MANAGERIAL PRACTICES INFLUENCING INTEGRATION OF INFORMATION COMMUNICATION TECHNOLOGY IN IN-SERVICE PROGRAMMES AT POLICE TRAINING INSTITUTIONS IN KENYA

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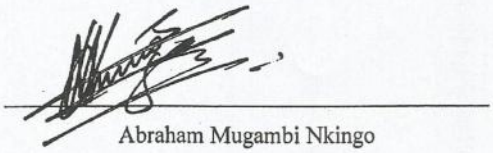
DECLARATION

This thesis is my own original work and has not been presented for the award of a degree in any other University



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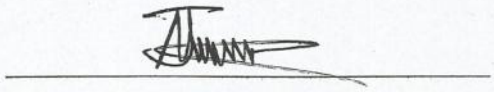

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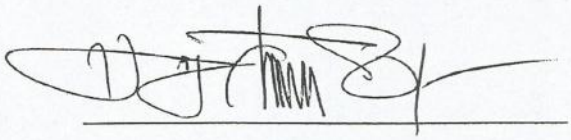

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DEDICATION

I dedicate this thesis to my beloved wife, Zipporah Kanyuah Gaicima; my lovely daughter, Vannenciah Gaceri; my sons Mordecai Msindi and Sylvistine Hakimu; and to my dear parents, Mr. and Mrs. Robert Nkingo Kimake.

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ABBREVIATIONS AND ACRONYMS

AMREF	Africa Medical Research Foundation
CCTV	Closed Circuit Television
DCI	Criminal Investigations Directorate
DCI TSCH	Criminal Investigations Directorate Training School
DoI	Diffusion of Innovation
FSO	Force Standing Orders
HSD	Honestly Significant Difference
GSU	General Service Unit
GSU TSCH	General Service Unit Training School
GTZ	Germany Technical Cooperation
ICT	information Communication Technology
ICDL	International Computer Driving Licence
KICD	Kenya Institute of Curriculum Development
KPC	Kenya Police College
KRA	Kenya Revenue Authority
NSW	New South Wales
PIN	Personal Identification Number
SPSS	Statistical Package for Social Sciences
TNP	Turkish National Police
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Organization for Education, Science and Culture
USA	Unites States of America
WEF	World Economic Forum

ABSTRACT

The purpose of this study was to investigate the influence of administrators of police training institutions managerial practices on integration of Information Communication Technology (ICT) into in-service programmes in Kenya. The study specifically examined the involvement of police officers by the college commandants in the formulation of ICT policies, influence of instructional supervision on the integrations of ICT in-service training, involvement of police officers in the development of in-service programmes and finally the provision of ICT infrastructure by college commandant to integrate ICT in in-service police training. The study adopted a descriptive survey research design, study respondents were sampled the respondents from a population of college administrators, instructors and trainees from Kenya Police Training College Kiganjo, General Service Unit Training School and the Directorate of Criminal Investigations Training School. The study targeted a combined population of 885 comprising of 426 from Kenya Police College-Kiganjo, 326 from General Service Unit training school and 133 from Directorate of Criminal Investigations. The respondents comprised of administrators, instructors and trainees of the sampled police training institutions. Slovin's formula was used to determine sample sizes of instructors and trainees giving a combined sample size of 403 subjects. In addition purposive sampling method was used to select threes college administrators as key informants from each of the three training intuitions. Primary data was collected from nine college administrators who were purposively sampled and 403 instructors and trainees, selected randomly from the three police training institutions. Primary data from instructors and trainees were collected using questionnaires while an interview schedule was used to collect data from the three college administrators. Quantitative data were analysed descriptively using frequencies while qualitative data was analysed through data reduction, data discussion and drawing conclusions. Chi Square was used to test hypothesis to test the significance relationship of ICT proficiency among the police officers and police training schools. The findings on the contribution of involvement of instructors and trainees in the formulation of ICT policies, instructional supervision, development of in-service training programmes and provision of ICT infrastructure on integration of ICT in police in-service training contributed very little to ICT integration. The study recommends that police training colleges be made semi-autonomous in order to provide the administrators with the leeway to make managerial decisions freely. The findings were significant to the National Police Service, the Ministry of Interior and National Police Service and all stakeholders in the development of policies that will ensure that ICT is integrated into police in-service training. The study concludes that the management of police training institutions have not influenced to a large extent the involvement of the police officers on ICT policy formulation, formulation of in-service programmes and supervision of ICT instruction. Also the provision of ICT infrastructure has not to a large extent contributed to ICT integration in police in-service training.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Security is a vital factor in achieving sustainable social economic development in any country. It is also the case that no single sector of economy can thrive in an insecure environment. Any government in a democratic society requires a police service that is dedicated to serving its public by ensuring that law and order are maintained. Education and training have been recommended as important elements for improving standards in policing and security institutions (Prenzler, Martin & Sarvner, 2010).

Trainnig can be pre-service or in-service. In-service training is a staff development activity aimed at improving the performance of an employee holding a position in an organisation (Halim & Ali, 2008). According to Shrivastava (1996), factors such as technological changes, demand for quality service delivery, changes brought about by global competition and changes, demand on employees to acquire new knowledge and skills presumably through in-service training. Sushil (2005) argues that the process of globalisation creates global competition and pushes domestic institutions to move out of the shell.

Police agencies are regarded as primary organisations through which law enforcement and crime prevention services are provided to communities (Prenzler, Martin & Sarre, 2010). It is with this in mind that police training institutions are required to equip police officers with latest legal knowledge and technological skills, in order to enable them make informed decisions and remain proficient in a number of job-related skills (Birzer & Tannehill, 2001). A number of scholars like Birzer, 2004, Donavant, 2009, agree that high standards of education and training among the police agencies would

contribute to improved police service by enhancing their professional experiences, operational knowledge, initiative and integrity. This has necessitated the need for lifelong learning for the police officers around the globe where most police agencies have an obligatory in-service training for their officers.

The Turkish National Police (TNP) regards in-service training as a key driver for its organisational and police performance improvement (Turkish National Police, 2007). In-service training in TNP across all police ranks is a constant activity. Over 100,000 members of staff of TNP undergo continuous professional training every year (Turkish National Police, 2007). Some police services require that an officer must undergo a 40 hours' course within two years without which one loses his job certificate (Turkish National Police, 2007). Other Police agencies attach monetary reward for officers who complete 120 hours in-service training as a motivator (Kazu & Gumus, 2001). This is because over years, security has been viewed as a vital factor in achieving sustainable social economic development in every society.

According to Okumbe (1999), the five fundamental elements of management are planning, organising, command, coordination and control. Management is, thus, viewed as a social interaction process involving a sequence of coordinated events, such as planning, organising, controlling, supervising, budgeting and evaluating in order to use human and material resources to achieve a desired outcome in the fastest and most efficient manner in an organisation (Oboegbulem & Godwin, 2013). Similarly, managers of police training institutions perform all the aforementioned social functions to ensure police training institutions achieve predetermined organisational goals. Through planning, organisational leaders are able to look into the future to determine the best way forward to attain organisational goals (Lunenburg &

Ornstein, 2012). In organizing, managers are involved in the arrangement of human capital, their development and evaluation.

United Nations Organization for Education, Science and Culture (UNESCO) observes that institutional leaders need to provide necessary resources to employees to enable them discharge their duties efficiently and effectively while training them in an adequate and continuous way (UNESCO, 2012). In present day, Information Communication Technology (ICT) has been found to be an important tool in promoting employee efficiency especially in training and organisational management (Zaidman, Schwartz, & Te'eni, 2008).

According to Njoka (2015) there is no universally accepted definition of ICT because the concepts, methods and applications involved are constantly evolving on an almost daily basis. ICT in educational management is rapidly increasing in importance worldwide and becoming an enterprise of importance in its own right. Ndung'u (2012) observes that ICT is any gadget that is able to store, transmit or receive information electronically in a digital form, such product could include personal computers, digital cameras, mobile phones, digital television among others. Mulwa (2012) finds that ICT is concerned with technology used in handling, acquiring, processing, storing and disseminating information.

Brian (2009) opines that ICT integration in education and training as the process of using any aspect of ICT to enhance students' learning and improve the efficiency and effectiveness of institutional management. On the same breadth, Schedler& Schmidt (2004) view ICT integration in education and training as the infusion of ICT in teaching, learning and educational management, with an aim of enhancing the teaching, learning and improving the effectiveness of managing the educational

process. Based on the various explanations by different authors, it can be argued that ICT is the use of computer and related electronic gadgets to promote effectiveness and efficiency in training and management of educational or training institutions.

Here, an organisation's core business and its customers are necessary aspects to consider for effective integration of ICT as they help in defining and arriving at the organisational ICT policy (Tusubira & Mulira, 2004). This means internal organisational policies must be harmonised with external or national policies to ensure acceptance and avoid wastage of resources resulting from isolated use of technology.

Schedler and Schmidt (2004) observe that managers of institutions influence the integration process through their strategies, namely objective setting, establishment of structures such as rules and policies, incentives and staff capacity building. Sebastian (2011), in his study on organisational change within the police forces found that lack of professional staff development greatly hindered integration of ICT training in institutions. As such, Schiller (2012) finds that institutional leadership and employee supervision plays an important role in leading change, providing vision and objectives as well as professional development initiatives in using ICT to bring about change. Schiller also observes that proper supervision helps administrators in continuous monitoring of the integration process and provides support to employees whenever necessary. According to Tusubira and Mulira (2004), failure by administrators to fully and effectively involve all the users in the entire integration process can impede the integration process. It is, therefore, imperative that administrators should fully involve all the individuals concerned and more particularly in decision making.

According to Wang and Woo (2007), ICT is a powerful tool used in training; it is used to build new learning avenues like distance learning, e-learning among others, some of which have been found to be very appropriate for adult learners. In this regard, Donavant (2009) points out that different police training institutions, especially in the developed countries, use ICT to make police education more accessible to police officers, improve the quality of police training, reduce the cost of police training and improve management of the police training institutions. For example, Britain's Royal Air force Police has an e-learning programme that train personnel on investigation and security techniques, a simulation and testing to instruct officers on how to deal with offensive weapons, theft, grievous bodily harm and sexual offences among others. Additionally, Uganda National police have partnered with Makerere University to integrate ICT in the police force. Makerere University helps to train police officers on use of ICT in aspects such as biometric data capture, firearms data base, traffic management, records' management among other uses (Kisambira, 2008). This effort in Uganda to integrate ICT in police work has been found to be successful (Omwenga, 2014).

Wang and Woo (2007) find that with proper ICT integration, presence in a physical classroom is not a 100 per cent requirement as the case in police training institutions in Kenya, where trainees are required to be physically present in class all the time during the training. In this regard, Gakuu, (2006) observes that distance learning is best suited for military officers because they are deployed in areas that are geographically dispersed and absence from their units to attend classes in a conventional setting could affect the operations of their unit. Through e-learning, thus, police training institutions could make learning opportunities readily available to police officers, who would otherwise be disadvantaged by limited time, distance,

professional and personal constraints, to access in-service courses or acquire necessary training materials to help them improve their service delivery. A report by Her Majesty's Inspectorate of Constabulary in Scotland (HMIC) on police efficiency noted that ICT offers more efficient ways in planning, directing and managing police workforce and resources (HMIC, 2015).

Although Gakuu's argument may be valid in an ideal situation, this might not be very possible in developing countries where ICT infrastructure is still underdeveloped. Poor ICT infrastructure, inadequate equipment, high cost of ICT equipment and software are some of the challenges identified as hindering ICT integration in Kenya (Republic of Kenya, 2005).

The use of ICT in Kenya is guided by several policies and other Government documents. Such policies include: the National ICT policy (2006), Sessional Paper no.1 (2005), The National ICT strategy for education and training (2006), Kenya Vision 2030 Development Programme (2007), Ministry of education strategic plan (2006-2011) among others. The National Police standing order has placed the responsibility of implementing these policies on the managers of various police training institutions (Republic of Kenya, 2001). In turn, the managers of these police training institutions have the responsibility of developing institutional strategic plans that guide different plans such as ICT integration (Republic of Kenya, 2001).

Kenya has witnessed use of ICT in various institutions of higher learning, ICT is to produce training materials like training notes, hand-outs, books, examinations materials, interactive electronic materials, supporting distance learning through ICT platforms like e-learning, to mention but a few (Hennessy, Onguko, Arison, Ang'ondi, Namalefeand & Naseem, 2010). They also noted that teachers use ICT in

actual classroom presentation through computer programmes like Power Point on the one hand. Education managers, on the other hand, use computers in human resource management in activities such as employee records' keeping, leave processing and others (Bal, Bozkurt, & Ertemsir, 2012). Similarly, in the medical field, ICT is used to keep patients' records, as training tool to simulate surgery procedures, drug action, disease epidemiology while in distance learning, ICT is used as an important tool to keep medics updated.

In a school environment, ICT enables managers and administrators to easily update and produce documents regarding operational activities in their schools, support administrators in decision making. Considering that ICT systems present reality at the moment, ICT can help administrators to communicate data, exchange messages and information between school staff and other schools or organizations, which helps school managers in finding creative solutions for complex problems (Maki, 2008; Visscher, 1996).

According to Alshumain and Alhassan (2010), it is of paramount importance to have well planned and well developed staff development programmes in order to successfully implement computers in classrooms. When developing a training programme, therefore, it is important to have in mind the kind of learners to be taken through that programme. Such knowledge will be useful when designing the programme and will help in understanding the kind of learners' support needed in order to meet their needs (Hunte, 2012). This can be realised through involving the stakeholders at various stages of programme development, for example, when conducting Training Needs Analysis (TNA). According to Hughes (2004), it is very

important to make learners fully aware of what will be required of them and what they can expect from the in-service programmes.

1.2 Statement of the problem

The government has identified education as the natural platform for equipping the nation with ICT skills and over years, big steps have been made towards transforming Kenya into a knowledge-based economy. Kenya's Vision 2030 has also identified security as a necessary element on social economic pillar to help in its realisation. However, the police service, which is charged with the responsibility of providing internal security in the constitution, is faced with the emergence of new trends of crime like cybercrime, which threaten the country's social economic development.

Although the government has continued to equip government offices and departments with computers and boosting the ICT infrastructure in the country, the level of ICT integration in police training institutions is still wanting. Learning institutions and other organizations have taken advantage of the available ICT since it does not only promote efficiency and effectiveness in learning but also make knowledge more accessible to learners while at the same time promoting the effectiveness and efficiency of administrators. Despite the fact that various studies have been carried out to investigate different aspects of ICT integration in institutions of higher learning, secondary and primary schools, there is no clear evidence of a scientific study that has been carried to investigate the level of ICT integration in police training institutions in Kenya. It is on this premise that this study sought to investigate managerial practices influencing integration of ICT in in-service training programmes at police training institutions in Kenya.

1.3 The Purpose of the study

The purpose of this study is to investigate the influence of managerial practices on integration of ICT in-service programmes at police training colleges in Kenya in order to promote efficiency in management of police training institutions and make police officers acquainted to modern technology.

1.4 Research objectives

This study was guided by the following research objectives:

i) To determine if there is any relationship between involvement of police officers in formulation of Information Communication Technology policies and its integration in police training institutions.

ii) To establish the influence of instructional supervision on the integration of Information Communication Technology in police training institutions.

iii) To determine the extent to which involvement of police officers in the development of in-service programmes influences integration of Information Communication Technology in police training institutions.

iv) To determine the extent to which the provision of Information Communication Technology infrastructure influences its integration in police training institutions.

1.5 Research hypothesis

The study was guided by the following five null hypotheses:

H_O1: There is no significant difference in the mean ICT integration levels in in-service training when instructors' ICT proficiency level is categorized as low or high.

H_O2: There is no significant relationship in the mean Information Communication Technology (ICT) integration levels in in-service training when police officers are classified as involved or not involved in formulation of ICT policies.

H_O3: There is no significant difference in the mean Information Communication Technology integration levels in in-service training when college instructors' are categorised as supervised and not supervised.

H_O4: There is no significant relationship in the mean levels of Information Communication Technology (ICT) integration in in-service training when police officers are classified as involved or not involved in developing police in-service training programmes

H_O5: There is no significant difference in mean of Information Communication Technology integration levels in in-service training when colleges are classified as having adequate or inadequate ICT infrastructure.

1.6 Significance of the study

This study seeks to investigate the managerial practices that influence integration of ICT in police in-service training programmes at police training colleges in Kenya. The findings of this study may be used by the Inspector General of National Police Service and administrators of police training institutions, when formulating policies on ICT in police training institutions. The findings will also be useful to managers of police training institutions in identifying suitable managerial practices which promote the integration of ICT. As such, the report will help in identifying challenges facing integration of ICT in police training and provide possible solutions. In addition, this study will form a foundation upon which other studies may be based and, thus, contribute to the wider body of knowledge.

1.7 Limitations of the study

The study experienced a number of limitations which are worth mentioning. One of the limitations was securing an appointment with the heads police training institutions for interview due to their busy schedules. This limitation was overcome by conducting telephone interviews and meeting them in their convenience places.

Another limitation encountered was administration of questionnaires to instructors and trainees because of the tight schedule and the delicate nature of police work. This was occasioned by some of the research participants who were not able to complete their questionnaires because they were deployed away from the colleges and others allowed proceed for their annual leave while the study was on going. This was addressed by administering questionnaires to other police officer who were not initially sampled but had similar characteristics. Some of the senior officers who were being interviewed first thought the interview could influence the outcome of the police vetting exercise. To avoid this perception, the research participants were assured of confidentiality of their identities. In addition, the participants were assured that the research was purely for academic purposes and not related in any way to the on-going police vetting.

Finally the unfamiliarity of some terminologies such as integration, ICT infrastructure among others proved to a challenge to the research participants to comprehend and respond to items in the questionnaires. This limitation required the participants to keep on asking for explanation and clarifications. To overcome this limitation the researcher and the research assistants took some time to explain the meaning of such terminologies to the research participants before they started and during filling the questionnaires.

1.8 Delimitations of the study

The study was conducted at Kenya Police College - Kiganjo, General Service Unit Training School (GSU-TSCH) - Embakasi and Directorate of Criminal Investigations Training School (DCI-TSCH). The target population were college administrators, instructors and trainees for in-service training programmes.

1.9 Assumptions of the study

This study was based on the following assumptions: involvement of police officers in developing ICT policies; instructional supervision; involvement of police officers in developing in-service training programmes and provision of ICT infrastructure have the ability to influence integration of ICT in police training institutions. It is also assumed that integration of ICT in police in-service training would improve on efficiency and effectiveness of police administrators and also improve the quality and accessibility of police in-service training programmes.

1.10 Definition of significant terms

Administrator: refers to a commandant or the deputy commandant, the director of curriculum and the officer in charge of ICT in Kenya Police Training College, Kiganjo, Directorate of Criminal Investigations Training School and General Service Unit Training School.

Instructional supervision: refers to an act, by administrators of police colleges, of overseeing how instructional activities are carried out or conducted by the instructors in a police training college.

Influence: refers to factors that contribute to the integration of ICT.

Information Communication Technology: refers to computer technological resources used to communicate, create, disseminate, store, and manage information.

In-service training: refers to capacity building courses offered to serving police officers for the purpose of improving their performance.

Managers: refers to heads of police training institutions charged with the responsibility of making decisions and policies of running the institutions. They include the college commandants, college commanding officers, director of studies and the officers in charge of ICT in colleges.

Managerial practices: refer to regular activities undertaken by college administrators such as college commandants, director of studies, director of curriculum, heads of ICT examples of such activities include policy formulation, instructional supervision, designing of in-service training programmes and provision of ICT infrastructure, which are mainly carried out by heads of police training institutions to ensure attainment of organisational goals.

Force numbers: refers to identification numbers which is unique to each police officers

Hardware: refers to all physical components of a computer system

1.11 Organisation of the study

This study is organised in five chapters. Chapter one discusses the background of the study, statement of the problem, specific objectives and hypotheses of the study. Significance, limitation and delimitation of the study are also discussed in this chapter. Chapter two presents relevant literature reviewed, theoretical and conceptual framework. Chapter three addresses research methodology, research design, target population, sample size and sampling procedure. It also addressed are instrument validity and reliability. Chapter four addresses data analysis, data presentation and

discussion. Chapter five presents summary of research findings, conclusions and makes recommendations following the findings of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presents a review of related literature under the following sub-headings: the concept of police in service-training, the involvement of employees in formulation of ICT policies; the influence of instructional supervision on integration of ICT, the influence of employees' involvement in developing police in-service training programmes on integration of ICT; and, the influence of provision of ICT infrastructure on its integration.

2.2 Concept of police in-service training

In-service training is a process of staff development for the purpose of improving the performance of an incumbent holding a position with assigned job responsibilities (Halim & Ali, 2008). According to Halim and Ali (1997) in-service training may broadly be categorized into five different types: (1) induction or orientation training, (2) foundation training, (3) on-the-job training, (4) refresher or maintenance training, and (5) career development training. Police in-service training programme fall under the category of refresher, maintenance training and career development training. They also observed that in-service training has both personal and organisational advantages. On the one hand, a report by Career Industry Council of Australia (CICA) noted that in-service training improves self confidence in the job, makes communication with colleagues and members of the public easy, increases job satisfaction and prepares individuals for career development. On the other hand, it increases the quality of service helping organization to make re-organization effective and provides easy adaptation for new improvements (Kazu & Gumus, 2000).

In-service training is usually seen as a key factor in increasing productivity and closing the gap between the level of work skills, present and future organisational needs (Rowden & Conine, 2005). Nedler (1989) observes that organized learning experiences provided by employers within a specific period of time brought about a possibility of performance improvement and personal growth. Here, it is important to note that the more society becomes educated and sophisticated, the more the learning opportunities should be made available to the members of the police service around the World to enable them meet the new demands by members of the public. A survey carried out by Donavant (2009) on metropolitan police in Oklahoma recommended the provision of quality police professional development training. According to him, they would require providers and administrators to recognize and apply new methods about the learning process of adults and the motives and environmental factors that directly influence adults' ability to acquire new knowledge and skills, (Donavant, 2009).

The in-service training of police officers has always been encouraged to enable them perform more efficiently and more safely. This is essential in limiting liability in civil actions arising from officer's activities. Within the police institutions, in-service training is regarded as an important component of police administration with major impact on individual performance and organisational change (Interpol, 2011). Prenzler, Martin, and Sarvner, 2010) point out that Education and training have been recommended as key requirements for improved standards in policing and security. Thus, the kind of police education and training offered in police academies determines the kind of changes to be expected in respective police organizations. Rowden and Conine (2005) in their study observed that there was a significant relationship between workplace learning and job satisfaction in small US banks.

Training is used to upgrade technical skills and as a vehicle to help build community policing, human rights rule of law and democratization awareness, (Interpol, 2011). In a study carried out in Poland, police officers indicated a strong desire for continuing training and education as a means of personal and professional development (Cordner & Shain, 2011). Thus, life-long and training for the work place cannot be confined to the traditional classrooms. In this regard, UNESCO (2002) finds that it is unrealistic and costly to continue asking learners to come to designated place every time they have to engage in learning.

The training policy of the Kenya Police service is to have a professional development training programme that equips each police officer with relevant knowledge and skills necessary to improve job performance and enhance service delivery while utilizing best policing practices in the world (Republic of Kenya, 2001). Chapter 29 (1) of the Police Standing Orders stipulates that training is a continuous process and must not be considered to have been completed at the end of an officer's recruit course(Republic of Kenya, 2001).

2.3 Involvement of employees in formulation of ICT integration policies

Policy is a plan or a course of action, for an organisation like government, political party, public or private institution or a business entity, intended to influence or determine decisions, actions, and other matters (Eccleston, 2013). According to Victorian Government (2012), policies are also intended to govern how individuals or group of people conduct themselves in relation to other people. Policies are set out in clear language; what an organisation wants to achieve such as its long-term vision and goals and the performance standards and outcomes expected. There are two broad types of policies, namely governance and operational (Policies for organisations, 2014).

Governance policies are made by the governing body or the board responsible to regulation and leadership in an organization. These policies may cover the governing body's accountabilities, attendance, codes of conduct, commitments, conflict of interest, decision making, governance values, leadership, roles and responsibilities, and a range of related cultural matters. They also include policies on the governing body's relationship with the top managers, other staff, community members, financial commitments and ethics. Operational policies are usually drafted by the top manager to apply to the administration and daily management of the organization which include policies on complaints procedures and human resource function.

In order to develop the potentials of ICT, most nations of the world have evolved national ICT policies to serve as a framework for its integration in all spheres of the society. A well-defined institutional ICT policy describes the place of the technology in the institution (Ochogo, 2012). In addition, Anderson and Dexter (2000) assert that a good ICT policy should include a clear vision and mission statement which should be created through a broad based approach, involving all the stakeholders. The institutional ICT integration policy should be well documented showing the role of each stakeholder in the integration process (Strudler& Wetzel, 1999).

African countries are said to be lagging behind the rest of the world on ICT application owing to lack of adequate funding, low internet connectivity and lack of elaborate policies to address its integration (Yusuf, 2005). A study carried out in New South Wales by the Aboriginal Health and Medical Research Council observes that the policy development process must involve all the interested parties or stakeholders to form a consultative forum (Aboriginal Health and Medical Research Council, 2011). Here, the consultation forum provides the opportunity to eliminate

shortcomings like duplication of ideas and efforts, remove ambiguity and inconsistency, clarify complex information or contentious issues, identify potential barriers to successful implementation, obtain wider perspectives and views as well as test out new proposals and ideas (Aboriginal Health and Medical Research Council, 2011).

Hennessy et. al., (2010), in their study of developing the use of ICT to Enhance Teaching and Learning in East African Schools found that lack of ICT policies has led to unregulated use of ICT's, hence the need for governments to offer direction in the use of these technologies. The national goal for Rwanda ICT Policy, for example, is to develop and deploy world class ICT infrastructure that will support and accelerate its development and growth (Republic of Rwanda, 2015).

ICT policies, according to World bank report of 2013, have resulted in unpresidented growth of ICT innovations especially in mobile applications and distance education in public and private institutions. In Kenya, for instance, such policies have resulted to a growth of 12.1per cent of Kenya's GDP (World Economic Forum, 2014). Kenya's national policy on ICT is based on four guiding principles: (1) infrastructure development, (2) human resource development, (3) stakeholder participation, and (4) appropriate policy and regulatory framework (Republic of Kenya, 2006).

