.

Zee and Koomen (2016) studied teacher self-efficacy (TSE) and its effects on classroom processes, pupil academic adjustment, and teacher well-being. The study analysed 165 eligible articles, a synthesis of 40 years of research. It was established that teacher self-efficacy had a positive relationship with patterns of teacher behaviour, students' academic adjustment, and practices related to classroom quality. The study revealed that job performance was depended on teachers' self-efficacy. It was also found that teacher self-efficacy had a negative influence on burnout factors.

Khurshid, Qasmi, and Ashraf (2012) explored the relationship between teachers' self-efficacy and their perceived job performance in Rawalpindi and Islamabad, India. the measurement of teachers' self-efficacy Teacher Efficacy Scale consisting of 16-items modified by Hanif was used in the collection of data. A sample of 75 teachers and 225

students were used. The findings of the study showed that there existed a significant positive correlation between teachers' self-efficacy and their job performance. The implication being that teachers' self-efficacy had an influence on their performance in school.

2.3.4 Mastery of Subject Matter

Fakeye (2012) conducted a study on teachers' qualification and subject mastery as predictors of achievement in the English language in Ibarapapa Division of Oyo State, Nigeria. The descriptive research design was employed for the study, and study sample of twenty (20) senior secondary schools selected using simple random sampling approach by Randomly.The findings of this study revealed that teacher qualification and mastery of subject matter had a positive relationship with learner performance. The study reported that, the teachers' teaching qualification had a significant relative contribution to pupils' academic achievement in the English language.

Shantz and Latham (2012) pointed out that the skill of mastering the subject matter and the ability to establish the interrelationships between different subjects were requisite for teachers' performance. Professional development including personal growth was anchored on mastery of the subject matter. The researchers further emphasize the need for teachers to specialize in the subjects they teach for this will enhance their ability to integrate their professional education leading to new understandings and skills for professional performance. They established that mastering of subject content had a positive correlation with teaching quality and thus very key in determining learner achievement. The teacher with good knowledge of the subject matter is able to plan and teach the lesson by way of highlighting the main points of the lesson to the learner while clarifying the knowledge misconceptions.

Kamamia, et.al (2014) conducted a study to establish the extent to which the subject mastery enhances quality teaching to student-teachers at Thogoto Teachers College, Kenya during teaching practice. The study collected data using questionnaires, which were then analysed SPSS. The study found that subject content delivery and the understanding by of the learners were a function of teachers' mastery of the subject

matter. The researchers found that a pupil teacher's interpretation and application ability of the subject matter knowledge learned in class translated into higher academic achievement.

According to Douglas (2009)'s study in Arizona, found that teachers' ability to manage the classroom and to effectively implement appropriate and relevant teaching strategies was a function of basic coursework in educational strategies and methods. Preparation of student teachers in the teachers' colleges was of the essence if it included mastery of teaching content for this enhanced quality teaching practice in schools. Therefore, teacher colleges need to embrace this aspect as it was tied to teachers' performance.

Maende (2012) studied the influence of professional development on teacher effectiveness in public secondary schools in Mumias District, Kenya. The study found that teacher professional development has a high influence on student motivation, teaching methodologies, communication skills, the organization of content and planning of lessons and very high influence on students' participation during lessons, teacher confidence and knowledge of subject matter. The findings demonstrated that limited knowledge of subject matter affected teacher performance.

Al Hajj, Kahlot, Obeyed, and Talib (2009) studied Classroom Management and Organization. The study found that teacher mastery of subject matter had a significant effect on classroom management and organization. The researchers found that teachers who planned and occupied learners all the time and did not even give them a break ended up with an undisciplined classroom. The researcher uses the phrase "all work and no play make Jack a dull boy to support his arguments. Most of the researches on CPD have been carried in developed countries and thus information on the effects of CPD on teachers' performance is scanty and also most studies focused on CPD and other aspects of the school system such as pupils' achievement other than teachers' performance. Very little research is conducted on the effect of CPDin primary school.

Decades of researcher earlier, Wilson and Wineburg (1988) found that mastery of subject content enhanced teachers' explanation and teaching ability of the subject matter content to learners which a precursor to the quality subject performance by the learners. With

acquired knowledge and skills on subject matter teachers were able to offer requisite explanations to learners in difficult subject situations.

Gathumbi,al.et (2013) examined steps towards the comprehensive professional development of teachers in Kenya. The study revealed that the massive shortage of teachers in Kenyan schools which often prompts the government to use various method to solve the problem of understaffing in the country, inan attempt to improve quality of education in our schools. However, the authors observed, the cascade model used often lead to shallow coverage of content, as the teachers aim at covering up the syllabus. Arguably, shallow coverage or mastery of content is sometimes worsened by more focus on skills and knowledge than on attitudes and values and this has a negative effect on teachers' performance.

2.3.5 Teacher Performance

According to Gant (2011), concentrating human activities on the pivot of performance with little efforts in sharpening skills and knowledge of such employees will simply remain a game of musical chairs. It is observed that at the heart of employee performance, management of organizations has no meaningful direction if the human is not developed as a priority. Otande (2012) adds that performance is something, a single person does. Employee training, remuneration, and environment upon whichtasks are performed are considered critical in determining the level of productivity in an organization. The teachers' performance in schools is highly affected by motivation in school, if a teacher is motivated either by the administration or the government his/her performance will automatically improve to a higher level. The schools can arrange programs for teachers like seminars, workshop and training various methods of teaching and learning. Motivation can have a positive effect on the teacher performance.

Chandrasekar (2011) the employee morale at the place of work can be affected by the environment, job performance and productivity can positively and negatively be affected. If the workplace environment is not liked by the employees so they get de-motivated and their performance also affected. When Continuous professional development is poorly designed, work timings, unsuitable authorities or duties, lack of appreciation, and lack of

personal decision-making opportunity teachers can be affected. If Performance is properly accounted for Teacher performance is determined by using the Teacher Performance Evaluation Rubric consisting of indicators based on the Ohio Standards for the Teaching Profession. The process of evaluation requires the evaluator to use evidence gathered in a variety of avenues like professional growth or improvement plan, observations, walk through, and conferences to determine a teacher performance rating.

Parihar (2011) in a paper titled Concept of teacher effectiveness argues that a teacher is a student for the rest of his or her career. An effective teacher is that one who is able to achieve the set goals or which have been set for them by others such as ministries of education, legislators, and other government officials, school administrators. Effective teachers must possess the knowledge and skills needed to attain their set goals, and must be able to use that knowledge and those skills appropriately if these goals are to be achieved.

Baumert, *et al.,* (2010)in a study on "Teachers' mathematical knowledge, cognitive activation in the classroom, and pupil progress found that instructors' CPD on instructional quality had a significant positive effect on learners' performance in mathematics. This was established through the assessment of, pupils' rating means, teacher self-reports, and analyses of tasks and on pupil progress in mathematics education was measured through an achievement test. The findings from this study thus highlighted clearly the great effect CPD had on learners' progress and instructional quality than content knowledge.

2.5 Conceptual Framework

The diagrammatic representation of the relationship between the independent variables, dependent variables and intervening variables of this study is as shown in Figure 2.2.