The influence of ICT policy in Kenya is notable in many institutions especially the universities where ICT has been adopted and integrated in learning inform of e-learning, monitoring of students' admission and examination records among others (Otieno, 2014). The Kenya Revenue Authority (KRA) is another example of a public institution where success stories on ICT integration is evident as Personal Identification Number (PIN) can be applied on-line and also a tax payer can file tax

returns online owing to integration of ICT with the internet. Today, in line with the Kenya e-government efficient service delivery initiative, it is possible to access certain police documents online such as police abstract forms, police form 3 (P3) among others, this is as a result of ICT integration in police services (Wanjiku, 2014). This was made possible by the development of internal ICT policies within the institutions based on the National policy by the top management.

Top managers develop and oversee these policies, but the governing body is also involved and finally approves them (Ocampo, Rada, & Taylor, 2009). This is in line with the observation by Gakuu & Kidombo (2008) who observe that ICT integration in curriculum delivery was influenced by the institutional ICT policy and the school Managers level of ICT skills. They also observe that schools with ICT policy performed better in the integration process. Only private schools were found to have ICT policies and to have more successful integration programmes. Gakuu & Kidombo (2008) concluded that school heads could act as agents of change in encouraging and driving the integration of ICT in teaching and learning.

The police in-service programmes are conducted in different police training institutions scattered all over the country where the trainees are expected to attend in person (Republic of Kenya, 2001). The attendance in person is informed by the mode of content delivery which is convectional in nature considering that so far not a single e-learning programme has been implemented in police training in Kenya.

2.4 Instructional supervision and integration of ICT

Bernard and Goodyear (2013) offer the following definition of *Supervision* that has come to be accepted within the counseling profession:

> Supervision is an intervention that is provided by a senior member of a profession to a junior member or members of that same profession. This relationship is evaluative, extends over time, and has the simultaneous purposes of enhancing the professional functioning of the junior member(s), monitoring the quality of professional services offered to the clients she, he, or they see(s), and serving as a gatekeeper of those who are to enter the particular profession.

Supervision, therefore, involves management by overseeing the performance or operation of a person or group to ensure smooth running of a system or programme. In order to ensure smooth supervision, Editor ATA (2010) points out that the process followed during supervision must be characterized by a climate of trust and support; should be an on-going and continuous; and, a shared responsibility that includes direct and differential approaches with individual input into methods as well as processes. Relevant information and observations should be shared on an on-going basis which includes access to any notes or documentation taken during supervision.

Olembo (1975) highlights the functions of school supervision are as follows: (a) working closely with teachers/instructors to establish the problems and needs of students; (b) building strong group morale and securing effective teamwork among teachers/instructors; (c) providing assistance to teachers so as to develop greater competence in teaching; (d) assisting newly posted teachers to translate theories into classroom practices; (e) working with teachers to identify and analyse learning difficulties of students and helping in planning effective remedial instructions; (f) evaluating teaching effectiveness in terms of student growth and educational objectives; and (g) providing guidance and advisory services related to curriculum innovations. Supervision as a tool of management plays a critical role of ensuring the staffs follow the organisation policies to achieve the intended outcomes.

In Spain, supervision on the use and integration of ICT is done through virtual supervision which is done on a platform of Web 2.0, technology of World Wide Web sites that use technology of interactive/dynamic web sites (Cano & García, 2013). Cano & Garcia (2013) also find that this technology of supervision is oriented towards an intervention to analyse, improve, and substantially transform schools as well as the teaching-learning processes. It also responds to the monitoring of teaching and learning processes in classroom environments that use e-learning in the educational process. This form of supervision employs technology to supervise teachers/trainers remotely unlike the conventional way of doing it in classrooms (Cano & García, 2013).

Schedler & Schmidt (2004) assert that managers influence the integration of ICT through their strategy in the sense of objective setting, establishment of structures such as rules, incentives and capacity building. Thus, in police training institutions, supervision programmes are developed by administrators who in turn conduct or delegate supervision. In this regard, Gakuu (2006) observes preparation of study materials, management of dissemination, exchange of information through technological means, constant upgrading of course work, professional development of lecturers in technology and fair distribution of workload as important factors in successful integration and supervision of ICTs in education. It is, therefore, imperative that supervision should be based upon a collegial and collaborative model that will ensure cordial relationship between seniors and juniors to allow free flow of information, which would make it possible to get views from both supervisors and those supervised.

In disciplined forces, the pecking order requires juniors to take orders from their seniors without questioning which may impact negatively on the environment where responsibility and authority is shared equally by colleagues. Such kind of working environment is not conducive for ICT integration in training. Here, Gichoya (2005) observes that leadership styles such as bureaucratic and dictatorial styles are serious barriers to integration of ICT.

Kemunto and Marwanga (2014) observe that instruction supervision is the management of teaching for effective learning process whose primary function is to improve instruction and its' outcomes. Instruction supervision is conducted by a senior officer where, for example, in the ministry of education it is vested on education officer and in a police training colleges it is done by the administrators.

According to Sifuna (1990), the functions of instructions supervisors include giving direction, combating routine and encouraging good initiatives, improvement of teacher's (trainer's) professional status, the adoption and diffusion of better techniques as well as interpreting the meaning of progressive programmes of action. In a study conducted in rural Kenya on ICT in secondary school administration Makewa, Meremo, Role, & Role (2013) found that the supervision of the use and integration of ICT in schools was done through the guidelines of the ministry of education quality assurance initiative. Makewa, Meremo, Role, & Role (2013) also found that school administrators rated the importance of using ICT in supervision of instruction and in student administration more highly. This could be attributed to the fact that ICT plays a vital role of supporting powerful, efficient management and administration of schools especially student administration (students' records), facilitation of examinations and as a teaching tool, to mention but a few roles.

2.5 Involvement of employees in development of in-service training programmes and ICT integration

Integration of ICT into teaching and learning process is a fast growing field whose purpose is to improve learning experience by strengthening pedagogy by providing a wide variety of learning experiences in order to ensure that all learners have equitable opportunities to reach their potential (Haslaman, Kuskaya-Mumcu, & Kocak, 2008).

E-learning is beginning to catch on in police training, as in other professional fields, because, Natarajan & College (2012) find, it offers the advantages of time flexibility, on the spot accessibility and the ability to meet educational objectives in a cost effective manner. E-learning is facilitated through a wide range of equipment and facilities, which form the e-learning platform. Such equipment and facilities are; computers, mobile phones, radio, television, internet among others. These equipment and facilities are used to facilitate the application of ICT in different areas like training, human resource management, financial accounting, database management, research, curricular designing, curriculum implementation, education information management and decision making process.

As an instructional tool, ICT can be used to produce training materials both in soft and hard copies, to prepare presentations using computers and over-head projectors and simulations using simulations software programmes among others. ICT can also be used in specific crime management like finger print identification, identification of suspects using Close Circuit Television (CCTV), preparation of case files among other applications. In this regard, Hawkins and Olon (1995), note that computers are valuable information and case management tools. Thibault et al (1995) further observe that police departments are gradually becoming paperless.

In Lincoln Police Department at Nebraska in USA, participatory management is encouraged where the department involves employees at all levels in decision-making (Casady, 2013). A study carried out in Nigeria on employees involvement in decision-making in manufacturing firms found that there was a positive correlation on the increased production and involvement of employees in decision-making (Kuyea & Sula, 2011). The scoping study by National Policing Inprovement Agency, NPIA, (2011) revealed that training in Kenya Police colleges are governed by a number of rules and regulations as stipulated in the Constitution, Acts of Parliament, Service Standing Orders and Code of Regulations.

The Kenya police service, like other discipline forces in the World, has a well laid down command structure which must be followed during formal and informal communication to ensure discipline and order is maintained. All decisions are initiated and communicated through the command structure mainly from the top to the junior ranks which may present little involvement of the police officers in decision-making as decisions are orders and must be obeyed and not queried.

The introduction and integration of ICT in an organization or a learning institution should be in the form of a project, actions and policies which should be based on organizational or institutional specific needs. According to Mulwa (2012), this should be a bottom-up process, involving all the stakeholders concerned from the onset to the end. The scoping study by National Policing Inprovement Agency (2011) on Kenya Police observes that the command structure in police service has hindered sharing of ideas among the various police ranks. This revelation may have a profound influence on the training aspects and the integration of ICT in police training in Kenya. Junior police officers who in many cases are young, creative and likely to be more ICT

savvy and their involvement in determining areas of ICT integration in police in-service training can really be advantageous to the organization.

2.6 Provision of ICT infrastructure and ICT integration

ICT infrastructure is the physical hardware used to interconnect computers and users (Guus, 2009) According to Doyle (2015) infrastructure includes the transmission media such as telephone lines, cable television lines, fiber optic cables, satellites, routers, software among other devices that control transmission paths including power.According to Hagley Community College (2012), ICT infrastructure has basically four key categories, namely access devices, network infrastructure, application software and support resources.

Before any ICT-based programme is launched, policy makers and planners must carefully consider the following factors: availability of appropriate rooms or buildings to house the technology, availability of electricity and telephony and ubiquity of different types of ICTs available in the country and the education system in general (Wiki books, 2009). ICT is driven by different types of infrastructure which should be adequate, reliable and cost effective, which is a prerequisite for successful ICT integration (Andoh, 2012).

The availability of ICT infrastructure differs from one country to another, from one region to another. A report by World Economic Forum (WEF) using The Networked Readiness Index ranked USA, Netherlands, Switzerland, United Kingdom, Norway, Sweden, Iceland, Denmark, Finland, South Korea, Singapore, Taiwan and Hong Kong as having the most adequate and modern ICT infrastructure (World Economic Forum, 2014). These countries have ICT infrastructure that not only covers almost the entire country but also is readily accessible, reliable and cost effective (ref). Latin America

and Caribbean countries are performing better in terms of availability of ICT infrastructure as compared to Northern African and Middle East countries and Sub-Saharan African countries, which have the least ICT infrastructure (World Economic Forum, 2014).

In Africa, using Networked Readiness Index, Seychelles is ranked number one followed by South Africa, Rwanda, Tunisia, Cape Verde, Egypt and Kenya in seventh position. The World Economic Forum (2014) report notes that Kenya is one of the fastest countries in growth of ICT infrastructure in Sub-Saharan countries. The usage includes distance learning, internet services, mobile application, and tax fillings among others. Before any ICT based programme is launched, policy makers and planners must ensure that appropriate buildings are available to house the technology, availability of electricity and telephony and ubiquity of different types of ICTs available in the country and the education system in general (Wiki Government, 2009).

Integration of ICT into teaching and learning process is a fast growing field whose purpose is to improve learning experience by strengthening pedagogy wide variety of learning experiences and ensures that all learners have equitable opportunities to realise their potential (Haslaman, Kuskaya-Mumcu, & Kocak, 2008). E-learning is beginning to catch on in police training, as in other professional fields because it offers the advantages of time flexibility, on the spot accessibility, and the ability to meet educational objectives in a more cost effective manner (Natarajan & College, 2012).

E-learning is facilitated through wide range of equipment and facilities which form the e-learning platform which uses equipment such as computers, mobile phones,

radio, Television, internet among others. These equipment and facilities facilitates application of ICT in different areas like training, human resource management, financial accounting, database management research, curricular designing, curriculum implementation, education information management and decision making process among others.

ICT is used worldwide to increase the access to information and improve the relevance and quality of education. ICT integration presupposes the use of ICT resources at different levels to improve quality, efficiency and effectiveness of curriculum delivery and management of institution, (Lewis, 1998). Leaders must provide all necessary resources to personnel to enable them carry out their work effectively while training them in an adequate and continuous way during the whole process of integration, (UN, 2012). (Schedler & Schmidt, 2004; Pudjianto & Hangjung, 2010) observes that managers influence the integration of technology through their strategies and provision of structure and resources.

Top managers are considered to play an important role in initial and the adoption process; they greatly influence other members' behaviors within the organization. They offer their support by providing and allocating necessary resources to ICT programmes and staff training. Al-Sharija (2012) observes that "principals need to assume major responsibilities for leading change in curriculum development, developing a learning organisation, and fostering staff capabilities". School administrators' vision of the ICT possibilities in school environment are realised through supporting and developing the skills of the end users (Gronow, 2007).

A study carried out by Zakaria (2001) to assess factors which influenced integration of ICT integration and application of ICT equipment in government polytechnics in

Malysia, found out that inadequate access to computer hardware and software by lectures was a big hindrance to integration of ICT. A report by United Nations Conference on Trade and Development, (2012) also indicate that inadequate ICT infrastructure is a significant impediment to implementation of e-government projects in Africa. This concurs with Mulwa (2012) who in her study observed that availability of ICT infrastructure was critical to schools readiness to adopt ICT.

A survey carried out by Unwin (2005) on eLearning in African Universities indicated that 66 per centof lectures had inadequate and unreliable internet. However, Carlson & Gadio, (2002) held different opinions they felt it was wasteful to equip learning institutions with the best and most modern ICT hardware and software without financing professional development. Gakuu (2006), in his study observed that other requirements such as management of dissemination and exchange of information were the most important for successful use of ICT in distant education.

According to Ochogo (2012), preparedness for e-learning in universities is influenced by access to good quality computers at workplace. Effective adoption and integration of ICT into teaching in schools depends mainly on the availability and accessibility of ICT resources such as hardware and software (Andoh, 2012). In adequate ICT infrastructure has a significant impediment to implementation of e-government projects in Africa (UN, 2012).

2.7 Summary of reviewed literature

This chapter has presented a review of relevant literature on the influence of managerial practices on the integration of ICT in in-service police training. The literature reviewed found that although there are policies on ICT integration, a Training Needs Analysis TNA conducted by Kenya Institute of Curriculum

Development (KICD) and the Kenya Police found that the only available policy on ICT integration covers basic recruits training but not the police in-service training, (KIE, 2010). It is not clear in the report whether administrators of police training institutions involve police officers in formulation of ICT integration policies where there are such policies.

A number of authors like Zakaria (2001), United Nations Conference on Trade and Development (UNCTD) (2012) and Mulwa, (2012) argue that inadequate ICT infrastructure and lack of access to computer hardware and software are the major hindrances to ICT integration in training and implementation of e-government projects in Africa. Carlson and Gadio (2000) and Gakuu (2006), however, hold a different opinion; they argue that the availability of ICT infrastructure is not the solution for integration of ICT. They advocated for a holistic approach like provision of relevant ICT skills and putting in place interventions for changing staff on attitudes towards new technology as one of the measures of ensuring adoption and integration of ICT.

The literature also revealed that various stakeholders are involved in supervision of trainers and ICT integration in schools and that policy document from the Ministry of Education are used. It is, however, the case that in police training institutions, supervision and decisions are done by respective institutional commandants and commanding officers. It is not clear how this influences the integration of ICT in police in-service training.

2.8 Theoretical framework

This study adopted the Diffusion of Innovation (DOI) theory (Rogers, 2003). The DOI theory was developed by Rogers in 1962. The theory seeks to explain how, why

and at what rate new ideas and technology spread through organisational cultures (Rogers, 2003). The proponent of this theory was Everett Rogers, a professor of communication studies. He popularized this theory in 1962 when he published the Diffusion of Innovations book. Rogers (2003) defines diffusion as the process by which an innovation is communicated through certain channels over time among the participants in a social system. This theory was preferred for this study because it focuses both on the individual and organisational levels (Oliveira & Martins, 2011).

Innovation, communication channels, time and social systems have been identified as the four main elements which play a critical role in influencing the spread of new ideas (Rogers, 2003). It is an idea, practice or an object, Rogers argues, that is first perceived by an individual or other unit of adoption as new and requiring to be adopted. Rogers (2003) explains communication channel as the means by which messages get from one individual to another using mass media or interpersonal channels for the purpose of information-exchange depending on the conditions under which a source will or will not transmit the innovation (Rogers, 2003). Methods of communication determine the rate, time, quality of information that will influence the adoption of the idea.

In this theory, the rate of adoption refers to the relative speed with which an innovation is adopted by members of a social system. The rate of diffusion of innovations manifests itself in different ways in various cultures and fields and is highly subjected to the type of adopters and innovation-decision process (Rubas, 2004). Diffusion of Innovation theory identifies four main factors that have a direct influence on adoption of innovation in any cultural environments, namely compatibility, complexity, trialability and observability (Ondigital marketing, 2012).

Lehmann (2007) explained social system as a set of interrelated units that are engaged in joint problem-solving to accomplish a common goal in a social structure, this could be an organisation, a business unit, an institution like training colleges or any other. Rogers (2003) finds that a social structure of the system affects the innovation's diffusion in different ways among them how the system's social structure affects diffusion, the effect of norms on diffusion, and the roles of opinion leaders.

Research on the adoption and diffusion of technologies has a long history in social sciences since it helps researchers understand how different factors influence the adoption of new innovations (Andol, 2007). According to Oliveira & Martins (2011), this theory can be applied in different disciplines such as ICT, agriculture, public health, political science, and telecommunications among others. Lehmann (2007) points out that DOI theory can be used at the organisational level focusing on individual and collective characteristics within the organisation. Similarly, Rodgers (2003) observes that the theory also focuses on the system and the leadership within the organisation and how they influence the flow of information to other members which is critical in adoption of new ideas.

Additionally, the DOI theory focuses on the factors that influence individual and the system (firm) culture that promote or inhibit acquisition of news ideas (innovation or technology) but not the external factors (Lehmann, 2007). According to Chile (2007), the DOI theory largely focuses on a product or innovation, disregarding underlying factors like complex societal, cultural, and economic and others. Factors such as top-down command structures and policy direction from the regulatory bodies, stakeholders' involvements are, however, not clearly stipulated in DOI theory. It is, therefore, not clear how the theory addresses these limitations on adoption of new

product or ideas into society. Although the theory has some limitations, it is applicable in ICT based adoption research owing to its advantage of guiding on type of data to be collected and the population to target for reliable and valid data.

The DOI theory was applied in this study to establish the innovation adoption related factors that may have influenced the managerial practices on the integration of ICT in police training institutions. The communication channel as advanced in the theory was applied to assess the communication structures in police training institutions and how they have influenced the managerial practices to integrate ICT in in-service training. As such, police training institutions operate under a highly bureaucratic command structure which are under the control from the National Police command structure and the National government institutions.

2.9 Conceptual framework

The study will be guided by the conceptual framework based on the four specific objectives and variables of the study as shown below. In figure 2.1, the first input is the involvement of police officers in formulation of ICT integration policy in a police training institution. This may be done through in-house workshops, seminars, feedback from trainees and trainers, work group reports among others. The second input is instructional supervision. This can be done by either monitoring or evaluation approaches. The involvement of police officers in the development of police in-service training is the third input. Here, administrators can involve police officers to conduct a TNA, piloting of new training programmes, developing training manuals among others. It is during the development that areas of ICT integration are identified.

The last input is the provision of ICT infrastructure; this is one of the most critical requirements because it is the physical or tangible driver for effective ICT integration

in a training institution. Other determinants necessary for ICT integration amount to nothing if appropriate ICT infrastructures are not provided. The provisions of adequate and relevant ICT infrastructures are critical to the success in integration of ICT in in-service training in this study.

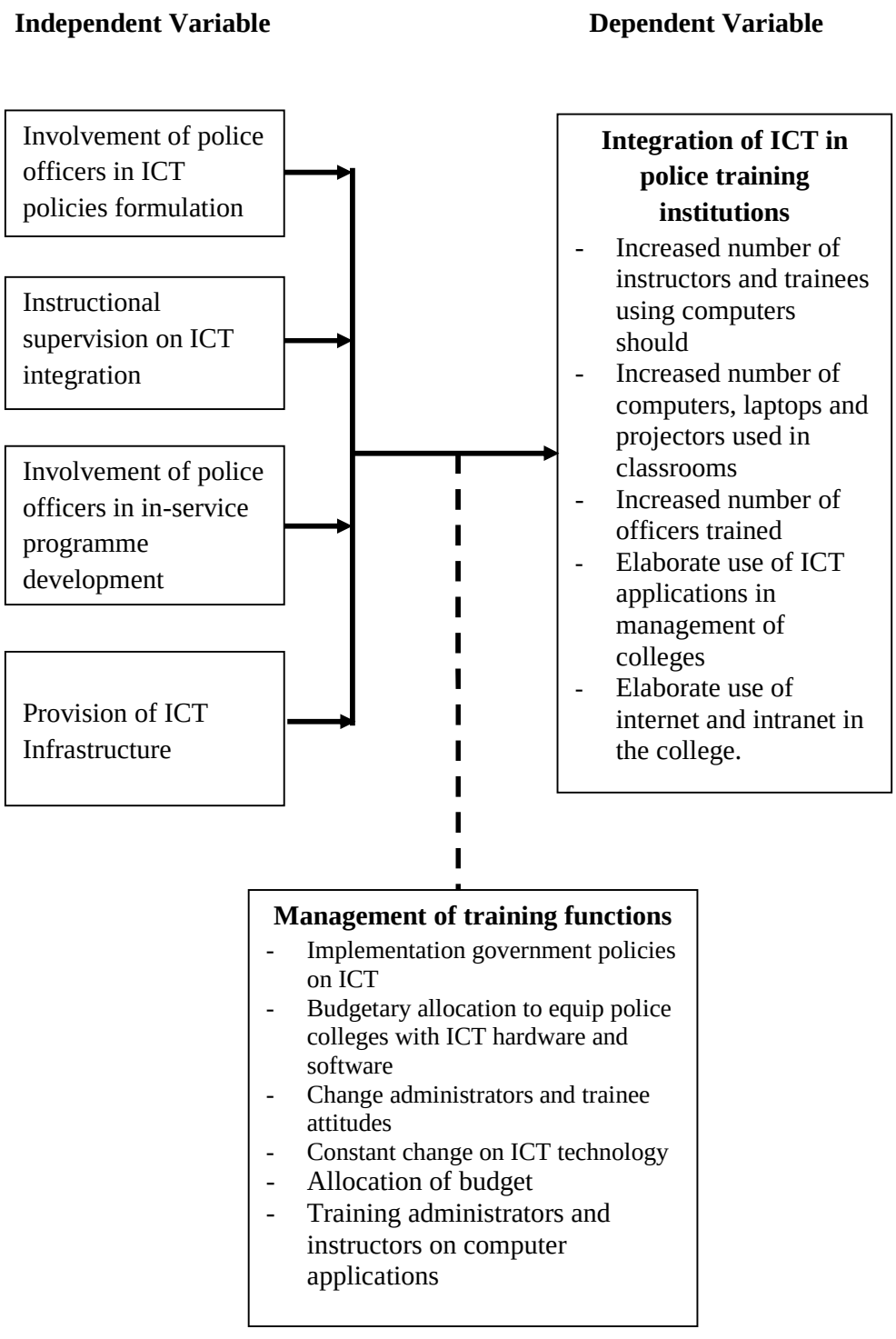

Figure 2.1: Conceptual Framework

It is, therefore, imperative to avail the right and most cost effective ICT infrastructure that are always available and most adoptable. Once the interaction of the four variables is successful, it is expected that ICT infrastructure will be availed in the

college and integrated for use by instructors and the trainees to promote instructional process.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology employed in this study. The research methodology is discussed under the following sub-headings; research design, target population, sample size and sampling procedure. Also discussed are research instruments, instruments validity and reliability, data collection procedures and data analysis techniques as well as the ethical considerations relating to the study. The justifications for the choices made are also provided.

3.2 Research design

A descriptive survey designs was used in this study. According to Churchill (1991) this design seeks to describe the characteristics of groups; estimates proportion of people with certain traits and make predictions. Descriptive survey design is appropriate for such studies as this because of its ability to produce statistical information which would be found interesting by educationists and policy makers (Gall, Gall & Borg, 2014). Grove, Burns and Gray (2012) observe that descriptive research is designed to provide a picture of a situation as it naturally happens. The design was also preferred because it allows collection of primary data without manipulating variables (Kothari, 2004).

This design also has the capacity to provide a wide range of information on the target population characteristics (Rindfleisch, Malter, & Ganesan, 2008). This research employed both quantitative and qualitative technique which supplemented each other. According to Creswell (2007), quantitative data approach measures numerical variables and analysis with descriptive statistical procedures. There are two main

weaknesses with descriptive survey design. The first is the high non-response rate because research participation in the study is voluntary. That means instances where research participants are not motivated or not fully informed on some response items; one cannot force them to give response. However, the respondents were encouraged to respond to all the research questions. The respondents were also explained of their rights and expectations before participating in the study.

Here, the researcher assured the participants that the information given by them would be used for academic purposes and that their identity would be protected. The participants also remained anonymous throughout the study. Secondly cross-sectional descriptive survey design does not help determine cause and effect of the findings.

3.3 Target population

This study targeted police officers in the three main Kenya Police Training institutions, namely (1) Kenya Police Training College (KPC), (2) General Service Unit Training School (GSU-TSCH) and Directorate of Criminal Investigations Training school (DCI-TSCH). The targeted police officers were required to be working in the above training colleges as administrators, instructors or undertaking in-service courses in the training institutions mentioned. The instructors consisted of police officers involved in instructional duties in the sampled colleges.

The administrators consisted of commandants, deputy commandants, chief instructors, directors of studies and the heads of ICT faculties in the respective training colleges. Trainees consisted of police officers of various ranks, taking different in-service courses in the colleges. Table 3.1 tabulates the targeted population.

Table 3.1: Targeted population

Institution		Category	Target Population
I.	Kenya Police College	Administrators	6
		Instructors	140
		Trainees	280
II.	General Service Unit Training School	Administrators	6
		Instructors	110
		Trainees	210
III.	Directorate of Criminal Investigations Training School	Administrators	6
		Instructors	31
		Trainees	96
Total			**885**

Source: *Police database at police Headquarters, 2015*

3.4 Sample size and sampling procedure

This section describes the sample size and the sampling techniques that were employed in the study. Kothari (2004) argues that sampling is the process of carefully selecting a sub-group which is a representative of the whole population with relevant characteristics. Garson (2013), finds that sampling saves time and money when compared to complete coverage of the population, which would take more time and require more resources in terms of finances. Garson (2013) also observes that dealing with a sample may permit the researcher to focus on the finer details and increase the level of accuracy and precision than when dealing with a large amount of data from the entire population.

The three training institutions, namely the Kenya Police College, the General Service Unit Training School, and the Directorate of Criminal Investigations Training School, were purposively sampled since they were the main Police training institutions which are always in session and offer various in-service courses to police officers from all

over the country. Purposive sampling was also applied to select three (3) out nine (9) administrators from each of the three training institutions. The choice of these administrators was informed by the fact that they were the main decision-makers with regard to ICT in the colleges and their views were very critical to this study. Purposive sampling involves a deliberate selection of a part or portion of particular unit of universe for constituting a sample which represents the population (Kothari, 2004).

The instructors and trainee sample size was determined using *Slovin's* formula; $\boldsymbol{n = \frac{N}{1+N(e)^2}}$ where ***"n"*** is the desired sample size, ***"N"*** is the population size, and ***"e"*** is the margin of error (Sari & Iskandar, 2012). The study used 0.05 as margin of error. Sample sizes of the instructors and trainees were determined from the total target population of 281 instructors and 586 trainees of the three training institutions.

A computation using Slovin's formula for instructors and trainees returned a sample size of 165 and 238 respectively. The sample size of instructors and trainees for each training institution was then proportionately determined from the total samples sizes for each training institution. The proportionate sample sizes for instructors and trainees for each training institution are presented in Table 3.2.

Table 3.2: Target population and proportionate sample size

Institution	Category	Target Population	Sample Population
Kenya Police College	Administrators	6	3
	Instructors	140	82
	Trainees	280	114
General Service Unit	Administrators	6	3
Training School	Instructors	110	65
	Trainees	210	85
Criminal Investigation	Administrators	6	3
Directorate Training	Instructors	31	18
School	Trainees	96	39
Total		**885**	**412**

The instructors and trainees who participated in the study were identified by employing simple random sampling technique using a lottery method. This method according to Kothari (2004) ensures that every subject has an equal chance of being selected in the study since it eliminates biasness. Force numbers for all instructors were written in pieces of paper and the papers were folded and put in a basket after which they were randomly picked using replacement method upon mixing them.

3.5 Research instruments

The study used three data collection instruments that comprised of questionnaires, interview schedule and observation checklist as discussed below.

3.5.1 Questionnaires

The study employed questionnaires to solicit primary data from instructors and trainees (Appendix I and II). Questionnaires were preferred to collect primary data because the sample size was large in such a way that interviewing 403 instructors and trainees orally could not be possible. According to Creswell (2007) and Hague (2006), questionnaires are appropriate for survey studies because they are easy and inexpensive to administer. They also maintain confidentiality of research participants.

Due to the fact that questionnaires guaranteed privacy, more information was easily collected by the use of this too within a short duration as compared to interview schedule. Two sets of questionnaire consisted of both open and closed ended questions were designed to collect primary data from instructors and trainees.

The questionnaire for instructors in appendix II was structured and had five sections. The first section was part A, which collected demographic information such as age, gender, level of education, years of service in police service, rank, proficiency in ICT and the type of ICT courses attended. Part B of the questionnaire sought information on involvement of instructors in formulation of ICT policies in the police training institutions. Section C sought to elicit information on instructional supervision in police training colleges. Section D sought to evaluate whether instructors were involved in developing police in-service training programmes and to what extent if there was involvement. Some items in sections B, C and D consisted of open-ended questions to allow research participants to provide their own perspective.

The last part of instructors' questionnaires was section E which sought information about the provision of ICT infrastructure in police training institutions. Many of the items under this section were scale rated while using open ended questions to help understand how instructors perceived ICT infrastructure in their training institutions and the challenges encountered in the process of integrating ICT in police in-service programmes.

The questionnaire for the trainees (appendix) was structured and had five sections, section A to E. Section A was on demographic information, example of such information required from respondents in this section was trainees' age, gender, level

of education, years of service in police service, rank, proficiency in ICT, the type of ICT courses attended and who sponsored the course.

Section B of the questionnaire sought information on trainees' involvement in ICT policies formulation and their knowledge of ICT policy documents available in the college. Section C sought to get information on ICT supervision in police training colleges. Items in this section were closed ended with rating scale. Section D sought to evaluate trainees' involvement in developing police in-service training programmes and the extent of involvement where there was any. Many of the questions in this section were open ended to allow research participants supply any relevant information to the study in respect to developing of ICT training programmes and the integration of ICT in police in-service training programmes.

The last part of trainees' questionnaires was section E which sought information about the provision of ICT infrastructure in police training institutions. Many of the questions under this section were scale rated and open ended to help bring out the trainees' perceptions of ICT infrastructure in their training institutions and the challenges encountered in the process of integrating ICT in their in-service programmes.

3.5.2 Interview schedule

This instrument is suitable for collecting qualitative data from small number of respondents mainly from respondents with expertise of an area or phenomenon (Kothari, 2004). The researcher also adopted in-depth semi-structured interview schedule (Appendix IV). This instrument was be used to collect data from the police training college administrators (College commandants, deputy commandants, chief instructors, directors of studies and the heads of ICT faculties). The choice of this

instrument was informed by the fact it will provide an opportunity of asking questions and making clarification on the responses from the respondents.

This instrument had advantage of seeking more information by probing further which was not possible with questionnaires. The interview schedule instrument was semi-structured in order to guide the interviewer and the interviewee. The researcher sorely conducted oral and telephone interview to ensure uniformity and in so doing that increased the validity of data collected.

3.5.3 Observation guides

Observation guide (see Appendix V) was used to collect visual information on the availability of ICT infrastructure in the three police training colleges. This method had the advantage of collecting visual data that was factual. Such data has a high level of reliability. Data collected included aspects such as availability of internet in classes and offices, availability of wireless internet connection in classes and within the compound, availability of standby generators in the colleges among others. This helped the researcher to verify some of the information provided by respondents and to gather data that could not be collected through interview and questionnaires. Observation guides gave factual data as things were at the time of the study.

3.6 Instruments validity

Validity is the degree to which results obtained from the analysis of the data actually represents the phenomenon under study (Mugenda & Mugenda, 2003). Similarly, Veal and Darcy (2012) argues that validity is the extent to which information collected by the researcher truly reflects the phenomenon being studied. According to Haynes, Richard and Kubany (1995) content validity is the extent to which the

elements within a measurement procedure are relevant and representative of the construct that they are used to measure.

Content validity of the instrument was ensured using priori and a posteriori procedure. According to Kothari (2004) involving a representative sample of the universe ensures content validity. The study targeted a large number of respondents and ensures a representative sample of the universe by random sampling which increased the validity of data collected. Content validity of the instruments was assured by ensuring that the questionnaires collected the relevant data according to the purpose of study and research objectives. To ensure content validity expert opinion was sought from the supervisors regarding the validity of the research instruments. The researcher also used triangulation by using questionnaires, observation and interviews, which provided adequate coverage of the topic under study.

3.7 Instruments reliability

Mugenda and Mugenda (2003) explain that reliability is the measure of the degree to which a research instrument yields similar results after repeated trials. Joppe (2014) observes that reliability is the extent to which results are consistent over time, and can be reproduced under a similar methodology. To ensure reliability of research instruments (questionnaires for trainers and trainees) a pilot test was conducted at GSU Field Training Camp, Magadi. Mugenda and Mugenda (2003) assert that one to ten per cent of questionnaires are adequate to be used for piloting. This study used five per cent of the questionnaires for instructors and trainees that constituted twelve (8) and eight (12) respectively for piloting using test re-test method. Test re-test method involved administering pilot instruments to the same respondents twice in a span of one week.

The pilot study results were subjected to Cronbachs Alpha test to determine the reliability of the instructors' instruments. Cronbachs alpha reliability coefficient normally ranges between zero and one. The closer Cronbachs alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale (Gliem & Gliem, 2003). George and Mallery (2003) provide the following rules of thumb where $\alpha \geq 0.9$ Excellent (High-Stakes testing) $0.7 \leq \alpha < 0.9$ Good (Low-Stakes testing), $0.6 \leq \alpha < 0.7$ Acceptable, $0.5 \leq \alpha < 0.6$ Poor $\alpha < 0.5$ Unacceptable. If Cronbachs alpha value is equal or greater than 0.6, it will mean the instruments are reliable but if the results are less than 0.6, it indicates that the instruments are not reliable. For this study the reliability test was carried out on questionnaires and returned a Cronbachs alpha coefficient of 0.71, an indication that questionnaires were reliable.

3.8 Data collection procedures

The study covered three main police institutions which are in different geographical locations. Two of these institutions are in Nairobi and one in Nyeri County which necessitated the use of research assistants. The study target a large population of 403 respondents spread in the three selected police training colleges. These numbers was too large to be handled by the researcher alone. The choice of questionnaires as the main data collection instruments also made possible to employ the service of research assistants to collect primary data from the instructors and trainees.

The researcher trained three research assistants who helped in data collection during the pilot stage and in the main research. Before embarking on the study the research assistant was trained on what entailed for the study emphasizing on the background, the purpose and objectives of the study and the target respondents. The research assistants were also trained on the methodology of collecting data which role they

were to be engaged. The training of research assistant also captured how to ensure ethical consideration before, during and after data collection.

Data collection being sensitive issues which requires one to be courteous and establish a rapport with respondents was given a lot of weight during research assistants. Finally the research assistants were taken through on ensuring the respondents filled questionnaires correctly by identifying errors and omissions without offending respondents. The researcher also went through the questionnaire with the research assistant, item by item, to ensure they are conversant.

The researcher and the college administrators made arrangements to have all the respondents identified and briefed on the study. The instructors and the trainees were then issued with questionnaires to complete and return within two days. The researcher also conducted face to face interviews with administrators at their convenient places and proceeding recorded on a note book. The researcher sought permission to collect primary through observations in college computer labs, classrooms and offices. Data collected included the number and types of computers, networking, computer accessories like projectors, and printers among other were captured using observation method. The researcher was overall in charge of the study and custodian of the data collection instruments after the study. All the data collection instruments were brought in one location and with the help of the research assistants the researcher went through the entire questionnaires to check for their validity.

3.9 Operationalization and measurement of variables

Dependent and independent variables identified in the research will be operationalized and measured as shown in Table 3.3.

Table 3.3: Operationalization and measurement of variables

Variable	Type	Operationalization	Measurement	Method of data analysis
Background information	Independent	• Demographic characteristics • ICT proficiency	• Categorical • Ordinal	• Descriptive • Qualitative • Hypothesis testing using Chi-Square test
Involvement of police officers in ICT policies formulation	Independent	• Availability of ICT policies • Extent of involvement • Nature of involvement • Materials developed • Contribution of developed ICT policies on ICT integration	• Categorical • Ordinal	• Descriptive • Qualitative • Hypothesis testing using Chi-Square test
Instructional supervision on ICT integration	Independent	• Method of supervision • Supervisors • Materials developed	• Categorical • Ordinal	• Descriptive • Qualitative • Hypothesis testing using Chi-Square test
Involvement of police officers in in-service programme development	Independent	• Extent of involvement • Nature of involvement • Materials developed • Contribution of developed in-service programme on ICT integration	• Categorical • Ordinal	• Descriptive • Qualitative • Hypothesis testing using Chi-Square test
Provision of ICT Infrastructure	Independent	• Availability of adequate working ICT equipment • Availability of adequate ICT infrastructure	• Categorical • Ordinal	• Descriptive • Qualitative • Hypothesis testing using Chi-Square test
Integration of ICT in police training institutions	Dependent	• Increased number of instructors and trainees using computers • Increased ICT equipment and infrastructure • Increased number of officers trained • ICT applications in management of colleges • Elaborate ICT	• Categorical • Ordinal	• Descriptive • Qualitative • Hypothesis testing using Chi-Square test

3.10 Data analysis techniques

The collected data was subjected to both quantitative and qualitative analysis. Data from questionnaires was cleaned (edited) to detect errors and omissions and to correct these when possible. In addition cleaned data was coded to facilitate entry into the Statistical Package for Social Sciences (SPSS) software version 20 for analysis. Qualitative data generated through open ended questions in the questionnaires was arranged into themes and coded and analysed quantitatively. The data analysis procedure focused on the study objectives in their order addressing each research question.

Descriptive statistics was employed to analyse quantitative data by describing, exploring and summarising data to establish patterns in the data. Descriptive statistics was used to analyse and present the quantitative data which contained numerical information. Analysed data generated descriptive statistics like central tendency, variations like standard deviations among others.

Qualitative data collected using interviews schedule was analyzed through the process of data reduction, data discussion and drawing conclusions. Data reduction involved the extraction of the huge amounts from the transcription of interviews that revealed key issues under study based on the research questions. Data discussion involved the compilation of the reduced data into an organised and compressed logical framework to reduce the amount of materials to a more manageable scale. Drawing conclusion involved interpretation of data by making logical explanations of the patterns and categories of data analyzed. This was achieved through combining and cataloguing related patterns into themes. The themes formed provided the basis of reporting the

qualitative findings in form of verbatim citations, narratives, discussions and inferences.

Chi Square test a non-parametric inferential statistics, was used to determine the correlation between independent variables and dependent variables to test the research hypothesis. The findings of inferential statistics were used to determine relationships between variables for the purpose of making generalisation and to offer explanation of the research questions.

3.11 Ethical considerations

Ethics in research focuses on ethical standards in the planning of the study, data collection, data analysis, dissemination and in the use of result findings (Mugenda, 2011). The principle of beneficence demands on the researcher not to harm research participants (Polit & Hungler as in Harris, Keating, Koch, Nilvarangkul & Tangpukdee, 2010) they argue that the researcher should not exploit his research participants and the benefits of the study should exceed the risks.

The researcher sought permission from University of Nairobi, National Police Service and National Commission of Science, Technology and Innovation (NACOSTI) before embarking on data collection. The researcher wrote an introductory letter to research participants detailing the purpose of the research. Research assistants were trained to ensure they understood what was expected of them and ethical considerations especially on the rights of research participants.

Participants were well briefed on data collection, their rights as participants and what was expected of them to ensure confidentiality. The participants were assured of confidentiality of their responses and anonymity of their identifications. This was achieved by ensuring research participants' names, personal numbers or any other

forms of identification were not indicated on the questionnaire and on the final report. The interviewees were identified as interviewee 1, 2 or 3 when quoting them verbatim in the report to ensure confidentiality of their responses.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

In this chapter the findings of the study on the influence of managerial practices on the integration of ICT in-service programmes at police training colleges in Kenya are presented, interpreted and discussed. The chapter is divided into six sections: Section one describes the response rate of the respondents; section two presents the respondents demographic information while the rest of the sections present the findings of the different themes in this study as they apply for each specific objective. Analysed data are presented in tables, charts and verbatim citations where appropriate.

4.2 Response rate

A total of 403 questionnaires for instructors and trainees according to their calculated sample sizes were administered to 238 trainees and 165 instructors in the three police training institutions. In addition, nine administrators were orally interviewed. A total of 341 questionnaires for instructors and trainees were returned and were found valid for analysis giving a return rate of 84.6%.Table 4.1 presents the research participants' response rates for instructors and trainees for each of the three training institutions.

Table 4.1: Response rate

Institution	Respondents	Administered questionnaires	Returned questionnaires	Per cent response
KPC	Instructors	82	63	76.83
	Trainees	114	89	78.07
GSU – TS	Instructors	65	57	87.69
	Trainees	85	79	92.94
DCI – TS	Instructors	18	18	100.00
	Trainees	39	35	89.74
Total		**403**	**341**	

Key: KPC: *The Kenya Police College,* ***GSU – TS:*** *General Service Training School,* ***DCI – TS:*** *Directorate of Criminal Investigation Training School.*

The rate of response is an indicator of the validity of the data collected. According to Mugenda and Mugenda (2003) a 50 per cent response rate is adequate, 60 per cent is rated good while 70 per cent rated very well. Based on this assertion, the response rate for all respondents in this study was above 75 per cent which was very good. The result in Table 4.1 shows that the DCI – TSCH had the highest response rates (100 %) for instructors while the GSU – TSCH had the highest (92.4 %) for trainees.

The Kenya Police College (KPC) had the lowest response rates for both trainees and instructors at 78.07 per cent and 76.83 per cent respectively. Some respondents from KPC and GSU-TS could not fill the questionnaires due to the nature of police duties where some of the sampled respondents were deployed when the study was going on. The three administrators from the three training schools purposely sampled for oral interview were available and were interviewed registering a response rate of 100 per cent. This could be attributed to the support of the commandants of the respective police training institutions.

4.3 Instructors and trainees demographic and ICT proficiency information

This study sought to establish the instructors and trainees demographic characteristics. The characteristics explored included respondents' gender, age, highest level of education and work experience. The study also sought to document the instructors ICT proficiency. This was necessary in order to relate the ICT proficiency and the possible integration in training. Lack of skills on ICT has been cited as one of the major limiting factor to ICT integration. Table 4.2 presents the ICT proficiency levels of the instructors and demographic characteristics of the instructors and trainees. The sections below discuss the demographic and ICT proficiencies explored.

Table 4.2: Demographic and ICT proficiency for instructors and trainees

Demographic characteristics		Instructors	Trainees	Administrators
Gender	Male	125(90.6)	157(77.3)	9
	Female	13(9.4)	46(22.7)	-
Age	18-25	7(5.1)	2(1.0)	-
	26-35	53(38.4)	89(43.8)	-
	36-45	59(42.8)	51(25.1)	-
	46-55	19(13.8)	61(30.0)	-
Education Level	Primary	-	3(1.5)	-
	Secondary	47(34.1)	121(59.6)	1
	Certificate	8(5.8)	4(2.0)	-
	Diploma	44(31.9)	35(17.2)	3
	Bachelor's degree	36(26.1)	39(19.2)	4
	Master's degree	3(2.2)	1(0.5)	1
Work Experience in years	1-4	35(25.4)	-	-
	5-9	40(29.0)	-	2
	10-14	32(23.2)	-	4
	14-19	31(22.5)	-	3
MS-Word Office Proficiency	Not proficient	36(26.2)	58(28.8)	-
	Fairly proficient	95(68.9)	94(46.1)	-
	Highly proficient	6(4.4)	35(17.4)	-
	Very proficient	1(0.5)	16(7.8)	-
ICT in Communication	Not proficient	45(32.4)	87(42.9)	-
	Fairly proficient	62(44.6)	72(35.3)	-
	Highly proficient	24(17.6)	28(13.9)	-
	Very proficient	7(5.4)	16(7.9)	-
ICT Application	Not proficient	56(40.9)	126(62.1)	-
	Fairly proficient	72(51.8)	58(28.6)	-
	Highly proficient	7(5.4)	13(6.4)	-
	Very proficient	3(1.8)	6(3.0)	-

4.3.1 Gender distribution

The study results as presented in Table 4.2, it is evident that number of male instructors (90.6 per cent) and trainees (77.3%) surpasses that of female instructors (9.4%) and female trainees (22.7%) in the three police training schools. This disproportionate distribution of gender among the instructors and trainees can be attributed to the nature of police work which is associated with high risk operations, and which may discourage many females from turning up for police recruitment. This

finding is in agreement with the findings of IPOA (2013); Ngboawaji (2012) and NPIA (2011) who noted that the hazadous nature of police work discourages many women from seeking employment.The lower number of policewomen can also be attributed to the fact over years more males have been recruited in the service as compared to females.

4.3.2 Distribution of instructors and trainees by age

The age of instructors and trainees involved in this study ranged between 18 and 55 years. The analysis further reveals that 56.5 per cent (42.8% plus13.8%) of the instructors and 55.1 per cent (25.1% plus 30.0%) of the trainees fell in the age bracket of 36 - 55 years. These ages mostly comprise the most experienced police officers who have been in police service in the periods when ICT was not very popular especially in Africa. This age group of police officers may resist change and, therefore, may not be willing to adapt ICT. This observation is supported by a study conducted in Nigeria on ICT adoption where it was established that adults have technophobia; they fear adopting new technologies especially if there is no instant benefit expected (Longe, Boateng , Longe, & Olatubosun, 2010).

Older people are not interested in adopting new technologies if they can continue accomplishing same tasks without using computers (Selwyn, 2004). This is also in line with the findings by Ngboawaji (2012) in his study which found that the challenges facing retraining of police officers in Nigeria was due to the presence of old officers above 40 years who were not willing to learn new skills.

The study also established that about 5.1 per cent and 1.0 per cent of instructors and trainees were of the age of 18-25 years a cohort that is deemed to be ICT friendly as compared to ages above 36 years. From the findings, it can be concluded that at the

time of this study, the three police training colleges were composed of a large proportion of instructors and trainees above (55%) aged between 36 and 55 years. This could be seen as the age group that is averse to adopt new ICT innovations. This revelation may have a profound influence on the training aspects and the integration of ICT in police training in Kenya.

4.3.3 Education levels for instructors and trainees

The study findings in Table 4.2 show that majority of the instructors and trainees at 31.9 per cent and 59.6 per cent had attained secondary school education while primary education was the least at 1.5 per cent. A larger number of instructors are bachelor and masters holders as compared to trainees. This investigation further established that 58.1per cent of the trainees have secondary education level. This implies that the police training colleges have a large pool of trainees who can be trained on new ICT innovations if given a chance. According to Gülbahar (2008), the level of education does not influence adoption on ICT technology by pre-service teachers and instructors. Similarly, Andoh (2012) argues that the level of education has little influence on the adoption of ICT but lack of access to computer contribute greatly to low ICT literacy among in-service teachers.

4.3.4 Instructors' working experience

Table 4.2 shows that the longest serving instructor had served between 14-19 years while the lowest had served for between 5-9 years. The study also established that majority (74.6%) had served for five years and above which is long enough for the instructors to have gained experiences on the integration of ICT in training. These findings are supported by Hashmi (2012) who asserts that the longer one participates in one activity, the more one becomes acquitted and specialised with the activity.

4.3.5 Instructors and trainees ICT proficiency

This study found it worthwhile to establish the instructors ICT proficiency. The results in Table 4.2 established that majority (68.9%) of the instructors and most (46.1 %) of the trainees were fairly proficient on Microsoft Word Office Suite. On the proficiency on the use of ICT in communication most (44.6%) of the instructors were fairly proficient while most (42.9 %) of the trainees were not proficient. Finally on ICT application, 51.8 per cent of instructors were fairly proficient as compared to 62.1% of trainees who were not proficient. Lack of skills on ICT has been cited as one of the major limiting factors of integration of ICT in learning (Hennessy, et., 2010).

4.3.6 Hypothesis testing of instructors ICT proficiency

H_O1: There is no significant difference in the mean ICT integration levels in in-service training when instructors' ICT proficiency level is categorized as low or high.

This hypothesis sought to establish whether there exists no significant difference in the mean levels of ICT integration in in-service training when instructors' ICT proficiency level is categorized as low or high. A Chi-Square test was used to test this hypothesis. The findings are presented in Tables 4.3

Table 4.3: Chi-Square test results on ICT proficiencies

Relationship between independent and dependent variables		N	Value	df	Asymp. Sig. (2-sided)
Ms-Word Proficiency V/S Instructors	**A**	138	10.411[a]	2	**.005***
Ms- Excel Proficiency V/S Instructors		138	19.787[a]	2	**.000***
Ms-PowerPoint Proficiency V/S Instructors		138	25.024[a]	2	**.000***
Ms-Access Proficiency V/S Instructors		138	11.140[a]	2	**.004***
Internet applications Proficiency V/S Instructors		138	34.235[a]	2	**.000***
Email Proficiency V/S Instructors	**B**	138	14.482[a]	2	**.001***
Skype Proficiency V/S Instructors		138	14.482[a]	2	**.001***
Teleconferencing Proficiency V/S Instructors		138	20.722[a]	2	**.000***
Data analysis Proficiency V/S Instructors	**C**	138	.026[a]	2	.987
Simulation Proficiency V/S Instructors		138	1.886[a]	2	.390

Key: (a) The Alpha Value = *P*-0.05: (b) * indicate significant *P*<0.05.

A= Microsoft Word Office suites, **B**= Application of ICT in communication and

C= ICT application

The chi-square results for Microsoft Word Office suites and application of ICT in communication returned a *p*-value ($p<0.05$) which indicate that there is significance difference on the instructors ICT proficiency levels. In this case the null hypothesis is rejected. This implies that indeed there is no significant difference in the instructors proficiency levels whether their ICT knowledge is low or high.

However, the chi-square results ($p>0.05$) for proficiency in application of ICT in data analysis and simulation indicate that there is no significance difference on their proficiency levels among the instructors. Based on this result the null hypotheses was accepted. This would imply that indeed there is significant difference in the instructors' proficiency levels regardless of whether their ICT knowledge is low or high.

This difference is attributed to different ICT integration levels in the three police training colleges determined by the management interventions. This was confirmed by views of interviewed administrators from the three colleges who confided that there is a policy that, all trainees who attend any in-service courses at GSU-TS and DCI-TS are supposed to be taken through some basic ICT programmes focusing on MS-Word Office, Internet and email communication.

This initiative have resulted in instructors becoming more acquitted with ICT skills, however their proficiencies differed with GSU-TS performing better. On the contrary KPC it's not mandatory for instructors to be inducted on ICT skills a factor that leads to low ICT proficiency levels among the instructors in this college. Accordingly, it implies that that ICT proficiency is not a major factor in police training. The above sentiments portrays that managers of police training institutions plays a key role in influencing levels of ICT integration in their institutions.

4.4 Formulation of ICT policies by police officers

The first objective of this study was to establish if involvement of police officers in formulation of ICT policies influences its integration in police training institutions. Institutional ICT policy is a crucial document for guiding integration of ICT in the educational process. This is advocated by (Vanderlinde, 2012, Dextex & Braak 2003, Baylor & Ritchie, 2002) who found that policy formulation was an important aspect for using technology in an efficient and effective manner for teaching, learning and administration activities. This study, therefore, sought to find out if involvement or lack of involvement of police officers in formulation of ICT policies had any relationship to the integration of ICT in police in-service training programmes. The findings are discussed under the following themes; availability of ICT policy documents, involvement of instructors and trainees on ICT policies formulations, ICT

policy formulated and the contributions of available ICT policies on the integration of ICT in in-service training.

4.4.1 Involvement of instructors and trainees in ICT policies formulations

The study sought to establish whether the instructors and trainees were involved in the formulation of ICT policies in their respective training schools. This aimed at establishing the extent to which their participation in the ICT policy formulations and affect their involvement on the integration of ICT in police training. The findings are discussed first for instructors followed by those of trainees in sections below.

4.4.1.1 Respondents involvement in the formulation of ICT policies

The instructors and trainees were asked to indicate if they were involved in the formulation of ICT polices in their respective colleges. The findings are as presented in Tables 4.4and 4.5 for instructors and trainees respectively

Table 4.4: Instructors involvement in the formulation of ICT policies

Involved	**Instructors**			**Total**
	KPC	**GSU -TS**	**DCI - TS**	
YES	5	21	7	33
	3.6%	15.2%	5.1%	23.9%
NO	58	36	11	105
	42.0%	26.1%	8.0%	76.1%
Total	**63**	**57**	**18**	**138**
	45.7%	**41.3%**	**13.0%**	**100.0%**

The finding in Table 4.4 shows that only 23.9 percent of the instructors were involved in the formulation of ICT policies. The results further shows that GSU-TSCH were more involved in the formulation of ICT policies compared to the rest of the groups

Table 4.5: Trainees involvement in the formulation of ICT policies

Involved	Trainees			Total
	KPC	GSU-TS	DCI-TS	
Yes	11	16	10	37
	5.4%	7.9%	4.9%	18.2%
No	78	63	25	166
	38.4%	31.0%	12.3%	81.8%
Total	**89**	**79**	**35**	**203**
	43.8%	**38.9%**	**17.2%**	**100.0%**

The findings in Table 4.5 shows only 18.2 per cent of the trainees were involved in the formulation of ICT policies with GSU-TSCH involving more trainees compared to other sections of the forces.