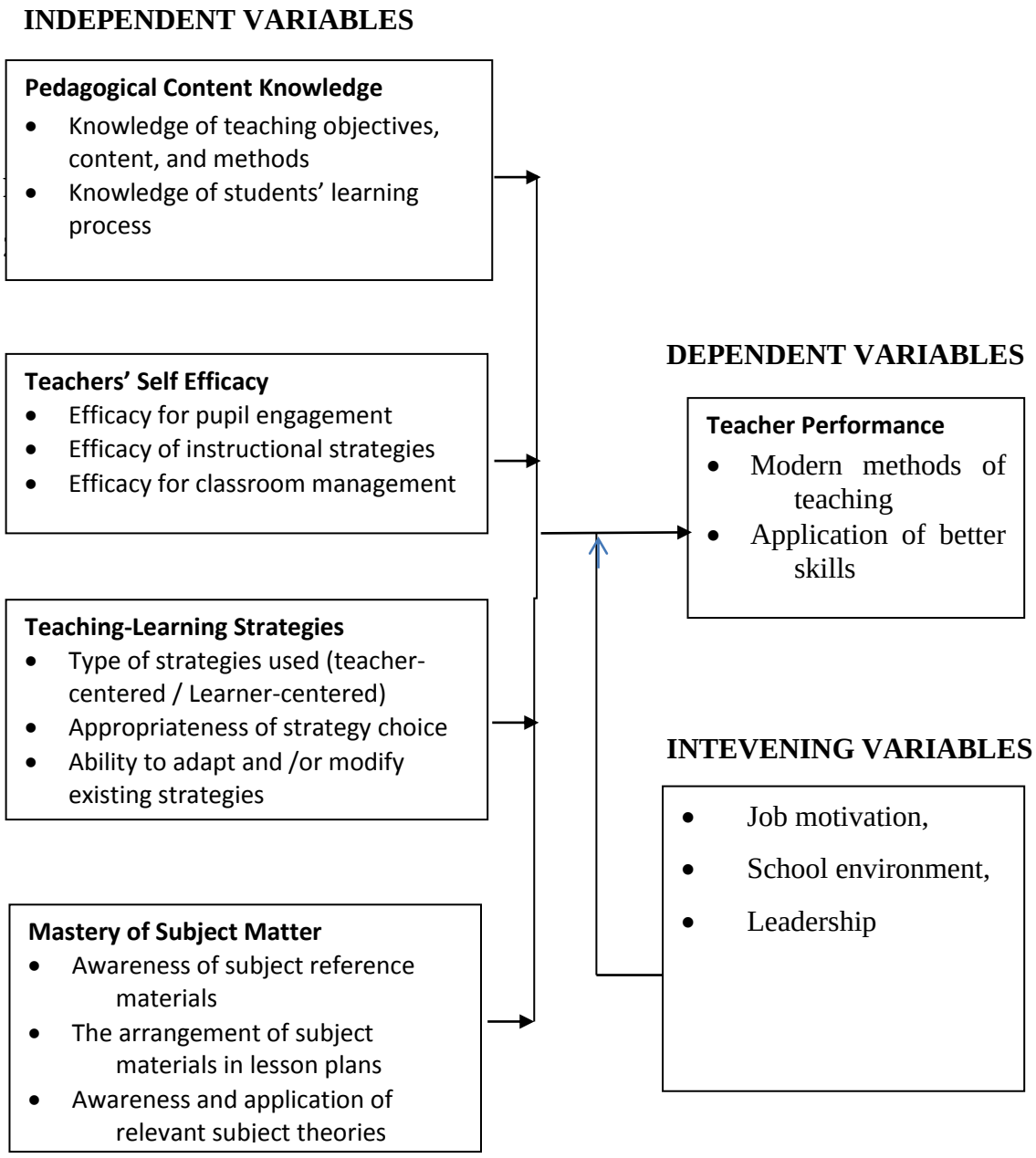


Figure 2.2 Effects of CPD on Teacher Performance

The independent variables areindependent of any other variables, the dependent variable is used to measure how independent variable has affected independent variable and the

intervening variable is used to explain casual links between other variables. It cannot be observed.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology that was used in carrying out this study. It outlines the research design, location of the study, the target population, sample size and the sampling procedures used. It also describes the data collection instruments, data collection procedure, and data analysis and research ethics.

3.2 Research Design

The study adopted a descriptive survey design, owing to the nature of the study (descriptive) as well as the type of data required (qualitative and quantitative). The design is suitable for this kind of study (Mugenda, 2008). Mugenda (2008) defines a descriptive survey design as a process of collecting data in order to answer questions concerning the current status of the subjects in a study. This type of research design attempts to describe such things as possible. This study was able to collect both quantitative and qualitative data using questionnaires, an interview schedule and observation checklist. The survey design was found appropriate since it allowed for use of both descriptive statistics and the Pearson correlation in establishing the effects of continuous professional development on teachers' performance in public primary schools in Nakuru North Sub County.

3.3 Location of the Study

The study was conducted in Public Primary Schools in Nakuru North county Nakuru County Kenya. The County is made of twelve other Sub-Counties.

3.4 Target Population

Target population describes an aggregate of individuals or subjects that share common or similar characteristics. As described by Cooper and Schindler (2013) a population is the total collection of elements about which the researcher wishes to make inferences. In this respect, the Head teachers and teachers constitute the target population. The target population was 22 public primary school teachers with an accessible population of 192 teachers, 22 head teachers 170 teachers in Nakuru North Sub-County, Nakuru County.

An accessible population was drawn from the target population according to Mugenda and Mugenda (2003) who postulates that it is impractical to select a representative sample from the target population because it may be difficult to identify individual members. The accessible population which was a more narrowly defined and manageable population was then being drawn and care was taken to ensure sampling validity, by ensuring that it is as representative as possible to the target population and that will be in close proximity to save on time and cost due to the vastness of the target population.

3.5 Sampling Techniques and Sample Size

Being a survey study, a portion of the population was used to extrapolate the findings and make conclusions about the population. Stratified random sampling technique was used whereby, the schools were classified and selected according to the Sub Counties and then clustered as boarding schools, day schools or boarding/day county schools. At least 30% of the total population is considered representative. According to Gall, *et al.* (2003) 30% of the population is considered acceptable and reasonable to be used in educational research. Therefore, 30% of the accessible population (8 head teachers and 51 teachers) is considered appropriate. Sampling will thus, be accomplished as shown in Table 3.1.

Table 3.1: The Sample Size for the Study

Category	Target Population	Sample Size	Percentage
Head teachers	22	8	14
Teachers	170	51	86
Total	**192**	**59**	**100**

Purposive sampling was used in the selection of the sample for the head teachers, while simple random sampling was used in the selection of teachers. This because there is an only one head teacher per school as opposed to teachers who are more than two per school. On average 1 head teacher and 6 teachers were interviewed per school.

3.6 Data Collection Instruments

Data were collected using questionnaires and interview schedules. Questionnaires were used for collecting data from teachers, while interview schedules were used in the collection of data from head teachers. According to Kothari, (2004), there are two types of data, primary and secondary data. Kombo and Tromp, (2006) give the advantages of using questionnaires. Each set of the questionnaire consisted of four main parts; the first part, Part A collected demographic information such as sex, level of education, and teaching experience, while the rest of the parts Part B through to Part E solicited information related to the objectives of the study.

3.7 Validity and Reliability of the Research Instruments

The researcher administered the questionnaires to 6 teachers and 1 head teacher for piloting in Nakuru East Sub County which has the same characteristic as Nakuru North Sub County. Care was taken so that the selected school for piloting did not form part of the sampled schools. The pilot study is expected to reveal deficiencies in the questionnaires before the final data collection is carried out (Cooper & Schindler, 2013). Pilot testing allowed the researcher to identify whether respondents understood the instructions and questions contained in the research instruments or not. Thus, pilot testing was used to improve the quality of the research instruments in terms of the construct.

3.7.1 Validity of the Research Instruments

Content and Construct validity were conducted through consultations with experts who included the lecturers from the Department of Social Sciences and my supervisors at St. Paul's University. Specifically, consultations were in regard to the test items included in the questionnaire in order to establish their relevance in relation to the study. These competent persons examined the questionnaires individually and provided feedback to the researcher, who then incorporated their recommendations in the final questionnaire. Validity is concerned with establishing whether the questionnaire content is measuring what it is supposed to measure (Orodho, 2004)

3.7.2 Reliability of the Research Instrument

According to Cooper and Schindler (2013) reliability is a measure of the degree to which a research instrument yields consistent results on repeated trials. Internal consistency of the instruments was tested by computing Cronbach's alpha reliability coefficients from the pilot study data based on the benchmark of coefficient values greater than 0.7. Orodho, (2008) posits that a correlation coefficient of >0.7 level is considered high enough for judging the instruments as reliable. The research questionnaire was adopted for use after scoring a correlation coefficient of 0.783 a value higher than the 0.7 approved for the study.