4.4.1.2 Availability of ICT documents in police training colleges

The respondents were asked to indicate the availability of different types of ICT documents in their police training colleges. Instructors and trainees views on available ICT documents in their respective colleges are presented in Appendix I and II respectively. The study found that a majority of the instructors were not sure of the availability of various important ICT documents in their respective colleges. For example, in all the police training colleges, about 55.1 per cent of the instructors were not sure if National ICT policy was available in their colleges. This was in contrast to about 21.0 per cent of those who were aware that the National ICT policy document was available and 23.9 per cent of those who indicated that this policy was not available. Of significance to note is that the overall high number (54.3 per cent) of instructors who were not sure if there was an ICT policy in their respective colleges.

A similar trend was noted with trainees where a large majority of the trainees were not sure of the available ICT policy documents in their respective colleges. This is so because in all the police training colleges, about 74.9 per cent of the trainees were not

sure on whether the National ICT policy was available or not in their colleges. This results were confirmed through observation schedule which indicated that, ICT policy document were visibly absent in all the police training college libraries.

4.4.1.3 Policy document formulated by instructors

On policy documents which are developed by the instructors, the study established that 75.0 per cent of the instructors were involved in the formulation of college ICT policy out of which 12.5 per cent participated in formulating ICT laboratory policies. The study also found that instructors in GSU – TSCH had a large share (68.8%) of policy formulated as compared to 25 per cent and 6.2 per cent by DCI – TSCH and KPC respectively. From the findings, it could be concluded that the policy documents formulated largely focused on training policies but did not include the aspect of ICT integration.

4.4.1.4 Participants involved in the formulation of ICT

This study found it worthwhile to identify the participants who were involved in the formulation of ICT policies. This aimed at establishing whether the category of participants had a wide involvement of the stakeholders. The study findings are presented in Figure 4.1.

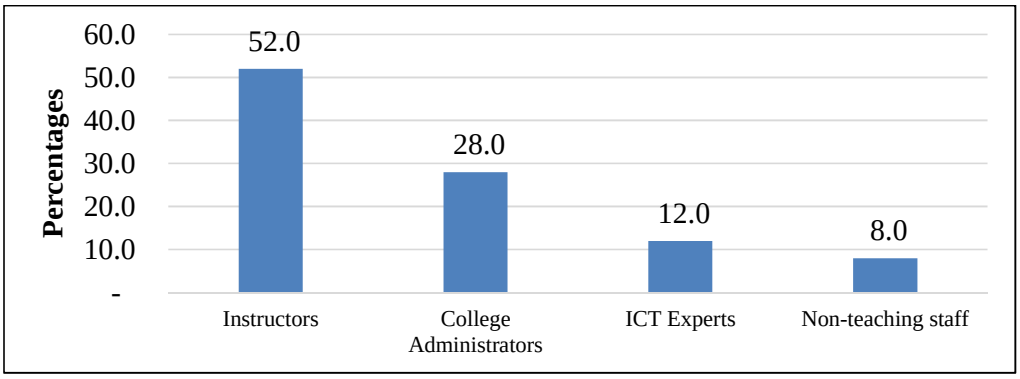

Figure 4.1: Participants involved in the formulation of ICT

Figure 4.1 show that 52.0 per cent of the participants were instructors 28.0 per cent were college administrators, 12.0 per cent were ICT experts while 8.0 per cent were represented by non-college teaching staff. This is an indication that there was a wide representation during policies formulation since college administration, ICT experts and non-teaching staffs were involved. It can be argued that the formulated policies may have benefited from the expertise of different pacrticipants.

4.4.1.5 Roles played by the instructors during ICT policy formulation

This study also sought to establish the role played by the instructors during policy formulation. The study findings are presented in Figure 4.2.

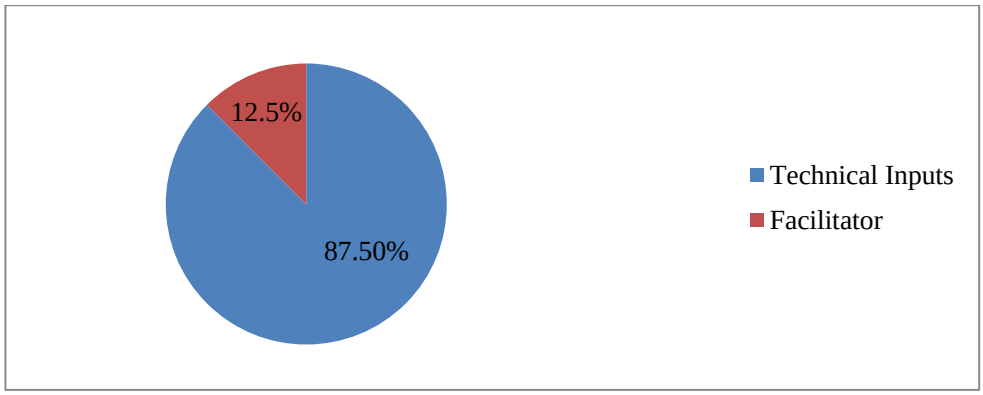

Figure 4.2: Instructors' role during formulation of policies

As presented in Figure 4.2, the study shows that 87.50 per cent of the instructors played the role of providing technical input while 12.5 per cent were facilitators during formulation of policies. This implies that instructors were highly regarded as technical experts in their specialization with a score of 87.50 per cent in providing technical input. These revelations may mean that the policy formulated was of high quality due to the involvement of majority of the instructors to offer technical input. These results are in conformity with the work of Twaakyondo (2010) who felt that a large number of experts should be involved in the process of formulating ICT policies.

It can be implied from the above results that police training colleges may be using senior administrators to act as facilitators in policy formulation though in small numbers. During the oral interview, one of the administrators noted the following:

> our training colleges have a wide expertise of instructors of wide experience and of senior ranks. Due to their seniority, we normally use them to lead programmes because they can offer good leadership. During the review of in-service training programme and formulation of ICT training policy, we used the highest ranking instructors as facilitators while the instructors were used to provide expert inputs (GSU-TS Admin 1.August, 2015).

The above sentiments show that the administrator of police training colleges recognises the need for providing leadership for the purpose of ensuring harmony and coordination.

4.4.1.6 Instructors' input during ICT policy formulation

The study sought to establish the areas the instructors were involved during ICT policy formulation exercise. The findings are presented in Figure 4.3.

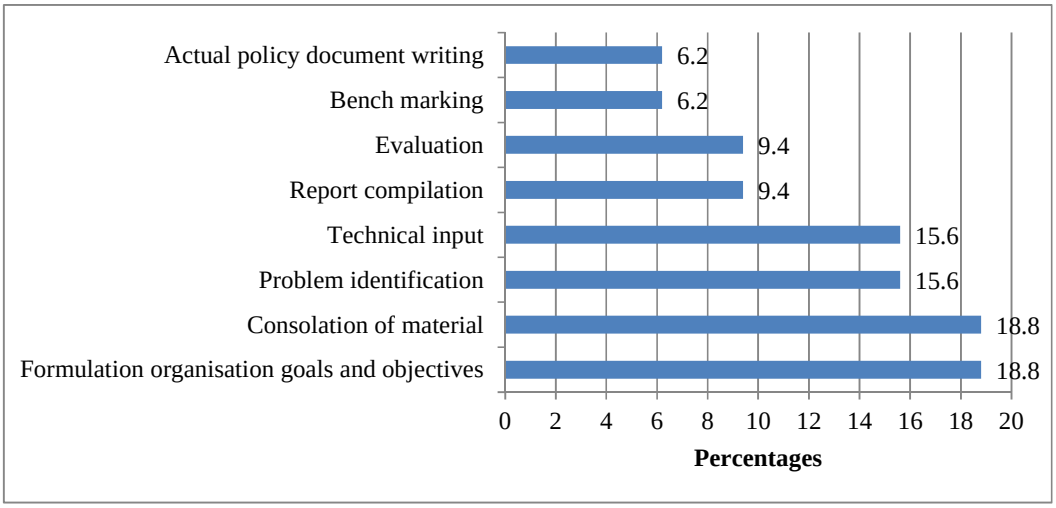

Figure 4.3: Instructors' input during ICT policy formulation

The findings in Figure 4.3 revealed that the instructors contributed broadly in different areas of policy formulation. For instance, they contributed in formulation of organisational goals and objectives. Other areas included problem identification,

technical input, report compilation, evaluation and bench marking. This implies that the instructors were well facilitated on what was expected of them and what content to be incorporated. The whole process of policy formulation ranging from objectives and goal setting, problem identification, consolidation of contents, policy writing, bench marking and actual document

4.4.1.7 Extent of instructors' contribution on ICT policy formulation

The study sought to establish the input of instructors during ICT policy formulation. This was important in order to determine the extent to which they were involved. The findings are presented in Figure 4.4.

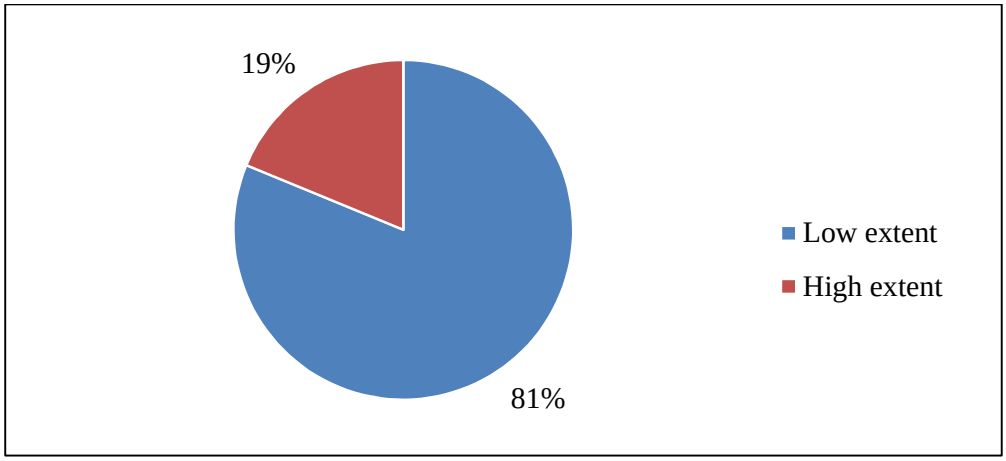

Figure 4.4: Extent of contribution of the instructors on ICT policy formulation

The findings presented in Figure 4.3, show that a majority (81%) of the instructors were of the opinion that their contribution to policy was of little significance. On the contrary, 19 per cent felt that their contribution to policy formulation was of high significance. These revelations cast doubt on the contribution of instructors on formulated ICT policy. It can be implied from the above research findings that though the instructors were involved in the policy formulation, they may have not played an

important role. It could mean that their opinions were not incorporated in the final document.

4.4.1.8 Trainees input on formulation of ICT policies

The trainees were asked to indicate how they were involved in the development of ICT policies in their respective colleges. This was important in an effort to establish the scope of their involvement. The findings are presented in Figure 4.5.

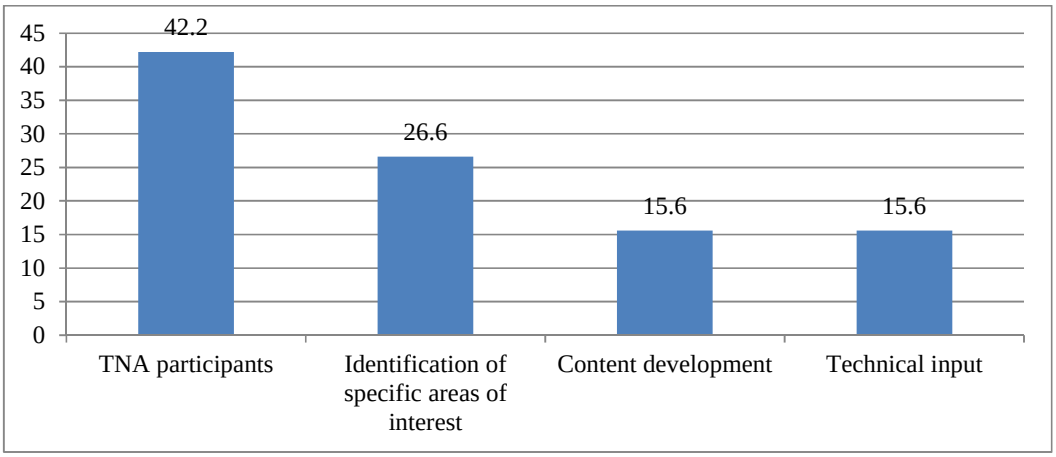

Figure 4.5: Trainees input on formulation of ICT policies

The findings in Figure 4.5 established that 42.2 per cent of the trainees were involved as in-service training needs assessment (TNA) survey participants during ICT policy formulation. About 26.6 per cent of the trainees indicated that they were involved in the identification of specific areas to be incorporated in-service training whereas 15.6 percent were involved in both development of in-service training content and provision of technical input content.

From the research findings, it is apparent that the scope of involvement of trainees was wide covering participation in TNA, content development and technical input. The role of each stakeholder should be explicitly spelt out to avoid conflicts of vested interest and duplication of roles. These requirements should apply to both internal and

external stakeholders. This assertion is supported by findings of Strudler and Wetzel (1999) who argue that institutional ICT integration policy should be well documented showing the role of each stakeholder in the integration process.

4.4.1.9 Extent of involvement of trainees on ICT policy formulation

This study sought the opinion of the trainees on the extent to which they felt their involvement in policy formulation could be helpful. This information was thought to be relevant in this study since it would shed light on the importance of involvement of all stakeholders in the police training colleges. The study findings are presented in Figure 4.6.

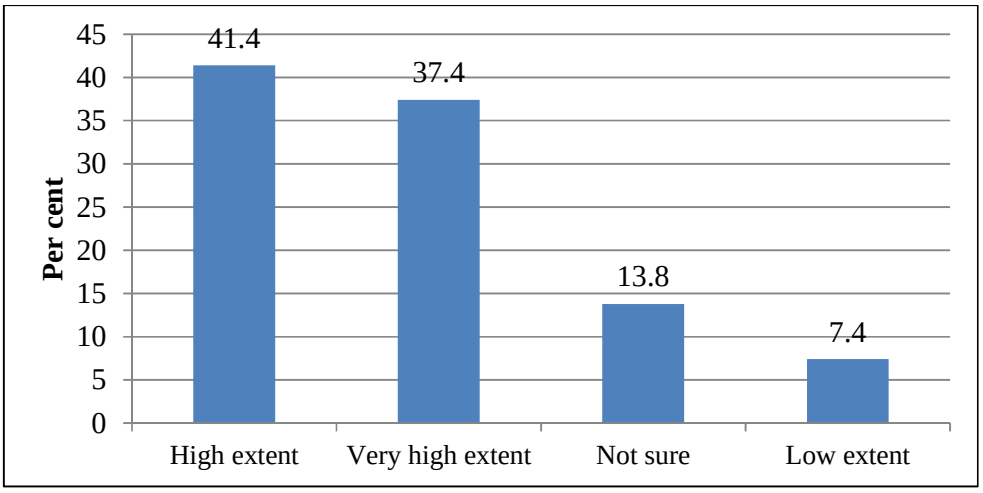

Figure 4.6: Involvement of trainees in policy formulation

From the analysis in Figure 4.6, (41.4%) of the trainees felt that they could have been helpful in the formulation of ICT policy to a high extent while 37.4 per cent of the trainees felt their contribution could be very useful. Only 7.4 per cent (to a low extent) felt they could have been helpful in the formulation of ICT policy as opposed to 13.8 per cent who indicated that they were not sure of the same.

The revelation above implies that it can be of great help for the management of police training colleges to involve trainees on the formulation of ICT policies. Trainees form

an integral stakeholder who cannot be ignored. They are consumers of the end products and, therefore, their involvement to a large extent would make the policy rich and acceptable. These observations are supported by Tusubira and Mulira (2004) who have argued that failure by administrators to fully and effectively involve all the users in the entire integration process can impede the integration process.

4.4.2 Implementation of ICT policies on police training

Availability of ICT policy is one thing and having an effective policy which is owned by the entire institution is another. A professionally developed ICT policy document might be in place but it might not be useful to facilitate the integration process. This might come about especially when the policy document is not owned by the end users. The study sought to investigate the extent of implementation of available ICT policies in police training institutions. The lack of integration of ICT policies in learning has been attributed to several factors which consequently hinder ICT integration. It is this in mind that this study sought to establish the extent of implementation of available ICT policies on police training as a measure of ICT integration. The instructors and trainees responses are presented in Figure 4.7 and 4.8 respectively.

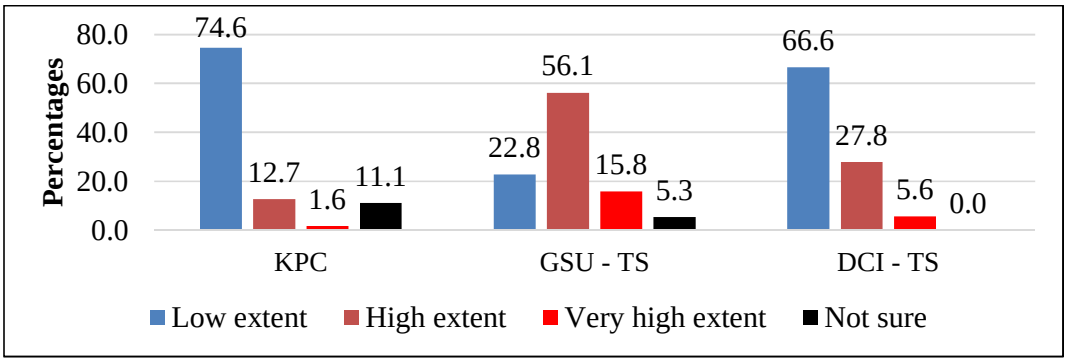

Figure 4.7: Instructors assessment on the extent of implementation of available ICT policies on police training

As presented in Figure 4.7, the analysis shows that majority 56.1 per cent of GSU – TSCH instructors rated “High extent” the implementation of available ICT policies in police training. The DCI – TSCH instructors, 27.8 per cent rated “Good” on the same. 12.7 per cent of the KPC instructors rated “Good” the extent of implementation of ICT policies in police training.

In summary, the findings reveal that GSU – TSCH and DCI – TSCH have performed better on implementation of ICT policies on police training. This is so because majority (56.1%) and 27.8 per cent of GSU – TSCH and DCI – TSCH instructors respectively were of the opinion that there is a high extent of implementation of ICT policies in police training as opposed to majority (74.6%) of the KPC instructors who returned a low extent verdict on the implementation front.

The trend so far shows that GSU – TSCH has to an extent implemented ICT in in-service training as compared to the other police colleges. This may imply that the policies available especially the internal ones are followed well. However, the implementation of the ICT policies may not mean that integration of ICT in in-service training is sufficient. Such revelations could inform the study that the lack of integration of ICT in police in-service training cannot be blamed fully on the management of police colleges but to other factors. These factors may be beyond the administrator’s management practices as was alluded by one of the interviewed senior administrators who stated the following:

> ...with the assistance of senior administrators, training staff and ICT experts had come up with internal ICT policies to guide on the use of ICT in in-service training. Policy captured several issues such as ICT infrastructure development, buying of equipment and others but due to red tape and long process of procurement; they were unable to accomplish their goals (GSU Admin 3. August, 2015).

The interviewee observed that lack of integration could not be blamed largely on the commandant of the training school but to other higher offices. The above findings concur with the study findings by Gode, Obegi and Macharia (2014) who established that lack of ICT policy and autonomy in decision making delays integration of ICT in colleges. The sentiments call for shortening of the bureaucratic process especially on approval of policies and procurements which often delay implementation of good policies. Therefore, administrators ought to fully involve all the concerned individuals to tap a variety of views and expertise.

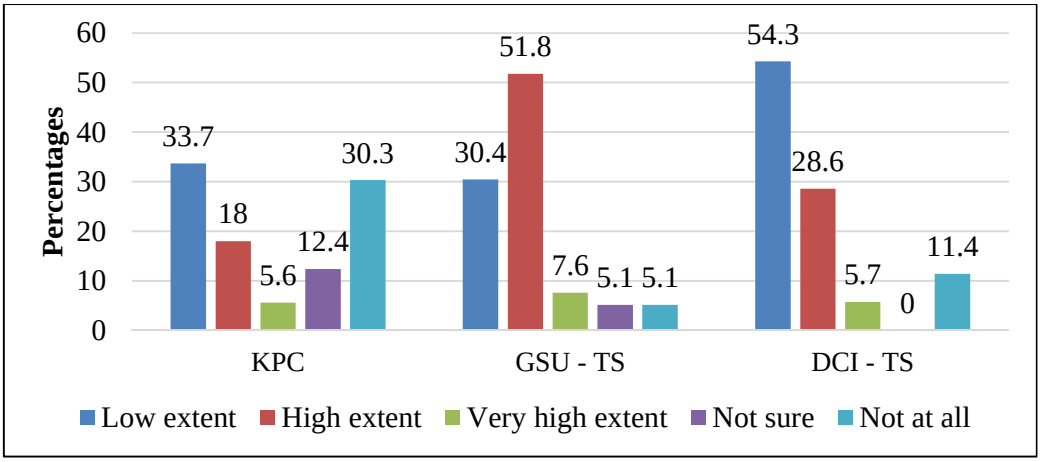

Figure 4.8: Trainees assessment on the extent of implementation of available ICT policies on police training

As presented in Figure 4.8, the analysis shows that majority 51.8 per cent of GSU – TSCH trainees rated "High extent" the implementation of available ICT policies in police training. About 28.8 per cent of DCI – TSCH trainees rated "Good" the extent of the implementation of available ICT policies in police training while 18 per cent of the KPC trainees rated "Good" the extent of implementation of ICT policies in police training.

In summary, the findings reveal that GSU – TSCH had performed better on implementation of ICT policies on police training. This is so because majority

(51.8%) of GSU – TSCH respondents returned high extent verdict on implementation of ICT policies in police training. This was in contrast to majority (54.3%) in DCI – TSCH and majority (33.7%) in KPC who returned a low extent verdict to the extent of implementation of ICT policies in police training.

Further, the findings confirm that GSU – TSCH is conversant with the need for implementing available ICT polices in the integration of ICT in police in-service training. The poor performance indicated by trainees of KPC and DCI – TSCH is revelation of many challenges the police training colleges may be facing. Such challenges as earlier alluded could be structural which means it is beyond the police training college administrators. These findings agree with Gichoya (2005) who observed that challenges like bureaucracy pose serious barriers to integration of ICT in public training institutions.

4.4.3 ICT policies and integration of ICT in police training

The study sought to establish the rate of contribution of ICT policies on the integration of ICT on police training. This was necessary in order to determine the role of formulated ICT policies on ICT integration in police training colleges. The findings for instructors and trainees are as depicted in Figure 4.9 and 4.10 respectively.

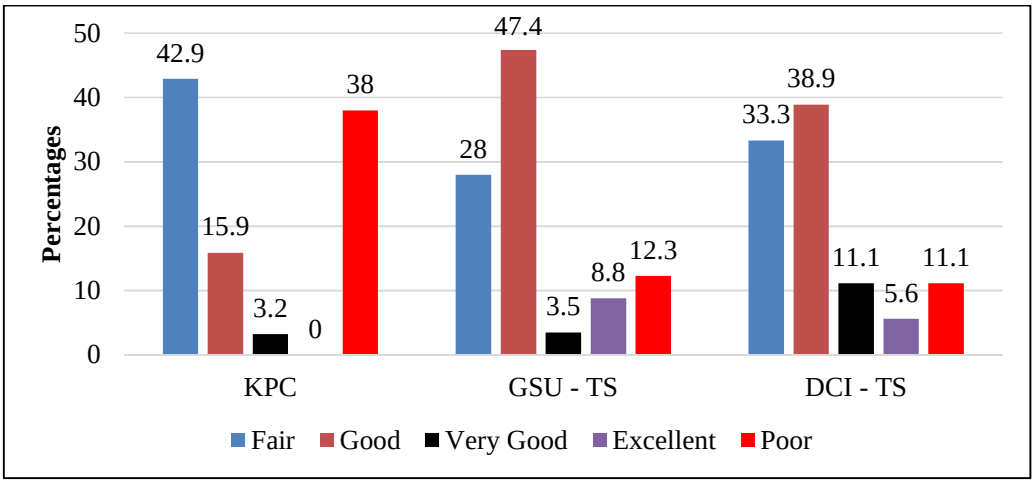

Figure 4.9: Instructors assessment on the contribution of ICT policies on the integration of ICT on police training

The findings in Figure 4.9 show that 47.4 per cent of GSU – TSCH instructors rated the contribution of formulated ICT policies as "Good". Further, 38.9 per cent of the DCI – TSCH instructors rated the contribution of ICT policies on the integration of ICT in police in-service training as "Good". On the same rating, about 15.9 per cent of the instructors from KPC rated the contribution of formulated ICT policies on the integration of ICT in police training as "Good".

The findings also revealed that GSU – TSCH and DCI – TSCH, have rated better contribution of ICT policies on the integration of ICT in police in-service training. This is so because (47.4%) and (38.9%) of GSU – TSCH and DCI – TSCH instructors rated the contribution of ICT policies on the integration of ICT in police in-service training as "Good," as opposed to 42.9% of the KPC instructors who rated the same as "Fair".

The findings above imply that GSU – TSCH is performing well in terms of contribution on the extent of involvement in the formulation of ICT policies in integration of ICT in police in-service training when compared to the other police

training schools. This positive revelation can be attributed to the availability of an internal ICT policy. It can be argued that though the instructors did not contribute to a large extent in the formulation of ICT policies, the available policies are being implemented well in GSU–TSCH to the satisfaction of the instructors. This shows that the administrators of GSU–TSCH and DCI–TSCH, despite many challenges, have managed to apply some managerial practices favourable to the instructors.

The observation during the study was that, some rules and regulations were sighted displayed in computer labs at GSU-TSCH which was not the case in other two training institutions. During the interview with the administrators it was also noted that it was mandatory for all in-service trainees to be taken through basic computer packages at DCI-TSCH and GSU-TSCH.