3.8 Data Collection Procedure

An introduction letter was obtained from St. Paul's University by the researcher for purposes of introducing the researcher to the respondents and the relevant authorities. The permit and the introductory letter were presented to the school Head teacher who granted the researcher permission to conduct the study in the schools. The researcher used the letter from NACOSTI to obtain introductory letters from the County Director of Education. The researcher visited the school and informed the Head teacher of the purpose of the intended study, and issued the questionnaire to the teacher to collect on later date. The researcher conducted interview schedule for the Head teachers. Arrangements were made for those who were absent to be interviewed on a later date by the researcher. They were able to comply with the arrangements as scheduled.

3.9 Data Analysis

Both qualitative and quantitative data was captured through the questionnaires and interview schedules. After data was collected, it was categorized, coded and analysed. The researcher assigned numerical values guided by in the Liker scale to make quantitative analysis possible. Qualitative data was collected through the open-ended items and thus was analysed using descriptive analysis approach. This is where similar answers to questions were grouped together matching respective themes for analysis. The main themes and patterns in the responses were identified and analysed to determine the adequacy, usefulness, and consistency of the information.

Quantitative data were computed for descriptive statistics frequencies, means, and percentages with the aid of SPSS Version 23 and Microsoft Excel 2010. Cross-tabulations were used to present the relationship between two variables (continuous professional development and teachers' performance). Pearson correlation was used to establish the relationship between continuous professional development and teachers' job performance. The test significance level used for the study was 0.05. This means that the relationship between the variables was considered significant if less than 0.05 ($p<0.05$). These techniques show the direction and magnitude of the relationship between the given variables (Mugenda, 2008). Thereafter, the result was then presented in the form of tables and charts.

3.10 Research Ethics

The researcher soughed permission from St. Paul University and then got a permit from the National Council of Science and Technology (NCOST) to conduct the research. Once permission was granted, the researcher went ahead to inform the county commissioner and County director of Education, Nakuru county and the Headteachers of the schools that were involved in the research. The researcher visited the sampled schools to issue the questionnaire to the teachers and to make proper arrangements with the Headteacher over the interview schedule date. The researcher was to come on a later date to collect the filled questionnaires in order to give them time to fill them. Respondents were assured of confidentiality and privacy. The researcher explained the significance of the study and their participation. A period of one week was agreed upon to complete questionnaires,

ready for collection. The questionnaires were examined to correct the error before subjecting them to analysis. The researcher took them to check and analyse the data.

CHAPTER FOUR
RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results and discussion of the findings. They are presented under the following headings, Demographic characteristics of the respondents, effect of training on pedagogical content knowledge on teachers' performance in schools, effect of teaching strategy choice on teachers' performance in schools, effect of teachers' self-efficacy on teachers' performance in schools and effect of teachers' mastery of subject matter on teachers' performance in schools within Nakuru North Sub-County.

4.1.1 Response Rate

Fifty-nine (59) questionnaires were prepared and administered to the teacher respondents. However, 11 respondents did not provide responses due to personal reasons. This translated to a response return rate of 81.3 %, all the head teacher respondents responded. This was sufficient to enable the researcher to come up with reliable conclusions and recommendations. Dommeyer, et al. (2002) reported that the acceptable response rate for on-paper surveys is 75%, therefore the attained percentage was good and found acceptable to the researcher. The response was as provided in Table 4.1.

Table 4.1: Response Rate

SACCO	Sample	Response	Response
Head teachers	8	8	100
Teachers	51	48	94.1
Total	59	56	94.9

Source: Author (2018)

4.2 Demographic Characteristics of the Respondents

This section presents the findings with respect to the demographic characteristics of the respondents.

4.2.1 Age of School Teachers

This feature was considered crucial to the study for the researcher intended to establish whether age differences would significantly influence teachers' performance in public primary schools. The findings showing the age of the school teachers were as provided in the table.

Table 4.2: Age of School Teachers

Response	Frequency	Percentage
18 – 27 years	4	8.3
28 – 37 years	11	22.9
38 – 47 years	31	64.6
48 years or above	2	4.2
Total	48	100

Source: Author (2018)

The study findings in Table 4.2 show that 64.6% of the respondents were aged between 38 and 37 years, 22.9% were aged between 28 and 37 years, 8.3% were aged between 18 and 27 years, while 4.2% of the respondents aged 48 years and above. This implied that most of the teachers in the schools visited were aged above 38 years, an indication of less engagement of youth in the schools. Most important the study was able to collect data from all the age categories. This was important since Mburu (2013) found the age of the teachers had no significant influence on teacher participation in further training. However, according to OECD (2009), it was established that on average, the amount of professional development that teachers received decreased with the age of the teacher. Therefore, it was important that all age brackets are represented in this study.

4.2.2 Gender of the Respondents

The findings in respect to the gender of the respondents were as provided in Figure 4.1

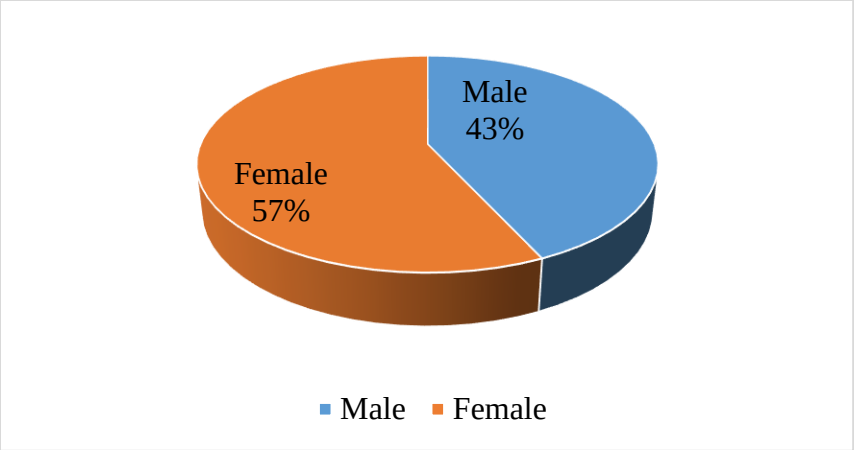


Figure 4.1: Gender of the Respondents

Source: Author (2018)

The results in Figure 1 show that 54% of the respondents were female, while 46% of the respondents were male. This implied that there were more female teachers engaged in the visited primary schools compared to their male counterparts in Nakuru North Sub-County Public Primary Schools. This was useful since, past studies such as Saleem and Imram (2014) demonstrate the fact that gender had a positive influence on teachers' job performance, and thus, using one gender would deny the researcher the opportunity of getting the views from both genders. The study was, therefore, able to capture useful information from both genders represented in the study.

4.2.3 Length of Service in Teaching Career

The respondents were asked to indicate how long they had served in their teaching career, and the findings were as provided in Table 4.3.

Table 4.3: Length of Service in their teaching career

Response	Frequency	Percentage
Below one year	2	2.8
2 – 5 years	0	0
6 – 10 years	38	79.2

11 – 15 years	7	14.6
16 and above years	1	2.1
Total	48	100.0

Source: Author (2018)

The study findings in Table 4.3 show that 79.2% of the respondents had served as school teachers for a period between 6 and 10 years, 14.6% served for a period between 11and 15 years, 2.8% served for a period below one year, 2.1% served for a period of 16 years and above, while none had served for a period between 2 and 5 years. The findings show that most of the teachers had served for periods long enough and this experience was necessary when determining the relationship between Continuous professional development and the teachers' performance.

4.2.4 Respondents' Highest Level of Education

The response with respect to the respondents' highest level of education was as provided in Table 4.4.

Table 4.4: Highest Level of Education

Response	Frequency	Percentage
Certificate	40	83.3
Diploma	6	12.5
Degree	2	4.2
Total	48	100

Source: Author (2018)

The results in Table 4.4 show that 83.3% of the respondents indicated that the highest level of education attained was certificate level, 12.5% attained diploma level, while 4.2% attained degree level. This implied that most of the teachers had attained certificate level. The representation cut across all the cadres and thus a representative view of teachers was properly captured. Buru (2013) established that the majority of the primary school teachers indicate that they are diploma holders and are likely to go for further training, in contrast to the situation in rural primary schools because most of the teachers

in the rural primary schools are certificate holders. However, in a study by OECD (2009) in Belgium, Austria, Hungary and the Slovak Republic, it was established that teachers who have a Master's degree or higher qualification received more days of professional development, like 20 days than those with a Bachelor's degree or less 17-18 days. Other countries use this pattern to encourage their teachers to develop professionally.

4.2.5 Length of Service in Current School

The teachers were asked to indicate how long they had served in their current school, and the response was as provided in Figure 4.2.

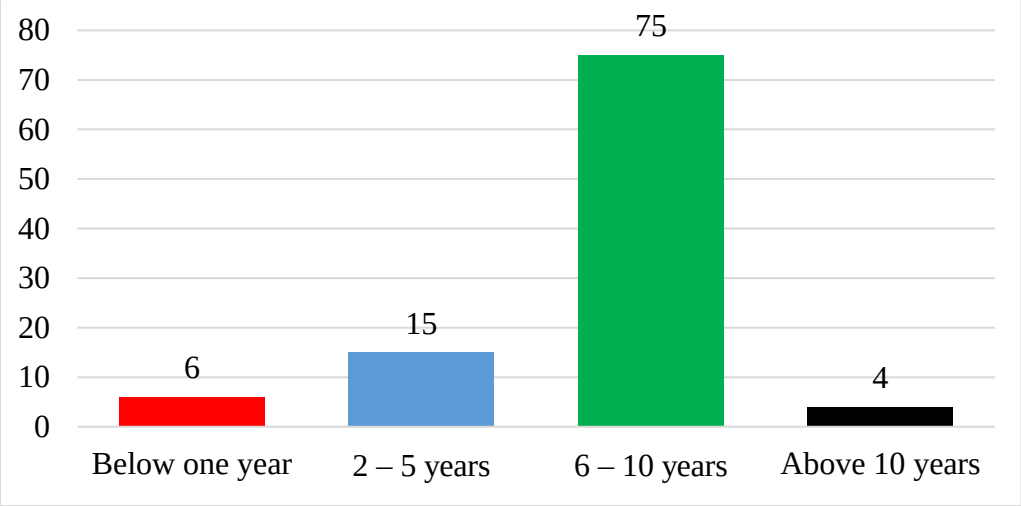


Figure 4.2: Length of Service in Current School

Source: Author (2018)

The study findings in Figure 4.2 show that 75% of the respondents had served as a teacher in the current school for a period between 6 and 10 years, 15% served between 2 and 5 years, 6% had served below one year, while 4% served above 10 years and above. This implied that the respondents had served for varied periods enabling the research to obtain data from a diverse representation. In addition, most had served for a period above 6 years.

4.2.6 Main Subjects Taught by the Respondents

The findings with respect to main subjects taught by the teachers reached were as provided in Figure 4. 3.

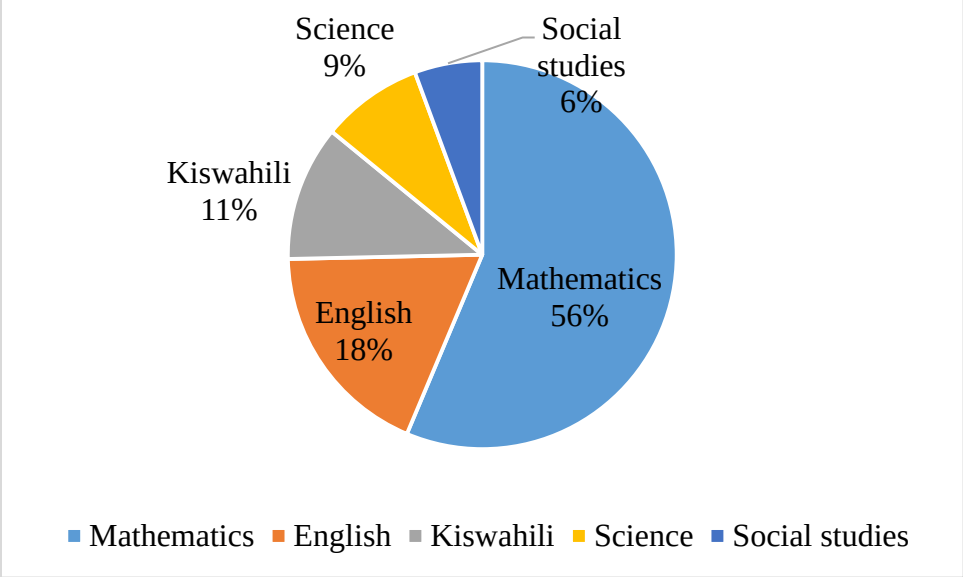


Figure 4.3: Main Subjects Taught

Source: Author (2018)

The result in Table 4.5 in respect to the main subjects taught by the respondents was as follows: 56% of the respondents taught Mathematics, 18% taught English, 11% taught Kiswahili, 9% taught Science, while 6% taught social studies. Most of the teachers reached were mathematics teachers and English teachers, which according to the Nakuru North Sub-County Education (2017) report happen to register low results in KCPE results for the last three years.

4.2.7 Attendance to the Continuous Professional Development Program

The teacher respondents were asked to indicate whether or not they had ever attended the continuous professional development program, and the response was as provided in Table

Table 4.5: Attendance to Professional development workshops

Response	Frequency	Percentage
No	12	25
Yes	36	75
Total	48	100

Source: Author (2018)

The result in Table 4.5 shows that 75% of the respondents had attended professional development workshops, while 25% had not attended such workshops. This implied that majority of the teachers had attended professional development workshops and this was very useful for this study, as they were able to state the program areas covered as well as the effect of the program on their performance. This suggests that engagement in professional development is a feature of the lives of the vast majority of teachers in the public primary schools in Nakuru North Sub County.

4.2.8 Descriptive Statistics forRatings of Teachers' Performance

The results showing the ratings for job performance were as provided in Table 4.6.

Table 4.6: Descriptive Statistics for Ratings of Teachers' Performance

Rating Areas	N	Minimum	Maximum	Mean
Instructional quality (pupil ratings, teacher self-reports, and analyses of tasks).	48	2.00	4.00	3.0833
Pupils progress in examinable subjects	48	2.00	4.00	3.2292
Valid N (list wise)	48			

The findings in Table 4.6 show that the ratings recorded the following mean scores. Rating of teachers' performance in respect to instructional quality (pupil ratings, teacher self-reports, and analyses of tasks) (3.0833); and rating of teachers' performance in respect to pupil progress in examinable subjects (3.2292) the mean scores were slightly above the mid mean score the neutral mean score at 3.0 (Fair rating). This shows that the performance needed further improvement.

It was established qualitatively that according to most teachers, the main areas covered by the continuous professional development program included, workshop topical areas on the subject and pedagogical knowledge, professional skills and supporting attitudes and values. Most of the teachers indicated that CPD enhanced lesson planning and presentation classroom management, and this had enhanced their overall performance as teachers. Regarding the use of information communication and technology (ICT), the teachers indicated that they were yet to see the benefits.

4.3 Effect of Trainingon Pedagogical Content Knowledge on Teachers' Performance in Schools

This section presents the findings with respect to objective one which sought to establish the effect of training on pedagogical content knowledge on teachers' job performance in schools within Nakuru North Sub-County.