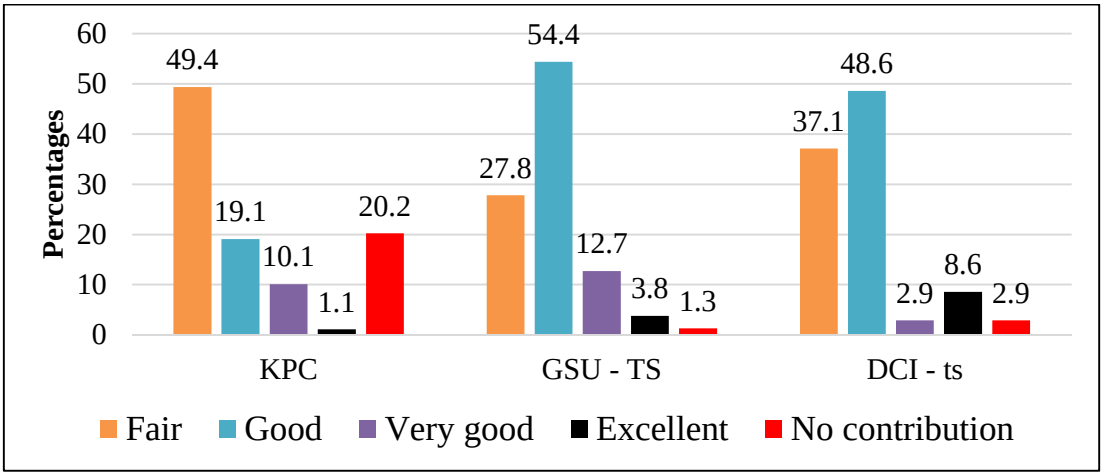

Figure 4.10: Trainees response on the rate of contribution of ICT policies on the integration of ICT on police training

As presented in Figure 4.10, the analysis shows that 54.4 per cent of GSU – TSCH trainees rated “Good” the contribution of formulated ICT policies on the integration of ICT in police in-service training. Of the DCI – TSCH instructors, about 48.6 per cent rated “Good” while about 19.1 per cent of the KPC instructors rated “Good” the

contribution of formulated ICT policies on the integration of ICT in police in-service training.

Instructors in GSU – TSCH and DCI – TSCH rated the contribution of ICT policies on the integration of ICT as better. These findings imply that GSU – TSCH and DCI – TSCH has made use of available ICT policies to integrate ICT in in-service police training. This was supported by the sentiments of one of the managers of police training colleges who during the interview noted the following;

> despite many challenges facing our training school the commandant has managed to ensure an acceptable ICT integration in the in-service training using available internal ICT policy. The trainees and instructors can attest to this. (DCI Admin 2. September, 2015).

It can be argued from the above revelation that despite lack of strategic plans, the management of police training colleges were innovative in integrating ICT in police training. Despite many challenges a manager may be experiencing, it is his/her responsibility to apply management skills and leadership to push an agenda.

4.4.4 The relationship between police involvement in ICT policies and integration of ICT in police training

H_O2: There is no significant relationship in the mean Information Communication Technology (ICT) integration levels in in-service training when police officers are classified as involved or not involved in formulation of ICT policies.

This hypothesis sought to establish whether there exists a significant difference in the mean levels of ICT integration in in-service training when police officers are classified as involved or not involved in formulation of ICT policies. A Chi-Square test was used to test this hypothesis. The findings for instructors and trainees are presented in Tables 4.6 and 4.7 in sections below.

Table 4.6: Chi-square test results on instructors' involvement in ICT policy formulation

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.294[a]	2	.000
Likelihood Ratio	17.810	2	.000
Linear-by-Linear Association	13.396	1	.000
N of Valid Cases	138		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.30.

Key: Alpha Value = *P*-0.05

The chi-square results χ^2(df=2, N=138)= 16.23, p=.000 at p=.05 level of significance indicate that there is significance difference on mean levels of ICT integration in in-service training when instructors police officers are classified as involved or not involved in formulation of ICT policies. Based on the above findings the null hypothesis was rejected. These findings imply that the management of the police training colleges have not fully involved the instructors in the formulation of ICT policies since only 23.9 per cent were involved (Table 4.4).

Table 4.7: Chi-square test results on trainees' involvement in ICT policy formulation

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.786[a]	2	.091
Likelihood Ratio	4.703	2	.095
Linear-by-Linear Association	4.761	1	.029
N of Valid Cases	203		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.38.

Key: (a) Alpha Value = *P*-0.05

The chi-square results χ^2(df=2, N=203)= 4.77, p=.091 at p=.05 level of significance indicate that there is no significance difference on mean levels of ICT integration in in-service training when trainee police officers are classified as involved or not

involved in formulation of ICT policies. Based on the above findings the null hypothesis is accepted. Based on the above alpha *P*-value the null hypothesis is accepted. These findings imply that the management of the police training colleges have not fully involved the instructors in the formulation of ICT policies since only 18.2 percent were involved (Table 4.5).

4.5 Supervision of instructors

The second objective was to establish the influence of instructional supervision on integration of ICT in police training institutions. This was necessary in order to assess the influence of instructional supervision on integration of ICT for effective learning process and outcomes in police in-service training.

4.5.1 Availability of college policy on supervision of ICT integration

The study sought the views of the supervisors on whether their respective police training colleges have policies on supervision. A cross tabulation between training institutions and availability of college policy on supervision was generated and presented in Table 4.8.

Table 4.8: Instructors' responses on the availability of college policy on supervision

Availability	Training institution			Total
	KPC	GSU - TS	DCI – TS	
Yes	16	37	10	63
	25.4%	64.9%	55.6%	45.7%
No	30	18	5	53
	47.6%	31.6%	27.8%	38.4%
Not Sure	17	2	3	22
	27%	3.5%	16.7%	15.9%
Total	**63**	**57**	**18**	**138**
	100%	**100%**	**13.0%**	**100.0%**

As presented in Table 4.8, majority (64.9%) of the GSU – TSCH instructors indicated that there is a policy of ICT supervision, 55.6 per cent confirmed availability in DCI –

TSCH as compared to 25.4 per cent in KPC. Worth noting is the high number, 47.6 per cent of KPC instructors, who indicated that ICT supervision policy was not available. The findings above reveal that GSU – TSCH and DCI – TSCH, to a large extent, have a policy on ICT supervision as opposed to lower extent in KPC. Overall 54.3 per cent of the trainees were reported that they were not sure or there were no supervision policy in their respective colleges.

This observation implies that there is inadequate supervision of instructors which may compromise the standards of ICT integration. There are many benefits that accrue from supervision of any training. This observation is attested to by Schiller (2012) who finds that institutional leadership and employee supervision play an important role in leading change, providing vision and objectives as well as professional development initiatives in using ICT to bring about change.

4.5.2 Supervision of instructors

The information regarding instructional supervision was solicited from instructors and trainees. This was necessary in an attempt to establish if supervision is done, how it is done and who conducts supervision. The findings are as discussed below.

4.5.2.1 Supervision of instructors on the use of ICT

The study sought to establish if the instructors were supervised on the use of ICT in in-service training. This was necessary in order to determine the magnitude of supervision in each police college. A cross tabulation was generated between instructors in police training colleges and response on supervision. The results were tabulated in Tables 4.9 and 4.10.

Table 4.9: Responses on instructors' supervision

	Training institution			Total
	KPC	**GSU – TSCH**	**DCI – TSCH**	
Yes	23	38	10	71
	36.5%	66.7%	55.6%	51.4%
No	40	19	8	67
	63.5%	33.3%	44.4%	48.6%
Total	**63**	**57**	**18**	**138**
	100%	**100%**	**100%**	**100.0%**

The analysis in Table 4.9 shows that 51.4% of the instructors in all police training colleges are supervised compared to 48.6 per cent who are not supervised. 66.7 per cent of the supervised instructors are from GSU – TSCH followed by 55.6 per cent DCI – TSCH and the least supervised were 36.5 per cent from KPC. These findings imply that supervision of instructors is not impressive as only about 51.4 per cent confirmed being supervised. This can be attributed to lack of supervision policy or lack of enforcement of the policy in some collages. GSU – TSCH leads with the numbers of instructors supervised which could be attributed to the availability of a supervision policy.

Table 4.10: Instructors' assessment on supervisors' use of ICT in instructions

	Training institution			Total
	KPC	**GSU - TS**	**DCI - TS**	
ICT manager	13	23	4	40
	18.3%	32.4%	5.6%	56.3%
ICT instructor	17	27	4	48
	23.9%	38.0%	5.6%	67.6%
College commandant	2	3	3	8
	2.8%	4.2%	4.2%	11.3%
Chief Instructors	10	13	6	29
	14.1%	18.3%	8.5%	40.8%
College administrator	6	9	2	17
	8.5%	12.7%	2.8%	23.9%
Total	**23**	**38**	**10**	**71**
	32.4%	**53.5%**	**14.1%**	**100.0%**

The findings in Table 4.10 show that 67.6 per cent of the supervisors were ICT instructors followed by ICT managers (56.3%), chief instructors (40.8%) and college administrators (23.9%) while supervisory work (11.3%) was done by college

commandants. In all the police training colleges, supervision is a duty carried out by the college commandants and commanding officers. The function is delegated to the chief instructor, who delegates the same function to senior officers in the college, particularly to faculty heads. Supervision is indirectly done by trainees who carry out course evaluation at the end of the course, and depending on their performances and comments, respective instructors are held responsible.

These findings imply that the training colleges have preferred largely (67.6%) the services of the ICT instructors to supervise instructors on the use of ICT in in-service training. The choice of ICT instructors may be attributed to their ICT expertise which could be useful in understanding the challenges facing instructors. The use of ICT instructors may pose the challenge of supervising senior administrators who are also instructors since in most cases they are at a lower rank.

Table 4.11: Trainees' assessment on supervisors' use of ICT in instructions

Supervisors	**Training institution**			**Total**
	KPC	**GSU - TS**	**DCI - TS**	
College Commandant	1	2	2	5
	1.9%	3.7%	3.7%	9.3%
Head of ICT	7	17	4	28
	13.0%	31.5%	7.4%	51.9%
External supervisors	0	1	0	1
	0.0%	1.9%	0.0%	1.9%
ICT Instructors	7	8	5	20
	13.0%	14.8%	9.3%	37.0%
Total	**15**	**28**	**11**	**54**
	27.8%	**51.9%**	**20.4%**	**100.0%**

The findings in Table 4.11 show that majority (51.9%) of the supervisors were heads of ICT followed by ICT instructors (37.0%), college commandants (9.3%) while 1.9 per cent supervisory work was done by external supervisors. At DCI–TSCH, trainees are required to fill in evaluation forms daily. However, this was carried out for only a

few days then it was stopped because the relationship between the trainees and instructors started becoming strained once instructors were questioned by the college commandant about their performance. According to the observation carried out during the study, it was confirmed very little supervision was done.

4.5.2.3 Mode of supervision

This study sought to establish the mode of supervision that is used to supervise instructors on the use of ICT in police in-service training. The information was solicited from the instructors and in-service trainees. The study findings are presented in Table 4.12.

Table 4.12: Mode of supervision of instructors on the use of ICT in in-service training

Mode of supervision	Instructors		Trainees	
	Count	%	Count	%
Use of checklist	12	10.3	4	4.3
Impromptu checks	16	13.8	10	10.8
Use of electronic surveillance	3	2.6	-	-
Demonstrations on ICT applications	21	18.1	18	19.4
Login and logging out register	6	5.2	-	-
Course content coverage	36	31.0	31	33.3
Adherence to instruction time	22	19.0	24	25.8
Being assisted to fix power point	-	-	6	6.5
Total	**116**	**100.0**	**93**	**100.0**

With regard to mode of supervision, the findings in Table 4.12 reveal a wide range of methods used. These methods focused on supervising course content coverage, adherence to lesson allocated time and demonstration on the ICT applications. The supervision used a number of tools and techniques to supervise the instructors. The supervision used tools like checklist and login and logging out register to supervise instructors. From the analysis in Table 4.10, the most widely used mode of supervision was the use of course content coverage assessment at 33.3 per cent and

31.0 per cent as pointed out by instructors and trainees respectively. The least widely used method of supervision was use of electronic surveillance (2.6%) and use of checklist (4.3%) as it was indicated by instructors and trainees respectively.

4.5.3 Supervisors' proficiency on the use of ICT

The instructors' views on the instructional supervisor's proficiency on the use of ICT were sought in this study. This was necessary for the purpose of comparing ICT proficiency levels among the training schools. It would also be used to compare the extent of supervision and ICT integration in the three police training colleges. The analysis is presented in Figure 4.11.

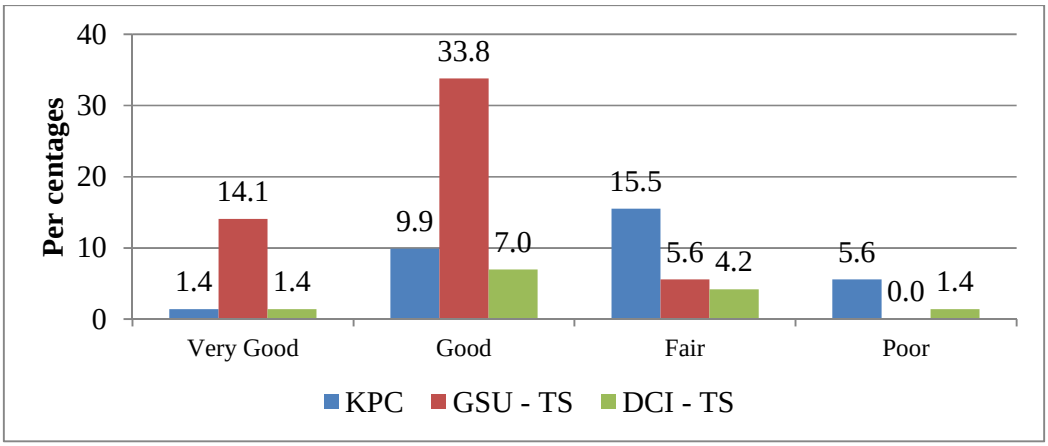

Figure 4.11: Supervisors' proficiency on the use of ICT

The analysis in Figure 4.11 shows that overall majority (50.7%**)** of all police training colleges rated "Good" the supervisors ICT proficiency followed by 25.4 per cent fair rating and 16.9 per cent who rated "Very Good". These results imply that police training colleges use supervisors who are ICT proficient which may augur well in the integration of ICT in in-service training.

These findings, however, show inconsistencies on the opinion of instructors on the proficiencies of supervisors in the three police training colleges. For instance, instructors in GSU – TSCH and DCI – TSCH rated ICT supervisors ICT proficiency

"Good" at majority of 33.8 per cent and 7.0 per cent respectively. In contrast, majority (15.5%) of KPC were of the opinion that the ICT supervisors' proficiency in ICT was fair. This confirms that there is no forum of interaction between the instructors and trainees where they can share their ICT proficiency skills.

4.5.4 Involvement of trainees on supervision

The study sought the opinion of the trainees on whether they had experienced instructors' are being supervised. This was necessary in order to establish if the trainees had any knowledge of supervision of the instructors. The research findings are presented in Figure 4.12.

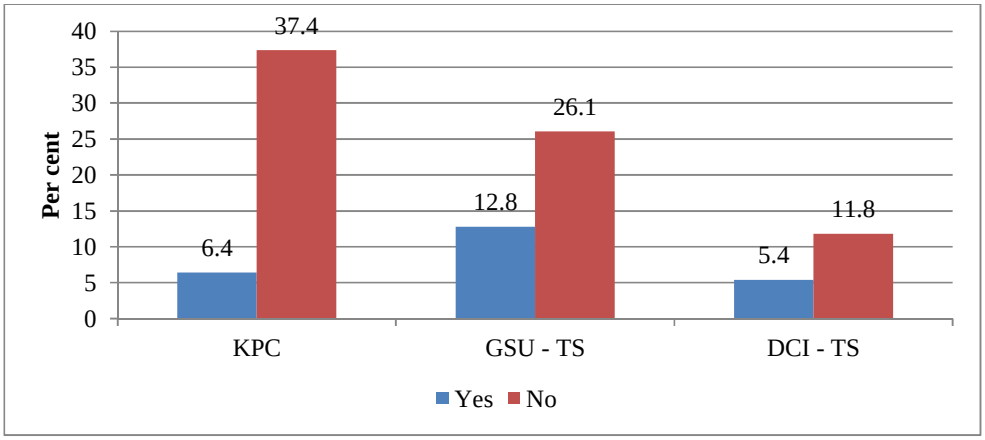

Figure 4.12: Involvement of trainees in supervision

As analysed in Figure 4.12, majority (75.4%) of the trainees from the three police training institutions, who participated in the study, indicated that they were not involved in supervision. The GSU – TSCH registered majority (12.8%) of the trainees involved as compared to 6.4 per cent and 5.4 per cent trainees in KPC and DCI – TSCH respectively who were involved in supervision of the instructors.

4.5.4.1 Trainees experiences on instructors' supervision

The study sought the opinion of the trainees on whether they had experienced instructor's being supervised. This was necessary in order to establish if the trainees had any knowledge of supervision of the instructors. The research findings are presented in Table 4.32. At DCI-TSCH, supervision was regularly done by course officers who ensured all instructors attended their lessons in time and in case of complaints by trainees, the course officer could address the complaint. In other instances, he could make arrangement where instructors were not available to attend their classes.

However, ICT was supervised by the head of ICT section or ICT faculty in respective colleges. Course officer at DCI-TSCH and GSU-TSCH made arrangements for trainees to get soft copy notes for future reference. At GSU-TSCH, it is a policy that all instructors must use PowerPoint. This was not found to be a very effective kind of supervision because the head of faculty is a junior officer mostly of the rank of inspector who cannot demand explanation from a senior officer or report him in case the instructor fails to use Power Point presentations.

4.5.5 Extent of instructional supervision on integration of ICT

The study sought to establish the extent of the influence of supervision on the integration of ICT in in-service police training. This was important in order to determine the contribution of ICT supervision on the integration of ICT in in-service training in police training colleges. The study interviewed instructors and trainees to solicit their opinions and presented the findings in Figure 4.16 for instructors and 4.13 for trainees' opinions.

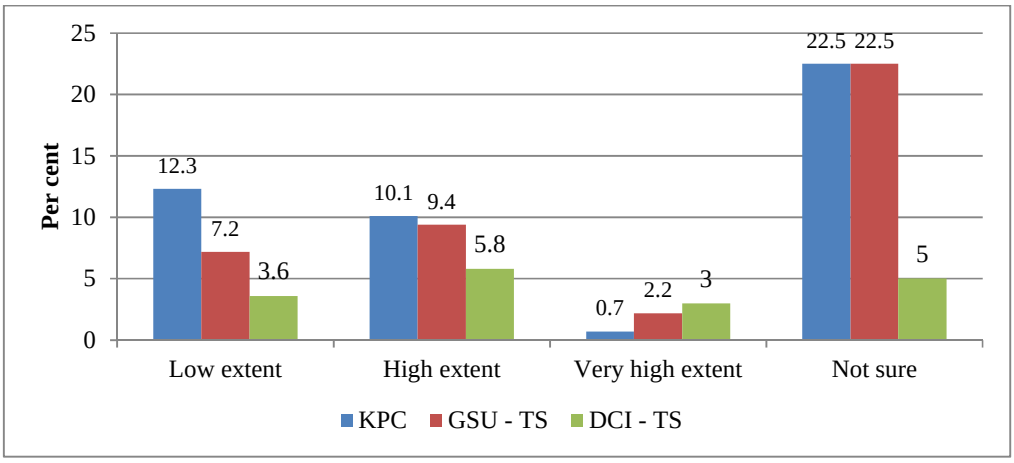

Figure 4.13: Instructors responses on the extent to which instructional supervision influence ICT integration in police training

The study findings in Figure 4.13 found that overall majority (51.4%) of the instructors in the three police training colleges were of the view that ICT supervision has influenced integration of ICT in their colleges. In contrast minority (48.6%) of the instructors in the three police training colleges were of the view that they were not sure that ICT supervision has influenced integration of ICT in their colleges.

The above revelation implies that supervision of ICT use in in-service training does not play a major role to influence integration of ICT in training. This can be attributed to the notion that supervision is meant to punish. It is therefore imperative for the police colleges to ensure that there are structures of supervising instructors to enhance successful ICT integration in police training colleges. These observations concur with Simata and Simasiku (2012) findings on the importance of supervision. They observed that supervision leads to proper implementation of ICT policies in Namibia.

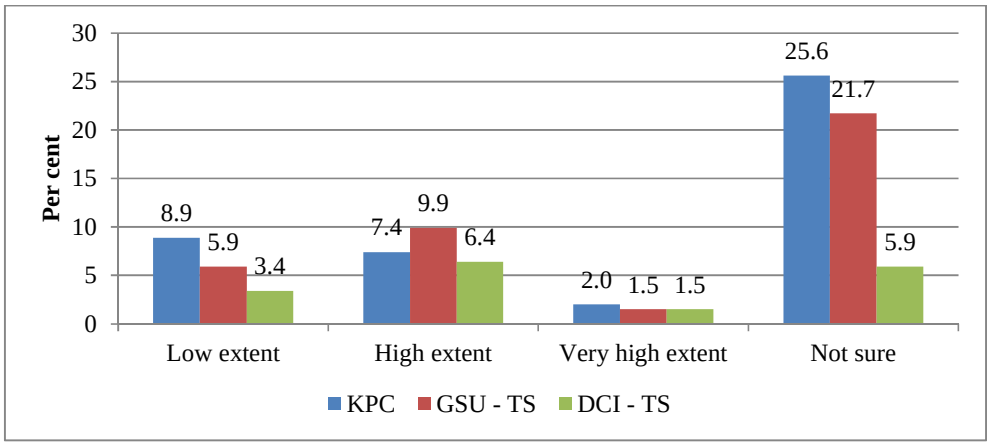

Figure 4.14: Trainees responses on the extent of instruction supervision and integration of ICT in in-service training

The study findings in Figure 4.14 found that overall majority (53.2%) of the trainees in the three police training colleges were of the view that they were not sure ICT supervision has influenced integration of ICT in their colleges. In contrast minority (46.8%) of the trainees in the three police training colleges were of the view that ICT supervision has influenced integration of ICT in their colleges. It can be argued that although the instructors were positive that ICT supervision has influenced ICT integration in police training colleges the number is quite low (51.4%) which is not much difference with that of trainees whose opinion was on the contrary.

It can be argued from the above observation that ICT supervision may not have great influence on the integration of ICT in in-service training in all police training colleges. This is contrast with the findings of Simataa and Simasiku (2012) who established that supervision plays a critical role of identifying challenges facing proper implementation of policies.

4.5.2.4 Frequency of ICT instructional supervision in police in-service training

This study sought to establish the frequency at which supervision on the use of ICT in police in-service instructions was done. This was with the view of assessing the

significant role attached to ICT supervision on the integration of ICT in in-service training. The study findings are presented in Figure 4.15.

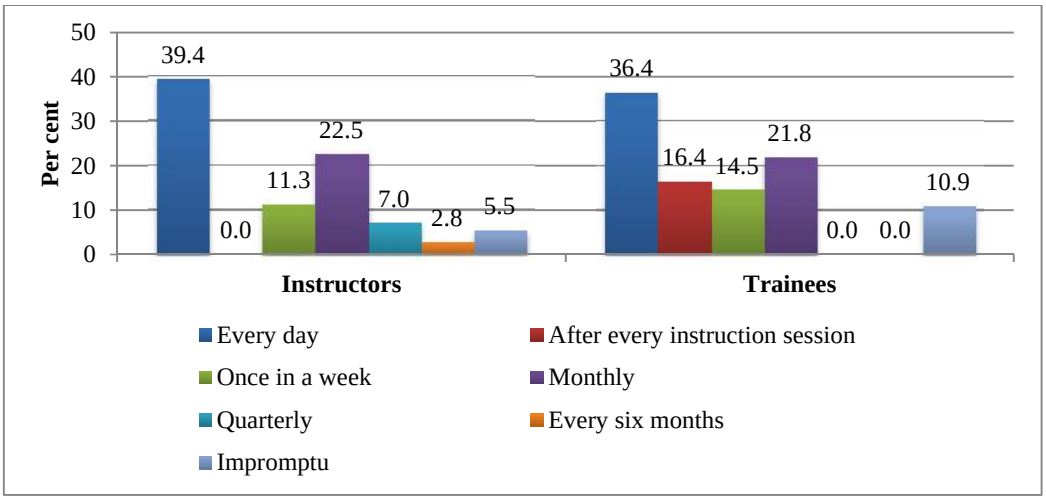

Figure 4.15: Frequency of supervision of ICT instruction in in-service training

The analysis in Figure 4.15 shows that the frequency of ICT use in supervision varied from one training school to another. For instance, both instructors and trainees indicated that majority (33.8%) and 30.9 per cent respectively for GSU–TSCH were supervised daily. The large majority (33.8 per cent instructors and 30.9 per cent trainees) for daily supervision in GSU–TSCH can be attributed to availability of policy for ICT supervision as was reported in Table 4.24.

The supervision in KPC and DCI–TSCH showed no large majority on the supervision frequency since the highest majority among the two colleges was 10.9 per cent. The lack of large majority can be attributed to lack of ICT supervision policy in the KPC and DCI – TSCH as it was previously reported in Table 4.24.

H_O3: There is no significant difference in the mean Information Communication Technology integration levels in in-service training when college instructors' are categorised as supervised and not supervised.

This hypothesis tests whether there is significant difference in the mean Information Communication Technology integration levels in in-service training when college

instructors' are categorised as supervised and not supervised. A Chi-Square test was used to test this hypothesis. The findings are presented in Tables 4.13.

Table 4.13: Chi-square for Instructors.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.036[a]	2	.004
Likelihood Ratio	11.208	2	.004
Linear-by-Linear Association	6.176	1	.013
N of Valid Cases	138		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.74.

The chi-square results χ^2(df=2, N=138)= 11.031, p=.004 at p=.05 level of significance indicate that there is significance difference on the integration of ICT in police in-service training among the instructors when college instructors' are categorised as supervised and not supervised. Based on this finding the null hypothesis is rejected. This implies that there is no significant difference on the instructors' supervision whether supervised or not. This implies that supervision of instructors has not influenced integration of ICT in police training.

4.6 Development of in-service training programmes

Participatory management is encouraged in organisation where employers involve employees at all levels in decision-making (Casady, 2013). This study sought to establish the extent of involvement of police officers in the development of In-Service Training Programmes and Integration of ICT in In-Service Training. The findings are discussed below in the preceding sections.

4.6.1 Involvement of instructors and trainees in the development of in service training programmes

The study sought to establish if the instructors and trainees are involved by the administrators of police training colleges in the development of in-service training programmes. This was necessary in order to assess the stakeholders' participation. Table 4.14 presents the research findings.

Table 4.14: Participation of instructors and trainees in the development of in service training programmes

Institution	Instructors		Total	Trainees		Total
	Yes	No		Yes	No	
KPC	28(20.3%)	35(25.4%	63(45.7%)	8(3.9%)	81(39.9%)	89(43.8%)
GSU-TS	20(14.5%	37(26.8%)	57(41.3%)	10(4.9%)	69(34.0%)	79(38.9%)
DCI – TS	8(5.8%)	10(7.2%)	18(13.0%)	3(1.5%)	32(15.8%)	35(17.2%)
Total	**56(40.6%)**	**82(59.4%)**	**138(100.0%)**	**21(10.3%)**	**182(89.7%)**	**203(100.0%)**

The study revealed that overall majority (59.4%) of the instructors and 89.7 per cent of the trainees were not involved in developing in-service training programmes. About 20.3 per cent of instructors were of the opinion that in KPC administrators involved the trainees in the development of in-service programmes as compared to 14.5 per cent and 5.5 per cent in GSU – TSCH and DCI - TS. The research findings also found that trainees were less involved in developing training programmes in the three training institutions than the instructors since only 10.3 per cent of the trainees were involved as compared to 40.5 per cent instructors involved.

The above findings imply that police training colleges do not find the need of involving the instructors and trainees in the development of in-service training

programmes. This could be attributed to fact curriculum development could be a preserve of the seniors officers. These findings concur with the study report of scoping by National Policing Improvement Agency (2011) on Kenya Police. This report observed the command structure in police service has hindered sharing of ideas among the various police ranks. This revelation may have a profound influence on the training aspects and the integration of ICT in police training in Kenya.

4.6.2 Involvement of instructors and trainees in the development of in service training programmes

The study sought the views of instructors and trainees on participants involved in the development of the in-service programmes. This was important in an attempt to establish the stakeholders who were involved. The findings are as presented in Tables 4.15 and 4.16

Table 4.15: Instructors involvement in the development of in service training programmes

Participants	Training institution			Total
	KPC	GSU – TS	DCI - TS	
Instructors	29(50.9%)	18(31.6%)	7(12.3%)	54(94.7%)
Trainees	5(8.8%)	2(3.5%)	3(5.3%)	10(17.5%)
Senior police officers	16(28.1%)	1(1.8%)	5(8.8%)	22(38.6%)
Directors of studies	7(12.3%)	10(17.5%)	2(3.5%)	19(33.3%)
Kenya National Examination Council	0(0.0%)	12(12.1%)	0(0.0%)	12(21.1%)
Education experts from public institutions	2(3.5%)	8(14.0%)	0(0.0%)	10(17.5%)
Total	**31(54.4%)**	**18(31.6%)**	**8(14.0%)**	**57(100.0%)**

The analysis in Table 4.15 overall majority (94.7%) in all the three police training colleges involved the instructors as participants in the development of in-service

training programmes. This was followed by about 38.6per cent and 33.3per cent of the instructors who indicated that senior police officers and directors of studies were also involved.

Of great importance to note is the involvement of Kenya National Examination Council (KNEC) and Education experts from public institutions in the development of in-service training programmes. However, the involvement of KNEC is registered in only one training school, GSU–TSCH. These findings may be an indicator of deliberate effort by GSU–TSCH administrators to involve a wider range of stakeholders to accommodate wider views for the enrichment of the in-service training programmes.

It can be implied from the research findings above senior officers that include the directors of studies and senior police officers together with trainees don't seem to be playing a central role in developing training programmes in police training institutions as compared to the role played by the instructors. This is an indictment that the instructors plays the central role of developing of in-service training programmes bearing in mind they are the ones who implement the training programmes.

Table 4.16: Trainees' involvement in the development of in service training programmes

Participants	**Institution**			**Total**
	KPC	**GSU TS**	**DCI TS**	
Instructors	2	4	0	6
	9.5%	19.0%	0.0%	28.6%
Trainees	0	4	1	5
	0.0%	19.0%	4.8%	23.8%
Senior police officers	3	1	1	5
	14.3%	4.8%	4.8%	23.8%
Director of studies	3	1	1	5
	14.3%	4.8%	4.8%	23.8%
Total	**8**	**10**	**3**	**21**
	38.1%	**47.6%**	**14.3%**	**100.0%**

The analysis in Table 4.16 reveals that overall majority (28.6%) in all the three police training colleges involved the instructors as participants in the development of in-service training programmes. The research findings also found that there is no variation on the participation of directors of studies, senior police officers and trainees since they all scores 23.8per cent participation. Of great importance to note is that there is no involvement of Kenya National Examination Council (KNEC) and Education experts from public institutions in the development of in-service training programmes unlike the case with opinion of instructors.

It can be inferred from the research findings above that senior officers and trainees plays minimal role in developing training programmes in comparison to the role played by the instructors. This is an indictment that the instructors plays the central role of developing of in-service training programmes bearing in mind they are the ones who implement the training programmes.

The study sought to identify the in-service programmes components developed by instructors and trainees. Both instructors and trainees indicated they developed instructional methodology, curriculum content, instructional resources and content for application of ICT. The findings shows that the training programme developed was holistic since it covered largely on what to be taught (curriculum content) how to teach (methodology) tools for aiding instructions and ways of applying ICT. These observations concur with the findings of Ritchhart (2007) who noted that a good curriculum or training proramme generally should focus on the topics to be covered, skills to be mastered, how to achieve training and what change to be brought.

4.6.3 Missing ICT components in the developed in-service police training programme

The study sought to identify possible missing ICT components from the developed in-service training programmes. This was done by seeking the views of trainees who were not involved in the development of in-service training programmes. Table 4.17 presents the study findings.

Table 4.17: Missing ICT components on the developed in-service police training programme

Institution	Instructors			Total
	Yes	No	Not sure	
KPC	28(13.8%)	33(16.3%)	28(18.8%)	89(43.8%)
GSU - TS	20(9.9%)	28(13.8%)	31(15.3%)	79(38.9%)
DICTS	12(5.9%)	16(7.9%)	7(3.4%)	35917.2%)
Total	**60(29.6%)**	**77(37.9%)**	**66(32.5%)**	**203(100%)**

The findings in Table 4.17 show that majority (37.9%) of the instructors did not know whether there are missing ICT components in the developed in-service training programmes. The findings show that 32.5 per cent of the instructors were not sure if there are any missing ICT components. In contrast, only 29.6 per cent who were aware of missing ICT components in the developed in-service training programmes.

The above discovery implies that the instructors do not interrogate the contents of the training programmes as individuals or as a team in the faculty of training. It may also imply that there is no constant review or evaluation of the in-service training courses. It is advisable to the administration comes up with policy of reviewing or evaluation of the in-service courses and involve the instructors. This initiative will help the instructors to give feedback that may help to improve the training programmes for better delivery.

4.6.4 Contribution of instructors and trainees in the development of in-service training programmes

The instructors and trainees were asked to identify their contribution in the development of the in-service programmes. This was important in an attempt to establish the areas they contributed. The findings are as presented in Table 4.18 and 4.19.

Table 4.18: Instructors' contribution on the development of in-service training programmes

Area Involved	Training Institution			Total
	KPC	GSU – TS	DCI - TS	
Training needs assessment	13	8	3	24
	22.8%	14.0%	5.3%	42.1%
Designing the programme	10	2	4	16
	17.5%	3.5%	7.0%	28.1%
Content development	11	11	5	27
	19.3%	19.3%	8.8%	47.4%
ICT content development	3	2	0	5
	5.3%	3.5%	0.0%	8.8%
Total	**29**	**20**	**8**	**57**
	50.9%	**35.1%**	**14.0%**	**100.0%**

The study found that overall, 47.4 per cent of the instructors were involved in content development for in-service courses. About 42.1 per cent of the instructors were involved in training needs assessment as compared to 28.1 per cent and 8.8 per cent who were involved in in-service programme designing and ICT content development respectively.

From these findings, one can deduce that the instructors contributed to a variety of areas ranging from training needs assessment, programme designing to content development. The findings are supported by the views of one administrator who, in an interview observed that the instructors involved in the development of in-service training programmes were assigned different roles from data collection, designing the

structure and scope of the ICT content. The administrator reported that the officers' contributions were very variable in the development of the programmes. This revelation by the administrator is an indicative of a well thought out involvement of instructors in in-service training programmes development which resulted in favourable contribution by the instructors.

Table 4.19: Trainees' contribution in the development of in-service training programmes

Trainees contribution	Training institution			Total
	KPC	GSU - TS	DCI - TS	
Conducting training needs assessment	0 0.0%	3 14.3%	1 4.8%	4 19.0%
Designing the programme	2 9.5%	4 19.0%	0 0.0%	6 28.6%
Content development	1 4.8%	0 0.0%	0 0.0%	1 4.8%
ICT content development	0 0.0%	1 4.8%	0 0.0%	1 4.8%
As a respondent during training needs assessment	4 19.0%	2 9.5%	1 4.8%	7 33.3%
Doing practice	1 4.8%	0 0.0%	1 4.8%	2 9.5%
Total	**8** **38.1%**	**10** **47.6%**	**3** **14.3%**	**21** **100.0%**

It was found that overall, 33.3 per cent of the trainees were involved as respondent during training needs assessment for the development for in-service courses. About 28.6 per cent of the trainees were involved in designing in-service programmes, when compared to 19.0 per cent and 9.5 per cent who were involved in conducting training needs assessment and participating in practical in in-service programmes respectively. Worth noting is the little involvement of trainees in the development of content for in service programmes and ICT content as only 4.8per cent for each were involved.

These findings reveal a worrying trend of not involving trainees on the matters of training in police training colleges. The Lack of involvement of trainees on the

development of in-service training programmes could be attributed to lack of a guiding policy. Also, the availability of trainees in colleges may be limited. It would be advisable that the management of police training colleges devise a way of involving trainees every time they are in training. Questionnaires could be used during and after the training period to collect trainees' views.

4.6.5 Extent of development of in-service programmes on integration of ICT on police training

The study sought to establish the influence of development of in-service programmes on the integration of ICT in police training. The information was gathered using a rating scale to capture the perception of the respondents. The findings are presented in Figure 4.16.

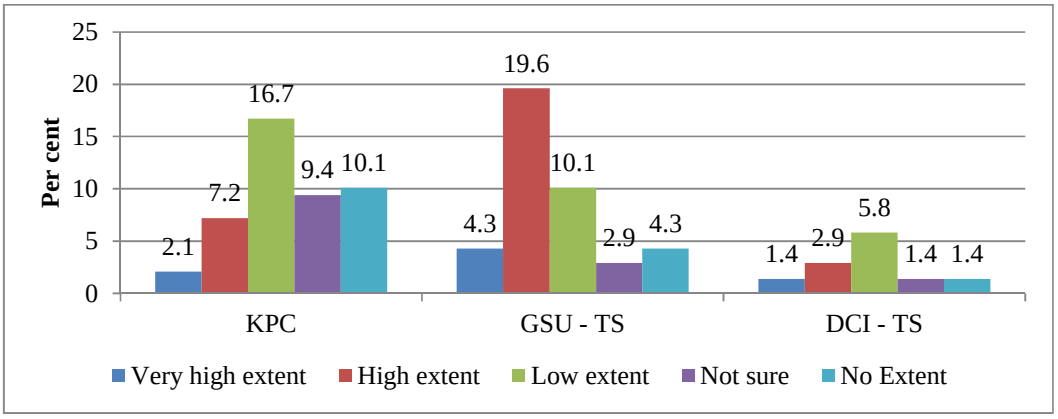

Figure 4.16: Instructors' views on the extent of influence of development in-service programmes on integration of ICT on police training

The analysis in Figure 4.16 reveals that overall majority (32.6%) of the instructors in all the three police training colleges were of the view that the in-service training programmes influenced integration of ICT in police training, to a low extent. These was followed by an overall score of 29.7 per cent of the instructors who felt that to the in-service training programmes influenced integration of ICT in police training, to a high extent.

About 10.1 per cent of the police instructors in KPC were not sure whether in-service training programmes have influenced integration of ICT in police training. Also the study revealed that 10.1 per cent of police instructors in KPC felt that in-service training programmes has not influenced integration of ICT in police training colleges. These findings shows that developed in-service programmes had little influence on the integration of ICT in police training. This can be attributed to other factors like lack of adequate infrastructure and some instructors preferring to use traditional methods of instruction. The above sentiments on the challenges facing integration of ICT concur with report by Republic of Kenya (2005) found that poor ICT infrastructure, inadequate equipment, high cost of ICT equipment and software are some of the challenges identified as hindering ICT integration in Kenya.

4.6.6 Contribution of in-service programmes on integration of ICT on police training

The study sought the views of the instructors and trainees on the contribution of in-service programmes on integration of ICT on police training. This was necessary in order to establish the extent of contribution of in-service programmes on integration of ICT on police training. The information was collected using a rating scale to capture the perception of the respondents. The findings are presented in Table 4.20 and 4.21 for instructors and trainees respectively.

Table 4.20: Instructors' assessment on the contribution of in-service programmes in integrating ICT in police training

	Training Institution			Total
	KPC	GSU – TS	DCI - TS	
Excellent	2	4	2	8
	1.4%	2.9%	1.4%	5.8%
Very Good	1	8	2	11
	0.7%	5.8%	1.4%	8.0%
Good	6	23	3	32
	4.3%	16.7%	2.2%	23.2%
Fair	32	17	7	56
	23.2%	12.3%	5.1%	40.6%
Not sure	10	1	2	13
	7.2%	0.7%	1.4%	9.4%
No contribution	12	4	2	18
	8.7%	2.9%	1.4%	13.0%
Total	**63**	**57**	**18**	**138**
	45.7%	**41.3%**	**13.0%**	**100.0%**

The analysis in Table 4.20 found that overall majority (40.6%) of the instructors in all the three police training colleges were of the view that in-service training programmes fairly influenced integration of ICT in police training. This was followed by an overall score of 23.2 per cent of the instructors who rate in-service training programmes as rated "Good" in influencing integration of ICT in police training.

Of the three police training colleges GSU–TSCH instructors rated well the contribution of in-service training programmes on the integration of ICT in in-service training. These findings are supported by 16.7 per cent and 5.8 per cent rating of "Good" and "Very good" by instructors in GSU – TSCH.

The findings also established that about 13.0 per cent of the police instructors in all police training colleges felt that in-service training programmes had no contribution while 9.4 per cent were not sure of the same. The findings above indicate that in-service training programmes have not, to a large extent, contributed to integration of ICT in in-service training. From the above results it may be deducted that the in-

service training programmes could be well developed but due to other factors its influence on ICT integration could not be assured.

Table 4.21: Trainees' assessment on the contribution of in-service programmes in integrating ICT in police training

	Training Institution			Total
	KPC	**GSU – TS**	**DCI - TS**	
	4	8	4	16
Excellent	2.0%	3.9%	2.0%	7.9%
	4	12	3	19
Very Good	2.0%	5.9%	1.5%	9.4%
	10	33	10	53
Good	4.9%	16.3%	4.9%	26.1%
	44	14	15	73
Fair	21.7%	6.9%	7.4%	36.0%
	15	8	0	23
Not sure	7.4%	3.9%	0.0%	11.3%
	12	4	3	19
No contribution	5.9%	2.0%	1.5%	9.4%
	89	**79**	**35**	**203**
Total	**43.8%**	**38.9%**	**17.2%**	**100.0%**

The analysis in Table 4.21 found that overall majority (36.0%) of in-service trainees in all the three police training colleges were of the view that in-service training programmes fairly influenced integration of ICT in police training. This was followed by an overall score of 26.1 per cent of the trainees who were of the opinion that in-service training programmes was rated "Good" in influencing integration of ICT in police training. Like in the findings of instructors in Table 4.42, GSU–TSCH trainees rated well the contribution of in-service training programmes on the integration of ICT in in-service training. These is so because the rating "Good" and "Very good" by trainees was 16.3 per cent and 5.9 per cent rating respectively. The study also found that about 11.3 per cent of the trainees in all police training colleges were not sure whether in-service training programmes had contributed to integration of ICT in police training while 9.4 per cent felt that it had no contribution on the same.

The contribution of in-service training programmes in integration of ICT in police training was very low possibly due to several reasons. These reasons could be beyond the management of police training colleges as is the case of semi-autonomous public institutions. Making decision is rather slow and subject to approval by the parent agency of the parent ministry. For example one of the senior administrators of the police training colleges during the research interview observed that;

> all the major decisions regarding procurement in the training college are sanctioned from the headquarters and not the college. The college administrator added that college cannot purchase directly ICT equipment from the vendors, college management only makes requisitions and the headquarters make a decision on what to buy and what not to buy. The interviewee added that the college commandant could be having good ideas but cannot implement them due to lack of autonomy. The interviewee saw the future with the on-going police reforms hoping that the reforms could address the existing challenges. (KPC Admin 5. September, 2015.)

The above concern of the administrator calls for sustained police reforms to address all the challenges facing integration of ICT in-service training by taking advantages of the on-going police reforms.

4.6.7 Extent of contribution of developed in-service programmes on integration of ICT

The study sought to establish the extent of contribution of developed in-service programmes on integration of ICT in police training. The findings are presented in Figure 4.17.

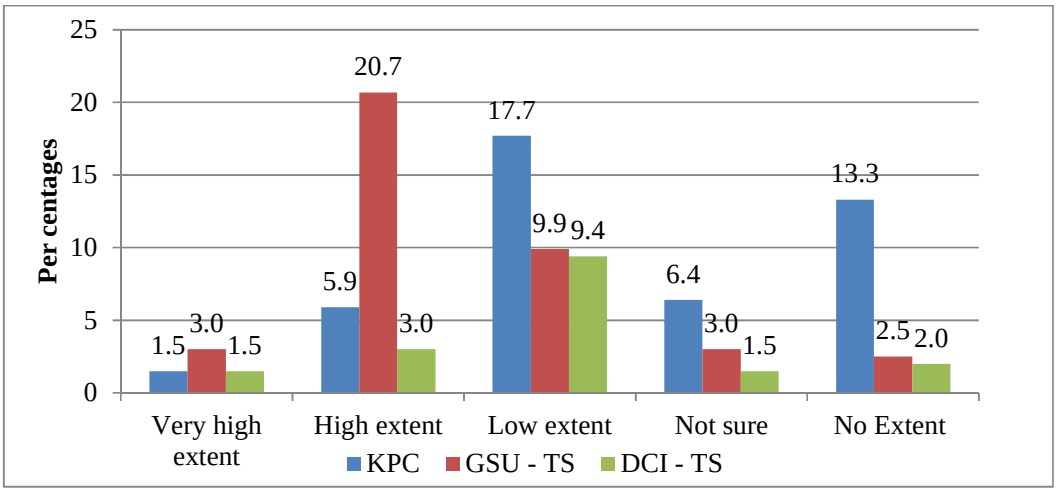

Figure 4.17: Trainees views on the extent of influence of development of in-service programmes on integration of ICT on police training

The results in Figure 4.17 reveals that overall 36.0 per cent of the trainees in all the three police training colleges were of the view that the in-service training programmes has influenced integration of ICT in police training, to a low extent. This was followed by an overall score of 29.6 per cent of the trainees who felt that the in-service training programmes influenced integration of ICT in police training, to a high extent.

The findings revealed that 13.3per cent of in-service trainees in KPC felt that in-service training programmes had not influenced integration of ICT in police training colleges. Also, about 6.4 per cent of trainees in KPC were not sure whether in-service training programmes have influenced integration of ICT in police training. Like the instructors, the trainees were of the view that in-service training programmes influenced very little in the integrations of ICT in in-service training. This may be attributed to the mode of instruction where ICT is not used depending on the nature of training. Some in-serve training such as skills at arms, physical drills among others are practical in nature and are better passed on using conventional methods where ICT

integration may not be applicable. However, if simulation using ICT is adopted such programmes can be delivered with ease making them more enjoyable and easier to understand.

4.6.8 Hypothesis testing on the relationship between ICT integration and involvement of police officers in the development of in-service programmes

H_O4**:** There is no significant relationship in the mean levels of Information Communication Technology (ICT) integration in in-service training when police officers are classified as involved or not involved in developing police in-service training programmes.

This hypothesis sought to determine whether there exists a significant difference in the mean levels of ICT integration in in-service training when police officers are classified as involved or not involved in developing police in-service training programmes. A Chi-Square test was used to test this hypothesis. The findings are presented in Tables 4.22

Table 4.22: Chi-Square test on ICT police involvement in developing in-service training programme

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.563[a]	2	.458
Likelihood Ratio	1.573	2	.455
Linear-by-Linear Association	.359	1	.549
N of Valid Cases	138		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.43.

The chi-square results χ^2(df=2, N=138)= 1.56, p=.458 at p=.05 level of significance indicated that there was no significance difference in the mean levels of ICT integration in in-service training when police officers are classified as involved or not

involved in developing police in-service training programmes. Based on the above results the null hypothesis is accepted. This would imply that indeed there is no significant difference in the integration of ICT in in-service training whether police instructors are involved or not in the development of in-service training programmes. That could imply that training programmes don't influence the integration level of ICT in police training institutions but other factors could be in play.

4.7 Influence of ICT infrastructure on the integration of ICT in police training institutions

This study found it vital to determine the influence of provision of ICT infrastructure on the integration of ICT in police training institutions. This was important in an attempt to assess the influences of managerial practices on the integration of ICT in in-service training in police training colleges. ICT infrastructure has been cited as one of the most critical requirements for successful integration of ICT in learning. The findings on the extent to which provision of ICT infrastructure influences integration of ICT in police training institutions is discussed under different sections below.

4.7.1 Provision of storage devises to instructors and trainees

The study sought the opinions of trainees on the provision of storage devises by the college administrators. The information collected was presented in Table 4.23.

Table 4.23: Provision of storage devises by police training college

Institution	Provide storage devices		Total
	Yes	No	
KPC	12	77	89
	5.9%	37.9%	43.8%
GSU-TS	16	63	79
	7.9%	31.0%	38.9%
DCI-TS	10	25	35
	4.9%	12.3%	17.2%
Total	**38**	**165**	**203**
	18.7%	**81.3%**	**100.0%**

The study findings in Table 4.23 show majority (81.3%) of the trainees are not provided with storage devises as compared to 18.7 per cent who affirmed they were provided. The study also found that GSU – TSCH recorded higher (7.9%) provision as compared to other police training colleges. The study findings above shows that police training colleges do not provide storage devices to a large extent.

This may be attributed to lack of a budget for provision of storage devices where some with high capacity like external hard disk are quite expensive. It may also be attributed to the fear of introducing viruses from infected storage media. In addition, some of the cheap storage devises are of low storage capacity which may not be adequate for storage of large data files. The rapid change of technology in relation to storage devices and constant failures due to counterfeits may have discouraged the college administrators from providing them. These observations agree with findings of Eseohe, et al., (2014) who argued that the cost of storage devises and rapid change of storage devices discourages their application for external storage.

The lack of provision of storage devices may pose dangers of losing data in case of crashing of computers. The management of colleges should explore the use database management to store college information. They can also use internet based storage facilities like cloud data computing system. They can also borrow ideas on how big organisation in the government manages to store their data without losing them.

4.7.2 Provision of instructional materials in soft copy to the trainees

The study found it necessary to establish if the trainees are provided with instruction materials in soft copies for in-service training. This was important in order to assess the application of various ICT innovations that promote non-use of hard copies. Figure 4.18 presents the study findings.

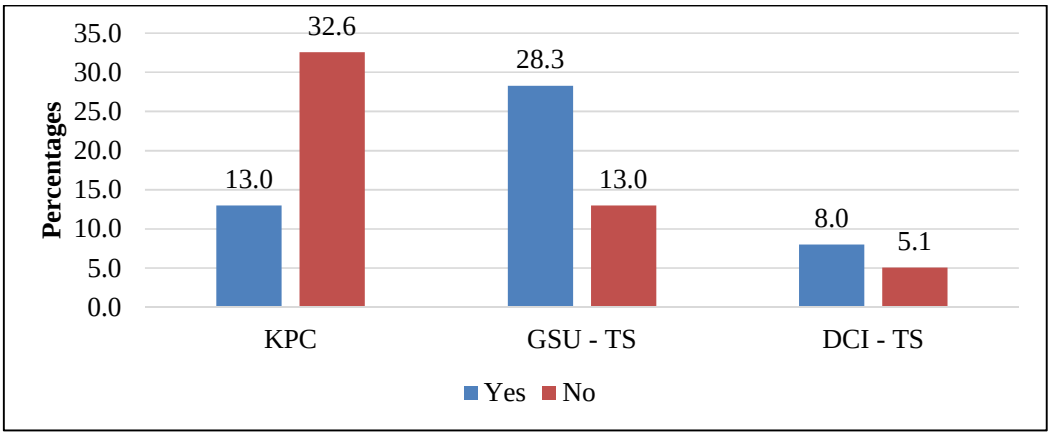

Figure 4.18: Provision of instructional materials in soft copy to trainees

Majority (28.3%) of GSU – TSCH trainees confirmed they were provided with instructional materials in soft copies as presented in Figure 4.22. This was in contrast to 32.6 per cent and 9.4 per cent of KPC and DCI – TSCH trainees who were of the view that instructors do not provide instructional materials in soft copy. The findings are in conformity with the opinions of the instructors in figure 4.8 above where majority of the instructors confirmed they give instructional materials in soft copies. Soft copies can have several advantages as compared to hard copies.

They can send by email and open in different media like computers, mobile phones, tablets among others where the leaner can use them at their convenience. Soft copy saves on paper and ink since one does not need to print in order to read. Though the soft copies may have more advantages in terms of cost consideration, their effectiveness in delivery of learning is questionable. Annand (2008) in a study in the use of e-books and printed books found that print-based material were generally preferred by learners as compared to soft copies. These revelation may mean that soft copies could not be the best way of delivering instruction materials but may be the best way of integrating ICT in training for in-service.

4.7.3 Use of ICT in police training colleges

The study sought the opinions of instructors and trainees on application of ICT in police training colleges. This was necessary in an attempt to assess the application of ICT and integration of ICT in in-service training. The findings from the data collected are presented in Table 4.24 and 4.25 respectively.