4.3.1 Effect of Use of Workshops and Seminars on Knowledge ability in StatingTeaching and Learning Objectives

The teacher respondents were asked to indicate whether or not the use of workshops and seminars had enabled them to have to acquire knowledge in stating teaching and learning objectives and the response was as provided in Figure 4.4.

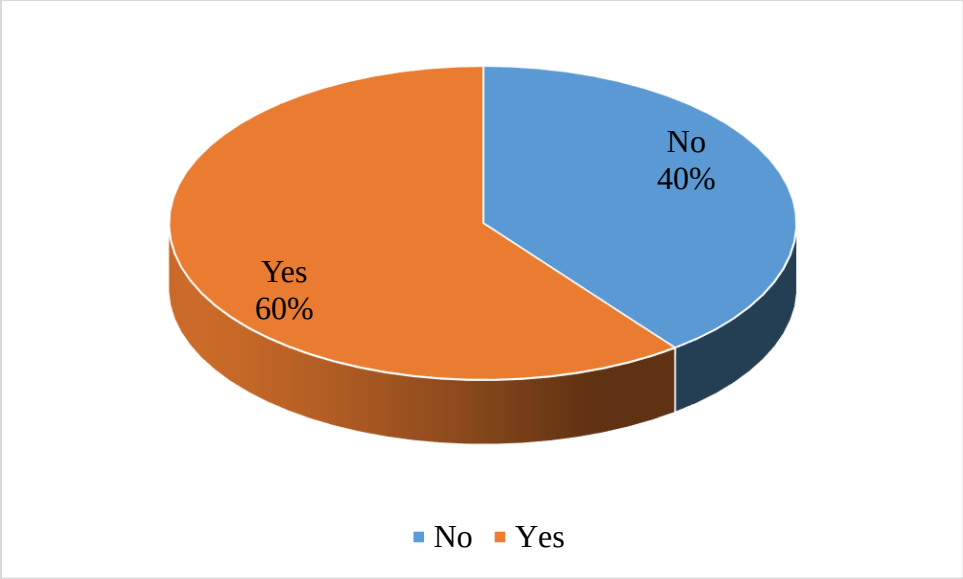


Figure 4.4: Adequacy of knowledge in stating Teaching and Learning Objectives

Source: Author (2018)

The study findings in Figure 4.4 show that 60.4% of the respondents had knowledge in stating teaching and learning objectives through PD workshops and seminars, while 39.6% did not have this knowledge. This implied that according to most of the respondents, the use of workshops and seminars was an effective way of ensuring that teachers had adequate knowledge. This finding was in agreement with a study by Mburu (2008) who found that teachers need to be adequately trained on teaching objectives to manage the large classroom sizes due to over enrolment as a result of free primary education. However, the 40.8% representing those with inadequate knowledge shows C PD workshops and seminars offered to the teachers might not have had the influence expected. A crosstab was computed to determine the effect of CPD attendance and having adequate knowledge of teaching objectives. The crosstab results show that 75.9% of those teachers who had attended. The findings in respect to the relationship between continuous professional development program attendance and having adequate knowledge of teaching objectives were as provided in Table 4.7.

Table 4.7: Relationship between Workshops and Seminars attendance and having adequate knowledge of teaching objectives

			Do you have adequate knowledge on teaching objectives		Total
			No	Yes	
Have you ever attended the continuous professional development program	No	Frequency	5	7	12
		%	26.3%	24.1%	25.0%
	Yes	Frequency	14	22	36
		%	73.7%	75.9%	75.0%
Total		Frequency	19	29	48
		%	100.0%	100.0%	100.0%

Source: Author (2018)

4.3.2 Sufficiency of Teaching Content

The findings in respect to whether or not knowledge of teaching content was enough to enhance their performance ratings was as provided in Table 4.8.

Table 4.8: Sufficiency of Teaching Content

Response	Frequency	Percentage
No	35	73
Yes	13	27
Total	48	100

Source: Author (2018)

The result in Table 4.8 shows that 73% of the respondents had insufficient content of teaching knowledge to enhance their performance ratings, while 27% had sufficient content of teaching knowledge to enhance their performance ratings. This implied that the knowledge of teaching content obtained through CPD was not sufficient in enhancing performance, according to most teachers. The finding was not in agreement with a study

by Smith (2009) who found a significant and positive relationship between teacher content knowledge and pupils learning.

4.3.3 Knowledge of pupils' learning process

Teachers were asked to indicate whether or not they had adequate knowledge of pupils' learning process to overcome learning difficulties as an outcome of continuous professional development, and the response was as provided in Table 4.9.

Table 4.9: Knowledge of Students' Learning Process

Response	Frequency	Percentage
No	9	18.8
Yes	39	81.3
Total	48	100

Source: Author (2018)

The study findings in Table 4.9 show that 81.3%of the respondents had adequate knowledge of pupils' learning process required to overcome learning difficulties, while 18.8% had inadequate knowledge of pupils' learning process required to overcome learning difficulties. This implied that indeed training in teaching content equipped most of the teachers with adequate knowledge of pupils' learning process required to overcoming learning difficulties. The findings are in agreement with a study by Kuhn (2014) who found that knowledge of pupils' learning process was positively associated with teachers' performance in schools.

4.4 Effect of Teaching Strategy Choice on Teachers' Performance in Schools

This section presents the findings with respect to objective two which sought to establish the effect of teaching strategy choice on teachers' performance in schools within Nakuru North Sub-County.

4.4.1 Professional development workshops and Teacher's Ability to chooseAppropriate Teaching and Learning Strategies.

The respondents were asked to indicate whether or not due to participation in professional development workshops, they were able to choose appropriate teaching and learning strategies without difficulties and the result was as provided in Table 4.11.

Table 4. 10: Ability to Choose Appropriate Teaching and Learning Strategies without Difficulties.

Response	Frequency	Percentage
No	13	27.1
Yes	35	72.9
Total	48	100

Source: Author (2018)

The findings in Table 4.11 show that 72.9% of the respondents indicated that due to participation in professional development workshops, they were able to choose appropriate teaching and learning strategies without difficulties, while 27.1% were not able to choose appropriate strategies. This implied that through CPD most teachers had enhanced the ability to choose appropriate teaching and learning strategies without difficulties. Bauml (2011) found that professional development through seminars and workshops helped ensure that teachers were able to effectively apply learned teaching strategies in the classroom in ways which enhance learning.

4.4.2 Ability to Adapt and /or Modify Instructional Strategies to yield quality students' outcomes.

The response in respect to respondents' ability to adapt and /or modify my instructional strategies to yield quality students' outcomes was as provided in Table 4.12.

Table 4.11: Ability to Adapt and /or Modify Instructional Strategies to produce more confident students

Response	Frequency	Percentage
No	20	41.7
Yes	28	58.3
Total	48	100

Source: Author (2018)

The study findings in Table 4.12 show that 58.3% of the respondents were able to adapt and modify instructional strategies to yield quality students' outcomes, while 41.7% were unable to adapt and modify instructional strategies to yield quality student outcomes. Quality outcomes in this regard refer to learner performance in examinations and non-examinable academic achievement. This implied that most of the teachers were able to deliver quality learner outcomes, owing to gains from the continuous professional development. The findings were in agreement with a study by Siegle and McCoach (2007) found that teachers who are properly trained are capable of modifying their instructional strategies to produce more confident pupils' who will perform better in the classroom work and the various examinations.

4.4.3 Effective Application of Learnt Teaching Strategies in the Classroom

The respondents were asked to indicate if they were able to effectively apply learned teaching strategies in the classroom in ways which enhance learning was as provided in Table 4.12.

Table 4.12: Effective Application of Learnt Teaching Strategies in the Classroom

Response	Frequency	Percentage
No	10	20.8
Yes	38	79.2
Total	48	100

Source: Author (2018)

The result in Table 4.12 shows that 79.2% of respondents were able to effectively apply the learned skill of teaching/learning strategies in the classroom in ways which enhance learning, while 20.8% were not able to apply the strategies. This implied that most teachers were confident, they could apply the strategies with confidence, in a classroom and this was a benefit to the learners.

4.5 Effect of Teachers' Self-Efficacy on Teachers' Performance in Schools

This section presents the findings with respect to objective three, which sought to establish the effect of teachers' self-efficacy on teachers' performance within Nakuru North Sub-County.

4.5.1 Teachers' Confidence in Raising Concerns to the School Administration

The response in respect to whether respondents experienced difficulty in raising workplace concerns the school administration was as provided in Table 4.16.

Table 4. 13: Teachers' Confidence in Making Demands to the School Administration

Response	Frequency	Percentage
No	22	45.8
Yes	26	54.2
Total	48	100

Source: Author (2018)

The study findings in Table 4.16 show that 54.2% of the respondents had experienced difficulty in making demands of the school administration, while 45.8% had no difficulty in making demands of raising funds to attend workshop from the school administration. This implied that teachers still needed to be equipped with skills on how to make demands of the school administration.

4.5.2 Effectiveness in the Use of teaching skills and strategies

The teachers were asked to indicate whether due to professional development workshops, they were able to use their teaching strategies and skills effectively and the result was as provided in Table 4.14.

Table 4.14: Continuity in the Use of teaching skills and strategies

Response	Frequency	Percentage
No	13	27.1
Yes	35	72.9
Total	48	100

Source: Author (2018)

The findings in Table 4.14 show that 72.9% of the respondents were able to effectively use their teaching strategies and skills due to PD workshops, while 27.1% were not able. This implied that most of the teachers were able to use their teaching strategies and skills effectively. The finding in this study agrees with Akuboe (2008) findings that appropriate

use of appropriate teaching and learning strategies boosted teacher effectiveness in providing quality education. The pupils are able use better methods of teaching and strategies.

4.5.3 Professional DevelopmentWorkshops and the Relationship between Teachersand Learners

The teachers were asked to indicate whether professional development workshops had helped foster a good relationship between teachers and learners at their schools, and the response was as provided in Table 4.18.

Table 4.15: Relationship between Teachers and Learners

Response	Frequency	Percentage
No	10	20.8
Yes	38	79.2
Total	48	100

Source: Author (2018)

The findings in Table 4.18 show that professional development workshops and seminars had fostered a good relationship between teachers and learners in most of the schools. This implied according to most of the teachers there existed good relationship between teachers and learners in the primary schools. The findings were similar to that in a study by Allinder (2016) who found that there was a positive relationship between teachers and students such as teachers' personal responsibility for students' learning; teachers' professional practice such as classroom management; and emotional aspects such as emotional exhaustion or job satisfaction

4.5.4 Understanding of Professional Practice

The teachers were asked to indicate whether enhanced self-efficacy through professional development had helped them understand fully their professional practice of classroom management and the response was as provided in Table 4.16.

Table 4.16: Understanding of Professional Practice

Response	Frequency	Percentage
No	5	10.4
Yes	43	89.6
Total	48	100

Source: Author (2018)

The findings in Table 4.16 show that majority of the teachers (89.6%) indicated that professional development workshop and in-service had helped them understand fully their professional practice of classroom management, while 10.4% had not experienced this benefit. This implied that training had made a majority of teachers to positively understand their profession.

Table4.17: School Administration appreciation of Teachers' Ideas4.5.5 School Administration appreciation of Teachers' Ideas

The response to whether school administrators were receptive to the teachers or their ideas for promoting the school's educational or social goals was as provided in Table 4.2.

Response	Frequency	Percentage
No	33	68.8
Yes	15	31.3
Total	48	100

Source: Author (2018)

The findings in Table 4.20 show that 68.8% of the teachers indicated school administrators were receptive to the teachers or their ideas for promoting the school's educational or social goals, while 31.3% indicated that the school administrators were not sympathetic.

4.6 Effect of Teachers' Mastery of Subject Matter on Teachers' Performance in Schools

This section presents the findings with respect to objective three which sought to establish the effect of teachers' self-efficacy on teachers' performance in schools within Nakuru North Sub-County.

4.6.1 Mastering of Subjects Taught

The teachers were asked to indicate whether they experienced any difficulties in mastering the subjects they taught and the response was as provided in Table 4.18

Table 4.18: Mastering of Subjects Taught

Response	Frequency	Percentage
No	32	66.
Yes	16	33.3
Total	48	100

Source: Author (2018)

The findings in Table 4.18 show that 66.7% of the teachers indicated that they did not experience any difficulties in mastering the subjects they taught, while 33.3% indicated that they did experience difficulties. This implied that attendance of professional development workshops and seminars had positively enhanced their ability to master the subjects they taught.

4.6.2 Ability to Suggest ways of enriching Subject Content Mastery

The response as to whether the respondents (teachers), who had benefited from in-service and seminars, were able to suggest ways of enriching subject content mastery, were as provided in Table 4.19.

Table 4.19: Preparation to think of Ideas and Information that enrich Mastering of the subjects

Response	Frequency	Percentage
No	41	85.4
Yes	7	14.6
Total	48	100

Source: Author (2018)

The findings in Table 4.19 show that 85.4% of the teachers indicated that they were not well prepared to think of ideas and information to enrich mastering the subjects they taught, while 14.6% indicated that they did experience difficulties. This implied that in-service and seminars had positively enhanced their ability to master the subjects they taught. This means that teachers who had gone through in-service and had attended CPD seminars were well prepared to learn better of ideas and information to enrich mastering my subjects

4.6.3 Ability to reflect on Strengths and Weaknesses

The respondents were asked to indicate whether they were able to reflect on their strengths and weaknesses in relation to their subject knowledge and its application, and the results were as provided in Table 4.21.

Table 4.20: Ability to reflect on Strengths and Weaknesses

Response	Frequency	Percentage
No	8	16.7
Yes	40	83.3
Total	48	100

Source: Author (2018)

The findings in Table 4.21 show that 83.3% of the teachers indicated that were not able to reflect on their strengths and weaknesses in relation to their subject knowledge and its application, while 33.3% indicated that they did experience difficulties. This implied that

the acquired skills during the Continuous Professional Development sessions had enhanced teachers' ability to reflect on their strengths and weaknesses in relation to my subject knowledge and its application. The process of reflection will help teachers offer quality service to their learners.

4.6.4 Awareness and Use of the Range of Reference Materials Relevant to the Subject

The respondents were asked whether they were aware of the range of reference materials relevant to the subject and using these to support teaching and learning, and the result was as provided in Table 4.22.

Table 4.21: Awareness and Use of the Range of Reference Materials Relevant to the Subject

Response	Frequency	Percentage
No	13	27.1
Yes	35	72.9
Total	48	100

Source: Author (2018)

The findings in Table 4.22 show that 72.9% of the teachers were aware of the range of reference materials relevant to the subject and using these to support teaching and learning, while 27.1% were not aware. This implied that the in- service and seminars had made the teachers aware of the materials to use and also on how to use them and thus enhance their performance.

4.7 Responses from the Head Teachers

The results from the qualitative analysis for data collected using interview schedules show that the Head teachers described teachers' performance as average, but indicated that there was still room for improvement. Despite the activities embarked upon by the Ministry of Education to expose teachers to frequent training and retraining, arguably a large number of Head teachers who are opposed to organizational change due to their negative attitudes to introduce new innovations and techniques to teach their pupils, which could lead to pupils' failure. The study findings show that opportunities for continuing professional development of teachers should be created and exploited to the maximum.

The findings from the head teachers through the interview schedules revealed that teacher training on pedagogical content knowledge had a positive effect on teachers' performance, the association was not significant. This was in agreement with a study by Gess-Newsome (2013) who established that continuous professional development programs that enhanced teachers' pedagogical content knowledge (PCK) was one of the most influential factor contributing to teaching/ learning activities to improve teachers' performance..