Table 4.24: Instructors' opinion on the rate of application of ICT in police training colleges

	Not extent	Very little extent	Little extent	Large extent	Very large extent
Production of training materials	25(18.1%)	14(10.1%)	20(14.5)	73(52.9%)	6(4.3%)
PowerPoint presentation	13(9.4%)	14(10.1%)	48(34.8%)	54(39.1%)	9(6.5%)
Overhead projection	14(10.1%)	20(14.5%)	37(26.8%)	61(44.2%)	6(4.3%)
Simulation	47(34.1%)	35(25.4%)	37(26.8%)	19(13.8%)	0(0.0%)
e-learning	35(25.4%)	46(33.3%)	35(25.4%)	22(15.9%)	0(0.0%)
Research	28(20.3%)	35(25.4%)	36(26.1%)	37(26.8.2%)	2(1.4%)
Internal official communication using email, Skype etc.	22(25.9%)	38(27.5%)	39(28.3%)	36(26.1%)	3(2.2%)
Internal non-official communication using email, Skye etc.	3(2.2%)	40(29.0%)	38(27.5%)	47(34.1%)	10(7.2%)

The analysis presented in Table 4.24 reveals a mixed opinion on the rate of application of ICT in police training colleges. For instance about 52.9 per cent of the instructors favourably rated to a large extent the rate of application of ICT in production of training materials as compared to about 18.1 per cent who were of the opinion that there was no significance in its application.

Another favourable rating was noted in the application of overhead projection and PowerPoint application that registered impressive rates of large extent at 44.2 per cent and 39.1 per cent respectively. The application of ICT in simulation during in-service training performed poorly as majority (34.1%) of the instructors rated it as of

no significance. The application of ICT in e-learning and research was skewed to very little extent, little extent and no extent rating.

The study reveals that the application of ICT in police training is confined mainly to production of hard copy training materials, PowerPoint presentations, use of overhead projection and research. This may be attributed to the fact that these ICT innovations are widely used possibly due to the relative ease of adoption. These findings concur with the view of Mutesi and Kyakula (2012) that MS-word, PowerPoint as well as the use of printers are some of the most used ICT applications.

On the use of email and Skype for official and non-official internal communication, the study noted that favourable rating (large extent (34.1%) was in favour of non-official internal communication as compared to 26.1 per cent for official communication. This implies that the application of email and Skype in in-service training is not widely used. This may be attributed to restrictive policies in police colleges which limit the use of email and social media. This observation was confirmed by one of the administrator who, during the interview, pointed out;

> that it was a policy to limit the use of email and social media platforms to guard against misuse of the platform. He stated that police colleges dealt with sensitive security matters which must be highly protected. The interviewee observed that the staff and trainees were aware of this but the college administrators do not discourage their use if it does not transgress to security matters (KPC Admin 5. September, 2015)

The above sentiment is an indicator of the fear of management to open up or confront change to emerging ICT innovation due to perceived possible bad outcomes. The finding agrees with those findings of Ang'ondi (2013) who argued that one of the major challenges facing integration of ICT in schools in Kenya is fear of changes and fear of failing.

Table 4.25: Trainees' opinion on the rate of application of ICT in police training

	Not extent l	Very little extent	Little extent	Large extent	Very large extent
Production of training materials	45(22.2%)	28(13.8%)	50(24.8%)	44(21.7%)	36(17.7%)
PowerPoint presentation	43(21.2%)	36(17.7%)	39(19.2%)	71(35.0%)	14(6.9%)
Overhead projection	29(14.3%)	43(21.2%)	58(28.6%)	64(31.5%)	9(4.4%)
Simulation	75(36.9%)	59(29.1%)	46(22.7%)	14(6.9%)	9(4.4%)
e-learning	49(24.1%)	67(34.0%)	43(21.2%)	38(18.7%)	17(8.4%)
Research	36(17.7%)	69(38.9%)	33(16.3%)	19(9.4%)	14(6.9%)
Internal official communication using email, Skype etc.	55(27.1%)	71(35.0%)	52(25.6%)	13(6.4%)	12(5.9%)
internal non-official communication using email, Skype etc.	62(30.5%)	73(36.0%)	44(21.7%)	10(4.9%)	14(6.9%)

The study findings presented in Table 4.25 reveals a wide-ranging rating for application of ICT in police training colleges. For instance the trainees rated application of ICT in production of training materials at 21.7 per cent and 17.7 per cent score for large extent and very large extent respectively. This was in contrast to 24.8 per cent and 13.8 per cent who rated little extent and very little extent respectively on the application of ICT in production of training materials. About 22.2 per cent of the trainees returned a no extent verdict on the application of ICT in production of training materials. This could be attributed to the need for management to promote the usage of soft copy as opposed to hard copies to safe guarding on cost of paper which has become very expensive in Kenya.

Application of PowerPoint in training was well rated as majority (35%) rated it to a large extent as compared to 21.2 per cent who were of the opinion that this application has no contribution. Another favourable rating was noted in the application of overhead projection since it registered impressive rate of large extent at 31.5 per cent

in contrast to 14.3 per cent who felt it this application had no contribution. The application of ICT in simulation during in-service training performed poorly as majority (36.9%) of the trainees rated it to no extent. The application of ICT in e-learning and research was skewed to very little extent, little extent and no extent rating.

On the use of email and Skype for official and non-official internal communication the study noted that it was skewed in favour of little extent, little extent and no extent rating. This implies that application of email and Skype in in-service training is not widely used. The opinion of the trainees confirms what the instructors indicated in Table 4.49 on the rate of application of certain ICT innovations. The same applications were identical with those of instructors.

4.7.4 Use of Media on Instruction

The study decided to establish the ICT media that is used for instruction during in-service training. This was necessary in order to evaluate the ICT technology at the disposal of the instructors and trainees for training and learning in-service courses. The findings indicate that majority (55.9%) of the instructors use computers as the main instructional ICT devices followed by e-mail at 25 per cent. Mobile phone application and recorded video registered 10.3 per cent and 8.8 per cent respectively. The findings above confirm that computers remain the most preferred mode of training or delivery of instructional materials.

This can be attributed to availability and ease of application as was established during data collection. Availability of computer laboratory in all training may have led to many respondents selecting this method. E-mail method came second, an indicator of the increased adoption of this method which is cheap, available and easy to apply and

it is intertwined with computers and mobile phones. About 62.5 per cent of the trainees confirmed that the instructors use computers as the main instructional ICT devices. In addition, e-mail usage was found to account for 18.8 per cent, recorded video (8.8%) and mobile phone application at 3.8 per cent application as instructional media.

4.7.5 Influence of ICT infrastructure on the integration of ICT in police training

The study sought opinions of instructors and trainees on the influence of different ICT infrastructure on the integration of ICT in police training. This was important in order to assess the contribution of infrastructure on the integration of ICT in police training. This information was solicited from instructors and trainees and presented in Table 4.26 and 4.27 respectively.

Table 4.26: Instructors' responses on influence of ICT infrastructure on the integration of ICT in police training

	Not extent	Very little extent	Little extent	Large extent	Very large extent
Desktop computers	7(5.2%)	13(9.4%)	78(56.5%)	34(24.6%)	6(4.3%)
Laptops	13(9.4%)	64(46.4%)	35(25.4%)	16(11.6%)	10(7.2%)
Overhead projectors	39(28.3%)	41(29.7%)	32(23.2%)	17(12.3%)	9(6.5%)
Printers	8(5.8%)	15(10.9%)	65(47.1%)	34(24.6%)	16(11.6%)
Internet	15(10.9%)	19(13.8%)	65(47.1%)	23(16.7%)	16(11.6%)
Simulation training	11(8.0%)	50(36.2%)	38(27.5%)	25(18.1%)	14(10.1%)
Online books, journals and notes	14(10.1%)	47(34.1%)	33(23.9%)	27(19.6%)	17(12.3%)
Email and Skype	6(4.3%)	43(31.2%	36(26.1%)	32(23.2%)	21(15.2%)
Storage devices	15(10.9%)	56(40.6%	35(25.4%)	23(16.7%)	9(6.5%)

The analysis presented in Table 4.26 shows a trend where the instructors were of the opinion that available of ICT infrastructure has very little or little extent on the integration of ICT in in-service training in police training colleges. This is so because when the responses for very little or little extent was combined, the scores ranged from 52.9 per cent to 71.8 per cent.

The findings above show that to a large extent the availability of ICT infrastructure has little influence on the integration of ICT in in-service training. This could be attributed to the failure to meet the expectations of the instructors on the extent of usage of ICT in training. Also, the kind of integration in place in the colleges may be confined to PowerPoint presentations and printing of notes which may not qualify to be a major issue.

There could be a perception among the instructors not wanting to change from their conventional way of instructions and may not like to change. These revelations concur with the findings of Mwalongo, (2011) who argued that teachers fear to integrate ICT in learning since they prefer to sustain their traditional teaching practices.

Table 4.27: Trainees' responses on influence of ICT infrastructure on the integration of ICT in police training

	Not extent	**Very little extent**	**Little extent**	**Large extent**	**Very large extent**
Desktop computers	55(27.1%)	53(26.1%)	31(15.3%)	44(21.7%)	20(9.9%)
Laptops	63(31.0%)	52(25.6%)	56(27.6%)	21(10.3%)	11(5.4%)
Overhead projectors	56(27.6%)	47(23.2%)	61(30.0%)	24(11.8%)	15(7.4%)
Printers	62(30.5%)	36(17.7%)	45(22.2%)	38(18.7%)	22(10.8%)
Internet	56(27.6%)	40(19.7%)	47(23.2%)	32(15.8%)	28(13.8%)
Simulation training	80(39.4%)	64(31.5%)	45(22.2%)	11(5.4%)	3(1.5%)
Online books	75(36.9%)	76(37.4%)	32(15.8%)	11(5.4%)	9(4.4%)
Journals	64(31.5%)	90(44.3%)	29(14.4%)	12(5.9%)	8(3.9%)
Email	59(29.1%)	40(19.7%)	79(38.9%)	17(8.4%)	8(3.9%)
Skype	65(32.0%)	68(33.5%)	45(22.2%)	17(8.4%)	8(3.9%)
Storage devices	58(28.6%)	39(19.2%)	73(36.0%)	19(9.4%)	14(6.9%)

The analysis presented in Table 4.27 shows a trend where the trainees were of the opinion that available of ICT infrastructure has very little or little extent on the integration of ICT in in-service training in police training colleges. This is so because when the responses for very little or little extent was combined the scores ranged from 40.0 per cent to 58.7 per cent.

These findings imply that the available ICT resources may not be adequate to integrate ICT in in-service training. The lack of adequate ICT resources has been attributed to lack of adequate integration of ICT in public institutions. These revelations concur with the findings of a study carried out by Zakaria (2001) to assess factors which influenced integration of ICT integration and application of ICT equipment in government polytechnics in Malysia. The study found that inadequate access to computer hardware and software by lecturers was a big hindrance to integration of ICT.

4.7.6 Instructors' suggestions on the integration of ICT in police colleges

The study sought suggestions from the instructors on ways of integrating ICT in in-service training in police training colleges. The views are presented in Table 4.28.

Table 4.28: Instructors suggestions on ways on integrating ICT in police in-service training

Suggestions	Responses		Per cent of
	Count	Per cent	Cases
Provision of adequate internet connections	30	18.5	27.3
Provision of distance e-learning courses	29	17.9	26.3
Provision of e-learning material	25	15.4	22.7
Provision of laptops to instructors & trainees	25	15.5	21.7
Presentation using ICT technology	23	14.2	20.9
Simulation using ICT technology	14	8.6	12.7
Involving all stakeholders on ways of integrating ICT	13	8.0	11.8
Digitizing training colleges	3	1.9	2.7
Total	**162**	**100.0**	**147.3**

The instructor's suggestions on the ways of integration ICT in in-service police training revolved around provision of ICT infrastructure. This is so because majority (18.5%) of the instructors opined that provision of adequate internet connections will

be necessary in integrating ICT in in-service training in police training colleges. Others suggestions were; provision of distance e-learning courses (17.9%), provision of e-learning material and provision of laptops to instructors and trainees at 15.4 per cent each. From the research findings above the instructors suggested the use of ICT application to simulate which is an important innovation for integrating ICT in training.

The above revelations confirms for ICT to be effectively integrated in training the management of police training colleges must provide adequate ICT infrastructures and other ICT equipment like laptops. They should also introduce distance or e-learning to reduce time taken in physical classrooms. At the same time, advanced application of ICT, like simulation, need to be introduced to improve on instruction delivery. Also the management should involve other stakeholders to assist in integration of ICT in in-service training. This observation concurs with Mungai (2012) who argued that the best way to address the challenges of integration of ICT in learning in Kenya is to provide adequate ICT resources, providing skills to trainers, provision of adequate internet among others.

4.7.7 Enriching Police In-Service Training Programmes

The study sought suggestions from the trainees on ways of enriching police in-service training programmes. The views are presented in Table 4.29.

Table 4.29: Trainees' suggestions on ways of enriching in-service training programmes

Intervention of enriching in-service training	Responses	
	Count	Per cent
Providing instructors and trainees with adequate ICT training and facilities	55	30.4
Digitization of training programmes	32	17.7
Use of emails in training and communication	27	14.9
Application of ICT in areas of criminology	24	13.3
Continuous training of officers on new ICT skills	22	17.7
Provision of distance learning courses	11	6.1
Total	**181**	**100.0**

The instructor's suggestions on the ways of enriching police in-service training revolved around provision of adequate ICT training, infrastructure and application of ICT in all areas of criminology studies. For instance, majority (30.4%) of the trainees felt that provision adequate ICT training and facilities to instructors and trainees will be useful in enriching police in in-service training in police training colleges. Other suggestions included digitization of training programmes (17.7%), use of emails in training and communication (14.9%) among others. Of significance is the consideration by the trainees to include distance learning to enrich in-service training.

The above suggestions capture in a wider scope, the interventions that need to be done to enrich in-service programmes. This is an indicator that the trainees have interacted with the training programmes and have noted missing areas. These missing areas could have been addressed if the trainees were involved in a large number during the formulation of ICT policies, development of in in-service training programmes and during supervision of instructors.

The trainee's suggestions are supported by the sentiments of an administrator whose views on the same were as follows:

> "the reasons why our college is unable to integrate ICT in in-service training is due to many challenges some which are structural, others are internal while others is attitude based. I suggest that to improve on the in-service training the government in consultation with the management of training colleges need to provide adequate ICT facilities. In addition the colleges should change their attitude towards adoption and integration of ICT in discipline agencies and include distance learning" (KPC Admin 6. September, 2015).

Another senior officer suggested that all instructors should be;

> trained continuously on ways of integrating ICT in training in order to remove negative attitude towards use of ICT in training and at same cope with emerging issues. The officer also suggested that ICT integration should not be limited to production of notes and presentation using PowerPoint as the only way of integrating ICT in training. It should go further and train the trainees on how apply ICT to carry out investigations, combat training among others" (DCI Admin 3. September, 2015).

The above sentiments by the college administrators are in agreement with the findings of Goktas, Yildirim and Yildirim, 2009) in a study in Turkey. They argued that for success of integration of ICT as enabler of in-service training in teacher training the administrators must holistically address availability of adequate technology and wide ICT applications.

4.7.8 The relationship between ICT integration and availability of ICT infrastructure in police training colleges.

H_O5: There is no significant difference in mean of Information Communication Technology integration levels in in-service training when colleges are classified as having adequate or inadequate ICT infrastructure.

This hypothesis sought to establish whether there exists a significant difference in the mean of ICT integration levels in in-service training when colleges are classified as

having adequate or inadequate ICT infrastructure. A Chi-Square test was used to test this hypothesis. The findings are presented in Tables 4.30

Table 4.30: Chi-Square test on ICT proficiencies

Relationship between variables	N	Value	df	Asymp. Sig. (2-sided)
Desktops computers V/s Availability of ICT infrastructure	138	6.271[a]	2	**.043***
Laptops V/s Availability of ICT infrastructure	138	10.191[a]	2	**.006***
Overhead projectors V/s Availability of ICT infrastructure	138	8.443[a]	4	.077
Printers V/s Availability of ICT infrastructure	138	7.975[a]	2	**.019***
Storage device V/s Availability of ICT infrastructure	138	9.419[a]	4	.051

Key (a)*P*-0.05, (b) * P<0.05 = significance

The chi-square results χ^2(df=2, N=138)= 6.27, p=.043, χ^2(df=2, N=138)= 10.19, p=.006 and χ^2(df=2, N=138)= 7.97, p=.019, at p=.05 level of significance for availability of desktop computers, laptops, and printers respectively. These findings indicated that there is significance difference on the integration levels on adequacy of provision of these ICT infrastructures in in-service training. Based on these findings the null hypothesis was rejected.

The chi-square results χ^2(df=2, N=138)= 8.44, p=.077 and χ^2(df=2, N=138)= 9.42, p=.051 at p=.05 level of significance on availability of overhead projectors and storage devices respectively was an indicator that there is no significance difference on their integration levels in in-service training.

4.8. Challenges facing instructors of police training institutions in policy formulation

This study sought to establish the challenges faced by the instructors during ICT policy formulation. This was necessary in order to determine causes of these

challenges. Studies have shown that some challenges are internal or external; some are management related while other may be technical. Figure 4.19 presents the instructors on the challenges they faced during ICT formulation.

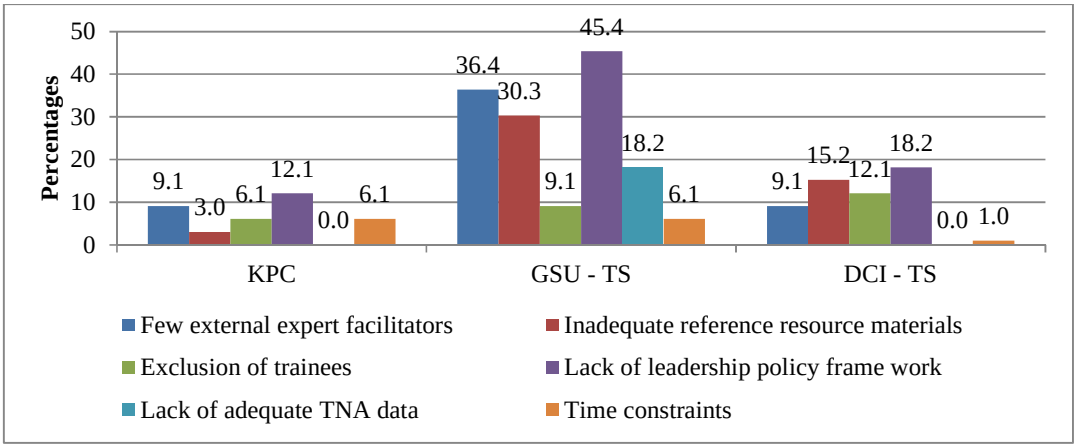

Figure 4.19: Challenges facing managers of police training institutions in policy formulation

As presented in Figure 4.12, majority (75.8%) of the instructors indicated that lack of leadership policy framework was the major challenges faced during policy formulation. Other challenges included; inadequate reference resource materials, exclusion of trainees, inadequate Training Needs Assessment (TNA) data and in adequate time allocated for policy formulation exercise.

The research findings above imply that the instructors were cognisant that leadership is a very critical ingredient for any successful task inception and completion. The findings also implied that for the whole exercise of policy formulation to be successful and to be inclusive, there is need to involve the immediate beneficiary of the ICT policy, trainees, instructors and expert facilitators. It can be summarised from the findings above that the challenges identified by the instructors, if addressed, integration of ICT in police in-service training may be realised.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter five presents summary of the study, conclusions, recommendations and suggestions for further research.

5.2 Summary of the research findings

The overall findings for this study established that managerial practices in police training colleges have not influenced integration of ICT in in-service training. The study findings are further discussed as per the research objectives.

5.2.1 Involvement of police officers in formulation of information communication technology policies

The study sought to answer the questions on the extent to which involvement of police officers in formulation of ICT policies influence its integration in police training institutions. It emerged from the study that majority of the instructors and trainees respectively were not involved in the formulation of ICT policies. Majority of the instructors and trainees were also not aware of existence of ICT policies in the police training colleges.

The study revealed that only 23.9 per cent and 18.2 per cent of instructors and trainees respectively were involved in the formulation of ICT policy in police training colleges.

About 47.2 per cent of the trainees were involved in identification of specific areas to be incorporated in-service training programmes. The study findings by and large revealed that the trainees need to be involved in policies formulation by incorporating trainees' suggestions.

The ICT policies formulated by instructors and trainees revolved around the individual college general ICT policies (75.0%) and ICT training policies (25.0%) in their respective police training colleges. The findings show that the instructors were mainly involved as technical experts (87.5%) with partly 12.5 per cent were involved as facilitators. The study established that instructors are the major with 52.0 per cent participants followed by college administrators at 28 per cent.

On the contribution of ICT policies on the integration of ICT in police training GSU–TSCH performed better than the other two police training colleges. Also GSU–TSCH performed well on the implementation of available ICT policies in the police training institutions. The study revealed that, expert facilitators and reference resource materials were inadequate at (54.5%) and (48.5%) respectively, these were the major challenges faced by instructors.

The hypothesis testing rejected ($p<0.05$) the null hypothesis was rejected since there is significance difference on mean levels of ICT integration in in-service training when police officers are classified as involved or not involved in formulation of ICT policies. These findings implied that the management of the police training colleges have not fully involved police officers in the formulation of ICT policies. In summary, the study found that there was little involvement of instructors and trainees on the formulation of ICT polices a factor that hindered the integration of ICT in in-service training.

5.2.2 Instructional supervision and integration of information communication technology

The second objective sought to establish the extent to which instructional supervision influenced integration of ICT in police training institutions. What emerged from the

study is that over 55per cent of the instructors at GSU – TSCH and DCI – TSCH were aware of availability of supervision policy as compared to 25 per cent of instructors in KPC. On supervision slightly more than half 51.4 per cent of the instructors were supervised on the use of ICT in instructions. It was also established that ICT instructors (67.6%) were the main supervisors of the use of ICT in in-service training. About 73.4 per cent of the trainees have not had any experience of the instructors being supervised. The study revealed that 75.4 per cent of the trainees were not involved in the supervision of the instructors in all police training colleges.

It was established that a variety of supervision techniques were employed, with the major one involving assessing course coverage and end of course evaluation reports. On the frequency of supervision, everyday supervision was preferred which was mainly done at GSU – TSCH. The study found that 50.7 per cent of the supervisors were good on ICT proficiency with 33.8 per cent being from GSU – TSCH. 48.6 per cent of the instructors and 53.2 per cent of the trainees were not committal whether ICT supervision in police training colleges contributed to integration of ICT in in-service training.

The null Hypothesis was rejected ($p<0.05$) since there is significance difference on mean ICT integration levels in in-service training when college instructors' are categorised as supervised and not supervised. These findings implied that the management of the police training colleges have not used ICT supervision as tool of ensuring ICT integration in police training.

5.2.3 Involvement of police officers in development of in-service programmes

The third objective sought to establish the extent to which involvement of police officers in development of in-service programmes, influences integration of ICT in

police training institutions. It emerged from the study findings that majority (64.0%) of the trainees had taken in-service course more than once. It also emerged that 59.5 per cent of instructors and 89.7 per cent of the trainees did not participate in the development of in-service training programmes. Less than half (47.4 %) of the instructors developed the in-service content as compared to 33.3 per cent of the trainees whose contribution was through participation as respondents during in-service training needs assessment.

The study found that a wide range of internal and external participants were involved in the development of in-service training programmes with GSU–TSCH having wider representation of participants. The study established that 32.6 per cent of the instructors and 36 per cent of the trainees felt that the development of in-service training programmes influenced integration of ICT in police training to a lower extent. It also emerged that 40.6 per cent of the instructors and 36.0 per cent of the trainees were of the opinion that development of in-service training programmes fairly contributed to the integration of ICT in in-service training.

5.2.4 Provision of ICT infrastructure in police training institutions

The fourth objective of this study sought to find out the extent to which provision of ICT infrastructure influenced its integration in police training institutions. It emerged that the availability of ICT infrastructure has little influence on the integration of ICT in police in-service training. It was established that rate of application of ICT in police training colleges was varied in different ICT technologies recording overall little extent. The study also established that 81.3 per cent of instructors are not provided with storage devices.

On delivery of instructional materials on soft copies, it was established that 23.9 per cent of GSU–TSCH and 7.2 per cent of DCI–TSCH used soft copies. The study revealed that computer was the main media for delivery of instructional materials. The provision of adequate infrastructure, adequate training on ICT skills, and application of ICT in training and provision of distance e-learning was found to be one of the interventions of integrating ICT in in-service training.

Hypothesis testing

5.3 Conclusions

From the study findings, it can be concluded that the involvement of police officers in formulation of ICT policies was limited and not satisfactory to ensure adequate integration of ICT in in-service training. Some administrators of police training institutions had developed strategic plans for their institutions but it was difficult to make the same public or implement the same since their headquarters had not developed the broad strategic plans from which the institutions are required to bellow from. It was therefore established that lack of autonomy of the police training colleges was one of the reasons why administrators were unable to make or were required to delay some managerial decisions.

Lack of autonomy has hindered the management of colleges from exercising their management skills since they rely on directives from other offices like National Police Service Commission, National Police Service Headquarters, Police Service headquarters, Directorate of Criminal Investigations and GSU headquarters. For example a commandant cannot just decide to involve other stakeholders or acquire major ICT equipment without seeking for approval. This structure is bureaucratic and makes decision making slow and complex, thus reducing the ability of college

administrators to exert their managerial abilities and innovations without seeking for approval from other quarters, which are very busy with managing security matters.

It can be concluded from the study findings that instructional supervision on the use of ICT in in-service training did not contribute favourably to the integration of ICT in in-service training. The involvement of police officers in development of in-service training programmes was below per since very small number was involved whether the instructors or trainees. The small number that was involved did not influence positively the integration of ICT in in-service training. The provision of ICT infrastructure in police training institutions had little influence on the integration and application of ICT in in-service training.

Integration of ICT in police in-service programmes at police training colleges is greatly influenced by managerial practices influencing such as involvement of stakeholders in ICT policy formulation, involvement of instructors and trainees in developing in-service training programmes, instructional supervision and ICT infrastructure made available in the training institutions.

5.4 Recommendations

Based on the findings and conclusions of this study, the researcher makes the following recommendations which could guide planners, policy makers, administrators of police training institutions and researchers.

1. It was established that involvement of police officers in formulation of information communication technology policies was necessary in integration of ICT in police in-service training programme. It was however discovered that apart from GSU TSCH other police training institutions lacked documented ICT policy.

Other government policy documents were also not used despite the fact that the police training intuitions had some aspects of ICT integration. The study revealed that junior police officers are rarely involved in formulation of ICT policies in their training institutions.

i) It is in this regard that the study recommend that the National Police service Commission and the inspector general of police should develop comprehensive policy formulation training programmes for college administrators and senior police managers. This will build capacity for all college administrators on policy formulation.

ii) Each head of police training institution need to develop a strategic plan to guide on institutional ICT policy and the mechanism of involving other key stakeholders in the formulation of in-service ICT policy. The policy should spell out the ranks, number of junior police officers; gender composition, expertise, among others within the instructors and trainees fraternity, as they are the key stakeholders.

iii) Administrators in police training colleges need to create conducive environments that will help in accommodating suggestions from the instructors and trainees regardless of ranks and incorporate them in policy formulations committees. Administrators in police training colleges, also need to offer leadership by ensuring all stakeholders feel they that have a role to play and that they are important in the development of internal ICT policies. This can be achieved through administrators practicing open door policy to encourage junior officers to share information with the management and reduce red tape commonly found in police training institutions. The

government through National Police Service Commission should provide scholarship and training programmes for instructors in police training colleges and administrators, to enable them acquire ICT skills, appreciate emerging trends in and new developments in the field of information communication technology.

2. Based on the second research objective the study established that it was not clear to the instructors and trainees in police training institutions how instructional supervision on integration of ICT was supposed to be conducted. At the same time, there was no uniformity on how the instructional supervision was carried out in the three police training institutions. It was also clear that none of the training institution was in partnership with another police training institution from developed country to share knowledge and skills in the area of ICT.

    i) The study recommends that the National Police Service Commission should organize training programmes for the Police college administrators to be trained on various ICT concepts and skills to enable them appreciate ICT contribution in education and management of institutions.

    ii) There should be institutional policy on instructional supervision on integration of ICT in police training institutions. The policy should include the mode, duration, frequency, supervision tools, gender composition, and expertise among others. The administrators should ensure that the policy is fully implemented.

    iii) Police college administrators should develop self-evaluation mechanism to make the instructors accountable. This can be achieved through rewarding

instructors who are able to achieve the set objectives, which will also help to promote instructors' positive attitude on supervision.

iv) The administrators in police training colleges should offer leadership by involving relevant stakeholders especially the instructors and trainees who are the major consumer. The administrators should make use of persuasion skills in their management in order to make the juniors receptive of supervision of instruction for the purpose of making ICT integration a reality.

v) The National police service commission need to encourage heads of police training institutions to enter into partnerships with other police training institutions especially from the developed countries and local institutions. This will help in sharing knowledge and skills that will be very important in helping the police training institutions remain better placed in terms of emerging technologies.

3. The findings of the third objective revealed that the involvement of police officers in the development of in-service training programmes was very limited; however, their contribution when involved was found to be significant.

   i) It is, therefore recommended that the Inspector General of Police should provide finances to develop or purchase a user friendly computer programme to be used in police training institutions for stakeholders to access important information and provide feedback to police college managers.

   ii) Establishment of management boards with membership drawn from higher institutions of learning, technical training colleges, ministry of education and private institutions can help improve management of police training

institutions as professionals can share their expertise on managerial skills and resource mobilisation.

iii) Administrators of police training colleges should offer leadership by ensuring all stakeholders play a role in the development of in-service training programmes. This can be made possible through conducting regular TNA.

iv) The leadership should ensure that instructors and trainees are fully involved in order to fully tap the available expertise within the internal staff which may not be known by the management.

v) College commandants should develop and finance computer training programmes to be offered to all instructors and trainees who join college, regardless their age or gender to be able to deal with technophobia among police officers.

4. Based on the findings of the fourth objective the study established that all the police training institutions were connected to the national electricity grid, and there were standby generators to be used in times of power blackouts. However some training colleges lacked reliable internet in the computer labs while others had Wifi made available in offices and in computer labs. Facilities such as computers were very few while others student computer ratio was not bad.

i) It is on this background that the study recommends that the Inspector General of Police should ensure that there is elaborate ICT infrastructure in all the police training institutions in the country. Internet and intranet connectivity should be made very reliable and student computer ratio improved to ensure trainees could readily access a computer whenever needed.

ii) There should be a common ICT integration policy to be used in all the police training institutions in Kenya. The policy should clearly spell out; types of ICT infrastructure to be put in place, hardware and software to be bought, qualifications of the operators/instructors, policy of usage of ICT by members of staff and trainees, and security policy among other.

iii) The administrators of police training colleges should develop a policy for ensuring security of sensitive security information in computers commonly used in offices, computer labs and personal computers held by individual officers. A policy on monitoring and evaluation of integration of ICT in in-service training also needs to be put in place to avoid misuse of resources.

iv) The government needs also to come up with legislation to make Police training institutions semiautonomous to ensure quick decision making as it is the case with most progressive countries.

5.5 Suggestions for further research

Based on this study, a number of recommendations are made to further knowledge on integration of ICT in police training institutions. Among the researchable areas which could enrich the body of knowledge are:

1. It can be exciting to investigate the capacity of police training colleges to offer ICT training for basic and in-service course in Kenya. This will be focusing on the diverse entry behavior for the recruits in police training colleges.
2. One could also be interested in investigating the impact of ICT in police in-service training in improving the quality of police training and crime management in Kenya.

3. It will also be interesting to investigate human and material factors that influence integration of ICT in police training institutions in developing countries.
4. Finally it may interest one to investigate the role of college administrators in adoption of e-learning; the college administrators will include the college commandants and commanding officers.

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APPENDICES

APPENDIX I: CONSENT LETTER

Abraham Mugambi Nkingo
School of Education
University of Nairobi
P.O. Box 92
KIKUYU.

22nd January, 2015

The Inspector General of Police
P.O. Box 30083 - 00100
Nairobi

Dear Sir,

RE: REQUESTING YOUR CONSENT TO CONDUCT ACADEMIC RESEARCH

I am, a student at the University of Nairobi pursuing PhD in Educational Administration. I am conducting an academic research on *Influence of Managerial Practices on Integration of Information Communication Technology In-Service Training Programmes at Police Training Colleges in Kenya*.

I intend to conduct my study in KPC, GSU Training School and DCI Training School. I intend to pilot test research instruments at GSU Magandi Field Training Camp. I hereby request you to kindly allow me to conduct my studies in the aforementioned training institutions. The data to be collected will be purely for academic purpose and the identity of research participants will be confidential.

Yours faithfully,

Abraham Mugambi Nkingo

APPENDIX II: QUESTIONNAIRE FOR INSTRUCTORS

This questionnaire is meant to collect research data for my PhD studies. You have been selected as one of the respondents for this study to assist me collect data on **managerial practices influencing integration of ICT in In-Service programme at police training colleges in** Kenya. Kindly provide your honest responses on all the items in this questionnaire. Your identity will be treated with strict confidentiality.

Kindly note, INTEGRATION OF ICT refers to the use all components of ICT to promote the efficient management of police training institutions focusing only on in-service training in this study.

The ICT components that are referred here include:

a) Computer software and hardware
b) Application of computer/ICT in training and management

INSTRUCTIONS

1. This questionnaire consists of **six (6) pages printed one side**
2. There are **26questions** in total please answer all questions to the best you can.
3. **Respond by Ticking [√] or circling** your answer choice from options provided.
4. Where **applicable explain or make your suggestions** on the spaces provided.
5. **Note that the number values** on the possible option has no implication on any choice

SECTION A: DEMOGRAPHIC INFORMATION.

1. By use of a **tick [√] or circling** please indicate your institution **(Tick one option only)**

   [1] Kenya Police Training College

   [2] GSU Training School

   [3] CID Training School

   [4] Kenya Administration Police Training College

2. By use of a **tick [√] or circling** please indicate your gender

   [1] Female [2] Male

3. By use of a **tick [√] or circling** please indicate your age bracket? [1] 18 - 25 years [2] 26 - 35 years [3] 36 - 45 year 46 – 55 years [4] above 56 years
4. What is your highest level of education [1] ‘O’ level [2] Diploma/Certificate [3] Bachelor’s Degree [4] Post Graduate Diploma [5] Master’s Degree

   [6] PhD Degree

[7] Others please indicate _____

5. Kindly indicate your **rank**_____
6. How long have you been an **instructor**? **(Indicate in year(s) _____**
7. Please indicate by ticking in corresponding box your ICT **proficiency level in the following areas.**

ICT Application	**Not proficient at all**	**Fairly proficient**	**Highly proficient**	**Very proficient**
Ms –Word				
Ms –Excel				
Ms – PowerPoint				
Ms – Access				
Internet usage				
Application of data analysis software				
Use of simulation/instruction software				
ICT Communication (Email, Skype, teleconferencing)				

8. Please provide information about ICT course(s) you have attended to improve your instructional ICT skills.

#	**Name of ICT course**	**Duration**	**Institution offering the course**	**Sponsor of the course**
a.				
b.				
c.				
d.				

Section B: Involvement of police officers in formulation of ICT policies.

9. By **ticking** in the corresponding boxes please indicate whether the following ICT documents are available in your college?

#	ICT Documents	Availability	
		Available	**Not Available**
a.	National ICT Policy		
b.	Internal ICT policy (Individual institution)		
c.	Policy on use of ICT in instructions		
d.	ICT Master Plan		
e.	Vision 2030		
f.	E-Government Policy		

10. (a) As an instructor, have you been involved in formulating any ICT policy in your college or any other police college? [1] Yes [2] No

    (b) If **YES** in question **10(a)** above, please name the policy document you were involved._____

    (c) If **YES** in question **10(a),in what capacity** were you involved in during the formulation of the above ICT policy?**[Please tick one option only]**

    [1] As a participants offering technical inputs [2] As a stakeholder [3] As an observer [4] Any other roles please indicate _____

11. During the exercise of formulating ICT polices in **question 10(a)** above please identify the categories of **participants** who were involved.

    [1] College administrators [2] Instructors [3] Members of non-teaching staff

    [4] Experts of ICT (non-uniformed from other government agencies

    [5] Private sector ICT experts [6] Indicate any other_____

12. Please indicate the **area you** were involved in policy formulation you mentioned in question **10 (a) above.**(**More than one option is allowed)**

    [1] Problem identification/ Fact finding (Situational analysis)

    [2] Formulating organisation goals and objectives [3] Bench marking

    [4] Consolation of material [5] Technical input [6] Report compilation

    [7] Actual policy document writing [8] Evaluation/Impact analysis

    [9] Indicate any other. _____

13. To what extent was your **contribution helpful on policy formulation** you indicated in question **10(a)** above? [1] Little extent [2] Large extent [3] Very large extent.

14. What challenges did you face during formulation of the above ICT policy?

_____

_____

15. To what extent do you think the available ICT policies are implemented?
    [1] Little extent [2] Large extent [3] Very large extent [4] No sure

Section C: Instructional supervision

16. (a) Is there a policy in your college on supervision of integration of ICT [1] Yes [2] No

    (b) Please indicate who supervises you on the use of ICT in instructions? _____

    (c) If you are supervised as you indicated in question **16(b) above** how often is supervision done? [1] Every day [2] Once a week [3] Monthly [4] Quarterly [5] Every six months [6] Never [7] Once in an year [8] Never

17. (a) How do you rate your supervisors' knowledge on ICT?
    [1] Very Good [2] Good [3] Fair [4] Poor

    (b) Kindly indicate how ICT integration supervision is done. (**More than one option is allowed)**
    [1] Use of checklist [2] Impromptu checks [3] Use of electronic surveillance
    [4] Demonstrations on ICT applications [5] Login and logging out register
    [6] Course content coverage [7] Adherence to instruction time
    [8] Any other please indicate _____

18. To what **extent** does instructional supervision influence ICT integration in your police training college? [1] Low extent [2] High extent [3] Very high extent
    [4] No sure

Section D: Involvement of police officers in development of in-service training programmes. ***[Examples of in-service programme are; promotion, capacity building, investigation, leadership courses among others]***

19. (a) Have you been involved in development of in-service training programmes?
    [ ] Yes [ ] No

    (If your response is NO in question 19 (a) above skip question 20, 21 and 22 in this section)

    (b) If **YES** in **19(a)** above how were you involved in the development? (**More than one option is allowed)**

[1] Training needs assessment [2] Designing the programme [3] Content development[4]ICT content development [5]any other please specify _____

20. Please indicate the participants who were involved during development of in-service training programmes? (**More than one option is allowed)**

    [1] Instructors [2] Trainees [3] Senior police officers [4] Directors of studies/curriculum

    [5] Ngo's/Human right organisations [6] any other please specify _____

21. Please list the in-service training programmes components you developed. (**More than one option is allowed)**

    [1] Curriculum content [2] Instructional methodology [3] Instructional aids/resources [4] Application of ICT [5] any other please specify _____

22. To what extent has the developed in-service training programmes influenced the integration of ICT in police training? [1] Low extent [2] High extent [3] Very high extent [4] No sure

    [If you answered questions 20-22 skip question 23 and move to section E]

23. (a) If you have never been involved as you indicated in **question 19(a) above,** have you identified some missing ICT components necessary for improving the in-service programme [1] Yes [2] No
    (b) If **Yes** in question **23(a)** above please name the missing component(s).
    i) _____

Section E: Provision of ICT infrastructure in police training institutions.

24. By the use of a tick (√) on the appropriate responses, please **rate the extent** to which the provision ICT infrastructure has influenced the integration of ICT in training.

#	ICT Equipment and facilities	Extent of integration			
		Very little extent	**Little extent**	**Large extent**	**Very large extent**
a.	Desktop computers				
b.	Laptops				
c.	Overhead projectors				
d.	Printers				
e.	Storage devices (CD, DVD etc.)				
f.	Internet				
g.	Specific training software like simulation				
h.	On line books, journals and notes				
i.	Email, Skype				
j.	Storage devices such as flash				

#	ICT Equipment and facilities	Extent of integration			
		Very little extent	**Little extent**	**Large extent**	**Very large extent**
	disks, CD, DVDs				

25. By using a tick (√) in the table below kindly rate the application of ICT in the college

#	Type of ICT Application	Rating			
		Very little extent	**Little extent**	**Large extent**	**Very large extent**
a.	Production of training materials like hand outs				
b.	Presentation using PowerPoint				
c.	Projection using overhead projectors				
d.	Simulation				
e.	E-Learning				
f.	Research				
g.	Internal official communication through email, chatting etc.				
h.	Internal for non-official communication through email, chatting etc.				

26. In what ways do you think ICT can be used to enrich the police in-service programmes?
    i) _____
    ii) _____

Thank you for your time and support

APPENDIX III: QUESTIONNAIRE FOR TRAINEES

This questionnaire is meant to collect research data for my PhD studies. You have been selected as one of the respondents for this study to assist me collect data on **managerial practices influencing integration of ICT in In-Service programme at police training colleges in** Kenya. Kindly provide your honest responses on all the items in this questionnaire. Your identity will be treated with strict confidentiality.

Kindly note, INTEGRATION OF ICT refers to the use all COMPONENTS OF ICT to promote the efficient management of police training institutions focusing only on in-service training in this study.

The ICT components that are referred here include:

a) Computer software and hardware
b) Application of computer/ICT in training and management

INSTRUCTIONS

1. This questionnaire consists of **six (6) pages printed one side**
2. There are 25 questions in total please answer all questions to the best you can.
3. **Respond by Ticking [√] or circling** your answer choice from options provided.
4. Where **applicable explain or make your suggestions** on the spaces provided.
5. **Note that the number values** on the possible option has no implication on any choice

SECTION A: DEMOGRAPHIC INFORMATION.

1. By use of a **tick [√] or circling** please indicate your institution **(Tick one option only)**
   [1] Kenya Police Training College
   [2] GSU Training School
   [3] CID Training School
   [4] Kenya Administration Police Training College
2. By use of a **tick [√] or circling** please indicate your gender [1]Female [2] Male
3. By use of a **tick [√] or circling** please indicate your age bracket? [1] 18 - 25 years [2] 26 - 35 years [3] 36 - 45 year 46 – 55 years [4] above 56 years

4. Please indicate your highest level of education [1] Secondary school [2] Diploma/Certificate [3] Bachelor's Degree [4] Post Graduate Diploma [5] Master's Degree [6] PhD Degree

   [7] others please indicate _____

5. Kindly indicate your **rank**_____

6. Please indicate by ticking in corresponding box your ICT **proficiency level in the following areas.**

ICT Application	**Not proficient at all**	**Fairly proficient**	**Highly proficient**	**Very proficient**
Ms –Word				
Ms –Excel				
Ms – PowerPoint				
Ms – Access				
Internet usage				
Application of data analysis software				
Use of simulation/instruction software				
ICT Communication (Email, Skype, teleconferencing)				

7. Please provide information about ICT course(s) you have attended.

#	**Name of ICT course**	**Duration**	**Institution offering the course**	**Sponsor of the course**
a.				
b.				
c.				

8. (a) How many times have you taken an in service course in this college?

   [1] Once [2] Twice [3] Thrice [4] Four times [5] Five times [6] Above five times

   (b) By ticking the corresponding boxes indicate the extent of application of ICT during in service training.

#		**Extent of ICT Application**			
		Very little extent	**Little extent**	**Large extent**	**Very large extent**
a.	First in-service training				
b.	Second in-service training				
c.	Third in-service training				
d.	Forth in-service training				
e.	Fifth in-service training				
f.	Current in-service training				

Section B: Involvement of police officers in formulation of ICT policies.

9. By ticking in the corresponding boxes please indicate whether the following ICT documents are available in your college?

#	ICT Documents	Availability	
		Available	**Not Available**
g.	National ICT Policy		
h.	Internal ICT policy (Individual institution)		
i.	Policy on use of ICT in instructions		
j.	ICT Master Plan		
k.	Vision 2030		
l.	E-Government Policy		

10. (a) Are trainees in police colleges involved in formulating ICT policy on police training? [1] Yes [2] No

(b) If **YES**, in question **10(a)** above, kindly indicate how police trainees were or are being involved in ICT policy formulation in police training colleges.

_____

_____

11. In your own opinion to what extent do you think the involvement of trainees in ICT policy formulation would be helpful?

[1] Low extent[2] High extent [3] Very high extent [4] No sure

12. How do you rate the contribution of ICT policies on the integration of ICT in the training college? [1] Fair [2] Good [3] Very Good [4] Excellent

13. To what extent do you think the available ICT policies are implemented in police training colleges?

[1] Low extent [2] High extent [3] Very high extent [4] No sure

Section C: Instructional supervision

14. (a) Have you experienced instructors being supervised on the application of ICT while teaching? [1] Yes [2] No

(b) If **YES** in question **14(a)** above please indicate who supervises the instructors on the use of ICT in teaching? [1] College Commandant [2] Head of ICT in the college [3]External supervisors

Others please indicate_____

(c) How often is supervision done? [1] Every day [2] Once a week [3] Monthly [4] After every instruction session [5] any other please indicate_____

15. (a) Are the trainees involved in the supervision of the application of ICT by instructor? [1] Yes [2] No

(b) If YES in questions **15 (a)** above kindly indicate how supervision is done. (**More than one option is allowed)**

[1] Use of checklist [2] Impromptu checks [3] Use of electronic surveillance

[4] Demonstrations on ICT applications [5] Login and logging out register

[6] Course content coverage [7] Adherence to instruction time [8] any other please indicate _____

16. To what extent does instructional supervision influence ICT integration in police in-service training in the college? [1] Low extent [2] High extent [3] Very high extent [4] No sure

Section D: Involvement of police officers in development of in-service training programmes.

17. (a) Have you been involved in development of in-service training programmes? [ ] Yes [ ] No

[**If your response is NO in question 17(a) go to question 20, 21 and 22 in this section]**

(b) If your response in question 17 (a) above is **YES,** how were you involved in the development? (**More than one option is allowed)**

[1] Conducting training needs assessment [2] Designing the programme [3] Content development [4] ICT content development [5] As a respondent on training needs assessment [6] any other please specify _____

18. List the categories of participants who were involved during development of in-service training programmes? (**More than one option is allowed)**

[1] Instructors [2] Trainees [3] Senior police officers [4] Directors of studies/curriculum

[5] Ngo's/Human right organisations [6] any other please specify _____

19. List the in-service training programmes components you developed. (**More than one option is allowed)** [1] Curriculum content [2] Instructional methodology[3] Instructional aids/resources[4] Application of ICT [5] any other please specify _

[**If you answered question 17 (b), 18 and 19, skip question 20 below and answer question 21 and 22 in this section]**

20. (a) If you have never been involved in developing in-service training programme as you indicated in **question 17(a) above,** have you identified some missing ICT components necessary for improving the in-service programme Yes [ ] No [ ]

(b) If **YES,** in question 20(a) above please name the missing components

21. To what extent has the development of in-service training programmes influenced the integration of ICT in police training? [ ] Very high extent [ ] High extent [ ] Low extent.

22. How has the in-service training programmes contributed to the integration of ICT in training in the college? [ ]Excellent [ ] Very Good [ ] Good [ ] Fair

Section E: Provision of ICT infrastructure in police training institutions.

23. By the use of a tick (√) on the appropriate responses, please **rate the extent** to which the provision ICT infrastructure has influenced the integration of ICT in training.

#	**ICT Equipment and facilities**	**Extent of integration**			
		Very little extent	**Little extent**	**Large extent**	**Very large extent**
a.	Desktop computers				
b.	Laptops				
c.	Overhead projectors				
d.	Printers				
e.	Storage devices (CD, DVD etc.)				
f.	Internet				
g.	Specific training software like simulation				
h.	On line books, journals and notes				
i.	Email, Skype				
j.	Storage devices such as flash disks, CD, DVDs				

24. By using a tick (√) in the table below kindly rate the application of ICT in the college

#		**Rating**

	Type of ICT Application	Very little extent	Little extent	Large extent	Very large extent
i.	Production of training materials like hand outs				
j.	Presentation using PowerPoint				
k.	Projection using overhead projectors				
l.	Simulation				
m.	E-Learning				
n.	Research				
o.	Internal official communication through email, chatting etc.				
p.	Internal for non-official communication through email, chatting etc.				

25. In what ways do you think ICT can be used to enrich the police in-service programmes?_____
_____
_____
_____

Thank you for your time and participation

APPENDIX IV: ADMINISTRATORS KEY INFORMANT INTERVIEW SCHEDULE

1. How long have you been working at the college?
2. What role do you play as an administrator?
3. What can you say about ICT policy in your college?
4. How are the ICT policies in you college developed? Who do you involve in formulation of these policies?
5. How do you involve members of staff in decision making in regard to the use of ICT in training and management?
6. Which ICT application (computer system) do you have in place to help in instructional and management activities?
7. Who supervises how instructors use ICT in your college?
8. How often is supervision done?
9. Are there administrators who don't like using ICT?
10. What do you think is their reason?
11. What do you think is the reason?
12. How are they encouraged to make use of ICT in their daily activities in the college?
13. What do you think can be done to improve this situation?
14. What other government departments or Non-governmental agencies do you partner with other in the area of ICT integration and acquisition of software and hardware?
15. What is your comment on access to internet and intranet facilities in your institution?

APPENDIX V: OBSERVATION SCHEDULE

	ICT Equipment and facilities	Availability		Integrated for Instruction	
		Yes	No	Yes	No
a.	Desktop computers				
b.	Laptops				
c.	Overhead projectors				
d.	Printers				
e.	Storage devices (CD, DVD etc.)				
f.	Internet available to all trainees and instructors within rooms				
g.	Television				
h.	Software for specific training				
i.	Specific training software like simulation				
j.	On line books, journals and notes				
k.	Email, Skype				
l.	Standby generator				
m.	Computer lab technicians				
n.	Computer laboratory				
o.	Projector screen				
p.	Smart boards				
q.	Availability of Wifi within the compound				

APPENDIX VI: MEMO TO DIRECTOR OPERATIONS POLICE HEADQUARTERS

M E M O

TO:	**DIRECTOR OPERATIONS**
FROM:	**SOB TRAINING**
DATE:	**9TH APRIL, 2015**
SUBJECT:	**RESEARCH IN POLICE TRAINING INSTITUTIONS BY NO. 233038 CI ABRAHAM MUGAMBI**

Sir, the above named officer is attached at police Headquarters Directorate of Operations Training Section. The officer, who is currently pursuing a Doctoral Degree in Educational Administration at University of Nairobi, has requested to be allowed to carry out an academic research in our Police Training Institutions to enable him complete his studies.

His study aims at investigating managerial practices influencing integration of Information Communication Technology in Police training institutions in Kenya. The study will target police trainees. instructors and administrators in police colleges. Research instruments include questionnaires, interview schedule and observation guide. The study will be conducted at Kenya Police College-Kiganjo, GSU training School Embakasi and CID Training School. Research instruments will be piloted at APTC Embakasi.

The officer applied for research permit from National Commission for Science, Technology and Innovation, and the same has been granted.

Forwarded for your approval and consideration

(ANTHONY M. KAMITU) OGW
DEPUTY DIRECTOR LOGISTICS

Encl

APPENDIX VII: LETTER TO HEAD OF POLICE TRAINING INSTITUTIONS

KENYA POLICE

SEC. POL. 1/5/VOL.LXI (84) 4th MAY, 2015

The Director
Directorate of Criminal Investigation
P.O Box 30036 00100
NAIROBI.

The Commandant
General Service Unit
P.O BOX 49506
NAIROBI.

The Commandant
Kenya Police College
Private Bag – 10102
KIGANJO.

RE: PhD THESIS RESEARCH – ABRAHAM MUGAMBI NKINGO.

The above mentioned officer is currently attached at Police Headquarters Directorate of Operations. He intends to carry out an Academic Survey in our Training Institutions to investigate managerial practices that influence integration of Information Communication Technology (ICT) in Police training.

During his study, he will sample Instructors and Police Officers undergoing various in-service courses to fill in simple questionnaires. He will also have a session with senior College Administrators and carry out observation to assess how ICT has been integrated in Police Colleges.

He has so far been granted a permit by the National Council for Science, Innovation and Technology, and has also been cleared by Deputy Inspector General KPS to carry out the study. Kindly accord him necessary support.

(PHILIP NDOLO)MBS
FOR: DEPUTY INSPECTOR GENERAL
KENYA POLICE SERVICE.

APPENDIX VII: RESEARCH PERMIT

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MR. ABRAHAM MUGAMBI NKINGO
of UNIVERSITY OF NAIROBI, 10141-400 NAIROBI,has been permitted to conduct research in *All Counties*

on the topic: *MANAGERIAL PRACTICES INFLUENCING INTEGRATION OF INFORMATION COMMUNICATION TECHNOLOGY IN IN-SERVICE PROGRAMMES AT POLICE TRAINING COLLEGES IN KENYA*

for the period ending:
30th June,2016

Applicant's Signature

Permit No : NACOSTI/P/15/7900/5607
Date Of Issue : 8th April,2015
Fee Recieved :Ksh. 2000

Director General
National Commission for Science, Technology & Innovation