The findings from the interview schedule show that the head teachers indicated that teacher training in teaching strategy choice had a positive effect on teachers' performance. This implied that Mestry, et.al (2009) established that CPD program such as the Integrated Quality Management System (IQMS) had enhanced teachers' ability to appropriately choose teaching strategies as well as use these strategies effectively in schools. In a similar study Ensor, Hoadley, et.al (2009) attributed poor performance among learners to poor choice of teaching strategies by teachers.

The findings from interview schedules show that the head teachers of the public primary schools in Nakuru North Sub County were convinced that teachers' self-efficacy had a positive effect on teachers' performance but the effect was not statistically significant. The findings of this study were in line with that of Khurshid, et.al (2012) who established a positive relationship between teachers' self-efficacy and their job performance.

Results from the analyzed data, from interview schedules show the head teachers believed that the outcome of the CPD programs offered in the primary schools teachers' mastery of subject matter had a positive effect on teachers' performance. The findings are similar to that in a study by Shantz and Latham (2012) who established that the mastery of subject content by a teacher greatly determines the quality of teaching and subsequent learning.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter contains the summary of research findings presented in chapter four, conclusions, and recommendation drawn from conclusions. The purpose of this study was to examine the effects of continuous professional development on teachers' job performance in public primary schools in Nakuru North Sub County, Nakuru County. In this study, data was collected using questionnaires and interview schedules. Data collected was analysed using SPSS version 21.0. The analysis entailed the computation of descriptive statistics (frequencies, means, and percentages) and Pearson Moment Correlations.

5.2 Summary of the Findings

Teachers' job performance in respect to instructional quality pupils' ratings, teacher self-reports, and analyses of tasks, the rating of teachers' performance in respect to pupils' progress in examinable subjects, and teachers' performance ratings in respect to pupils' progress in the classroom work were slightly above average. Most pupils developed interest in their studies.

There is effect of in- service, workshops, and seminars on teaching objectives. That the knowledge of teaching content obtained through these practices was sufficient in enhancing teachers' job performance, according to most teachers in the schools. Training on teaching content equipped most of the teachers with adequate knowledge of pupils' learning process required to overcome learning difficulties in all the subjects the subject.

Teachers still needed to be equipped with skills and modern methods of teaching and learning on how to make demands of the school administration on CPD trainings. Most of the teachers were able to use their teaching strategies and skills continuously. Most schools have a good relationship between teachers and learners, so there is a cohesive

learning atmosphere in the school. In- service, workshops and seminars had positively enhanced their ability to master the subjects they taught. The CPD practices had positively enhanced their ability to master the subjects they taught. Workshops and seminars had enhanced teachers' ability to reflect on their strengths and weaknesses in relation to the subject knowledge and its application. In service had made the teachers aware of the materials to use and also on how to use them and these enhance their performance.

5.3 Conclusions of the Study

The study concludes that training on pedagogical content knowledge had a positive effect on teachers' performance. Most of the teachers were able to use their teaching strategies and skills continuously and this translated into good performance.

The study concludes that in- service, workshops, and seminars had a positive effect on teachers' job performance in schools within Nakuru North Sub-County. Poor choice of teaching strategies negatively affected teachers' performance. However, teachers still need more training on strategy choice to improve their performance in the schools.

The study concludes that teachers' self-efficacy had a positive effect on teachers' performance in schools within Nakuru North Sub-County. The teachers still needed to be equipped with skills on how to make demands of the school administration

The researcher concludes that teachers' mastery of subject matter had a positive effect on teachers' performance in schools within Nakuru North Sub-County. In- service, workshops and seminars had enhanced teachers' ability to reflect on their strengths and weaknesses in relation to the subject knowledge and its application in class. These CPD practices made teachers aware of the materials needed during teaching/learning activities and the proper use of them for teaching/learning and this enhances teachers' performance in school.

5.4 Recommendations

There is the need for the Ministry of Education to mobilize resources on CPD and put more effort to develop a positive professional development towards teachers. There is the need for education providers to provide funds to schools for professional development.

The school management should consider orienting CPD programs towards ensuring that teachers are able to make the proper choice of teaching strategies which negatively affects teachers' performance.

Teachers should also be exposed to interactive approaches plus other modern related trends on the teaching/learning of their subjects through seminars and workshops. There is a need to have more seminars on self-efficacy and teacher performance. Those teachers who have attended workshops and seminars can guide newly employed teachers in order to improve their performance.

5.5 Suggestion for Further Studies

The study focused on public primary schools in Nakuru North Sub-County. A similar study needs to be undertaken on the effects of continuous professional development on teachers' job performance in public primary schools in the rest of Nakuru county. The research provides insights into further research areas related to the problem. Some suggestions are given below that may help to explore related areas.

Theeffects of continuousprofessional development on teachers' job performance in publicprimary schools.

The attitude of teachers' educators on continuous professional development of teachers

Influence personal characteristics on continuous professional development.

Influence of age and teachers continuous professional development.

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APPENDICES

Appendix I: Letter of Introduction

Dear Sir / Madam,

I humbly request you to assist in the completion of a questionnaire for my research paper. I appreciate your taking the time from your busy schedule. This is part of my research for the Award of Masters of Development Studies, of St. Paul's University Kenya. The information collected using questionnaire will be analyzed and some of the key emerging themes will be explored further through questionnaires and interviews. It is my sincere hope that information provided will be very useful to you in creating thoughts about your own involvement in provision of quality education.

Anonymity and school -identity will be disclosed in the thesis. The study will make sure the raw data collected is stored electronically for a period of five years and destroyed after the degree is completed. The research results may be used in publications and presentations as part of the dissemination of the research. Do not hesitate in case of any inquiries.

Thank you very much for accepting to participate in the study.
Yours Sincerely,

Helen Ngari

Appendix II: Research Questionnaire for Teachers

Kindly provide answer the following questions using the choices provided. Confidentiality will be upheld Please tick appropriately.

- Please indicate the age in years.

  18 – 27 years [ ]

  28 – 37 years [ ]

  38 – 47 years [ ]

  48 years or above [ ]

- Gender

  Male [ ]

  Female [ ]

- Please indicate the length of time you have been a school teacher in your teaching career.

  Below one year [ ]

  2 – 5 years [ ]

  6 – 10 years [ ]

  11 – 15 years [ ]

  16 and above years [ ]

- Indicate your current academic qualification

  Certificate [ ]

  Diploma [ ]

  Degree [ ]

  Masters [ ]

  Any other [specify] ……

- How long have you served as a teacher in your current school?

  Below one year [ ]

  2 – 5 years [ ]

  6 – 10 years [ ]

  Above 10 years [ ]

- What subject do you mainly teach? ……(Please specify)
- Have you ever attended the continuous professional development program?

  Yes [ ] No [ ]
- What areas did the program cover?

  ……

  ……

  ……..
- Did the program help in enhancing your performance? ……..

  If yes, in what ways has your performance been enhanced through the CPD program in respect to the following:
- Lesson planning and presentation? …….
- Classroom management? ……..
- Use of Information Communication and Technology (ICT)?

  …….

Part B: Teacher Training on Pedagogical Content Knowledge

- Do you have adequate knowledge on teaching objectives? ……..
- Is your knowledge of teaching content sufficient enough to enhance your performance ratings?

  ……

- Do you have adequate knowledge of students' learning process required to overcome learning difficulties? ……

Part C: Teachers' Choice of Teaching Strategies

- Are you able to correctly choose appropriate teaching and learning strategies without difficulties? ……
- Are you able to adapt and /or modify my instructional strategies to produce more confident students? ……..
- Are you able to effectively apply learnt teaching strategies in the classroom in ways which enhance learning? …….
- Are you comfortable using teacher-centred strategies as compared to learner centred strategies? ……..

Part D: Teachers' Self-Efficacy

- Do you experience difficulty in making demands of the school administration? …….
- Are you able to continuously your teaching skills and strategies? …….
- Are you able to engage students in exploring real-world issues using tools and resources available?
- Is there a good relationship between teachers and learners at your school?

……

- Has training helped you understand fully your professional practice of classroom management? ……
- Are school administrators sympathetic to you or your ideas for promoting the school's educational or social goals? ……..

Part E: Mastery of Subject Matter

- Do you experience any difficulties in mastering the subjects you teach?
- Are you well prepared to think of ideas and information to enrich mastering my subjects? …….
- Are you able to reflect on your strengths and weaknesses in relation to my subject knowledge and its application? …….
- Are you aware of the range of reference materials relevant to the subject and using these to support teaching and learning? ……..

Part F: Teachers' Job Performance

- What was your school mean score in the 2017 for:

  The school overall mean score …….

  The subject you teach ……

- How would rate teachers' performance in respect to Instructional quality (student ratings, teacher self-reports, and analyses of tasks). Use the scale provided

Very Good	[5]	Poor	[2]
Good	[4]	Very Poor	[1]
Fair	[3]		

- How would rate teachers' performance in respect to student progress in examinable subjects. Use the scale provided

Very Good	[5]	Poor	[2]
Good	[4]	Very Poor	[1]
Fair	[3]		

- How would rate teachers' performance in respect to student progress in examinable subjects. Use the scale provided

Very Good	[5]	Poor	[2]
Good	[4]	Very Poor	[1]
Fair	[3]		

- How would rate teachers' performance in respect to students' performance in KCPE in 2017. Use the scale provided

  Very Good [5]

  Good [4]

  Fair [3]

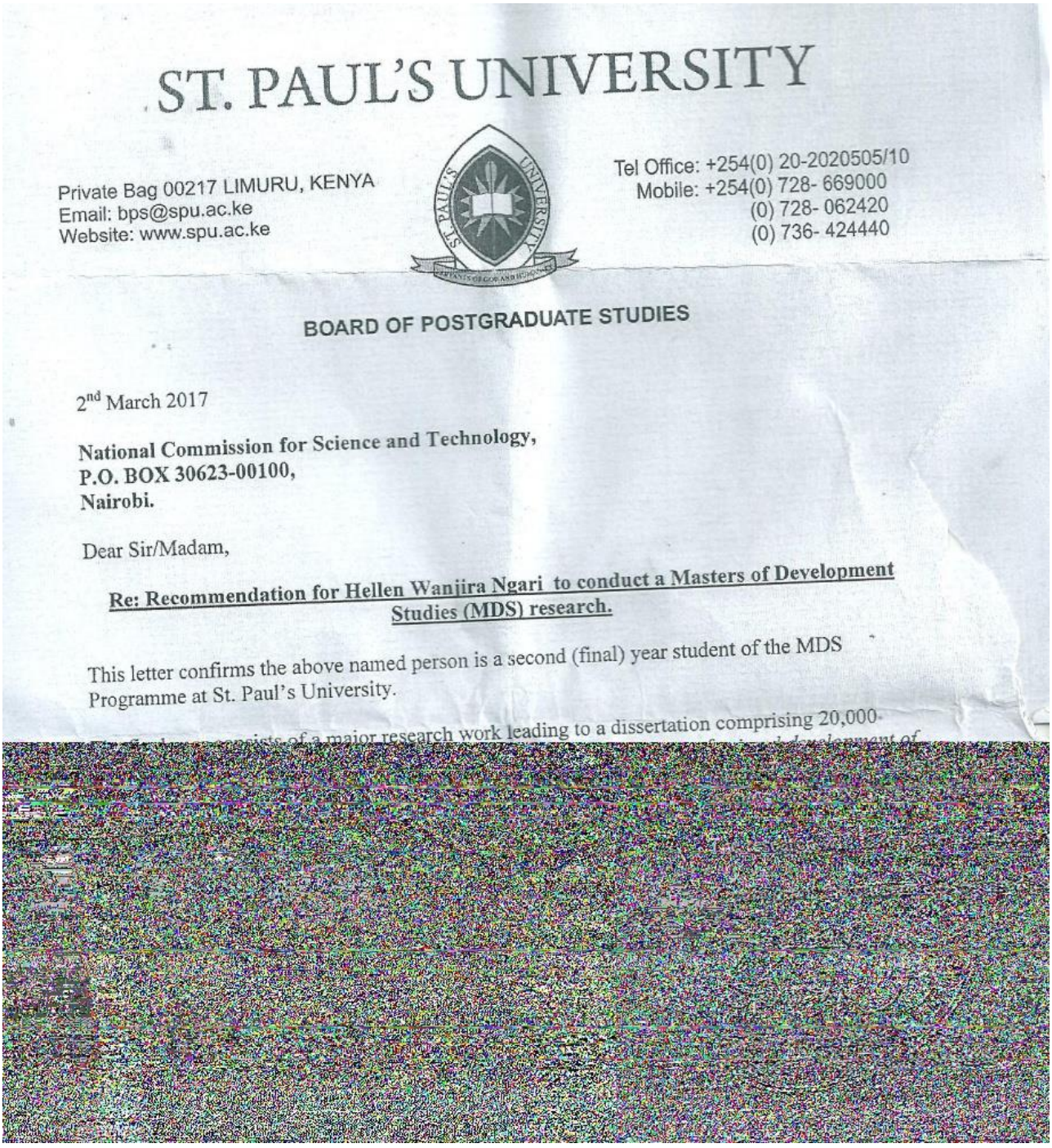
  Poor [2]

  Very Poor [1]

Appendix III: Interview Schedule for Head Teachers

1. How would you describe teachers' performance at your school?
2. What continuous professional development programs exist at your school?
3. What key areas do the programs cover?
4. In what ways do the following CPD aspects affect teachers' performance?
    a. Training on pedagogical content knowledge
    b. Teaching strategy choice
    c. Teachers' self-efficacy
    d. Teachers' mastery of subject matter
5. What do you think should be done to the CPD programs to enhance their effectiveness in promoting quality teacher performance?

Appendix IV: Research Permit



ST. PAUL'S UNIVERSITY

Private Bag 00217 LIMURU, KENYA
Email: bps@spu.ac.ke
Website: www.spu.ac.ke

Tel Office: +254(0) 20-2020505/10
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(0) 728- 062420
(0) 736- 424440

BOARD OF POSTGRADUATE STUDIES

2nd March 2017

National Commission for Science and Technology,
P.O. BOX 30623-00100,
Nairobi.

Dear Sir/Madam,

Re: Recommendation for Hellen Wanjira Ngari to conduct a Masters of Development Studies (MDS) research.

This letter confirms the above named person is a second (final) year student of the MDS Programme at St. Paul's University.

[illegible] consists of a major research work leading to a dissertation comprising 20,000

Appendix V: Research Authorization Letter



NATIONAL COMMISSION FORSCIENCE, TECHNOLOGY ANDINNOVATION

Telephone: +254-20-2213471, 2241349,3310571,2219420
Fax: +254-20-318245,318249
Email:dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O.Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/17/53740/16486**

Date: **31st March, 2017**

Helen Wanjira Ngari
St. Pauls University
P.O. Private Bag - 00217
LIMURU.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"An assessment of continuous professional development of teachers on schools performance, a survey Nakuru North Sub County, Nakuru County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **30th March, 2018.**

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

Appendix VI: Research Permit

THIS IS TO CERTIFY THAT:
MISS. HELEN WANJIRA NGARI
of ST. PAUL UNIVERSITY, 2401-20100
NAKURU,has been permitted to conduct
research in *Nakuru County*
on the topic: *AN ASSESMENT OF CONTINUOUS PROFESIONAL DEVELOPMENT OF TEACHERS ON SCHOOLS PERFORMANCE, ASURVEY NAKURU NORTH SUB COUNTY, NAKURU COUNTY, KENYA.*
for the period ending:
30th March,2018

.....
Applicant's Signature

Permit No : NACOSTI/P/17/53740/16486
Date Of Issue : 31st March,2017
Fee Recieved :Ksh 1000



.....
Director General
National Commission for Science, Technology & Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officer will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEACH CLEARANCE PERMIT

Serial No.A 13578

CONDITIONS: see back page