INSTITUTIONAL FACTORS, LEARNERS’ SELF EFFICACY AND ACADEMIC PERFORMANCE OF DISTANCE LEARNING STUDENTS IN SELECTED KENYAN PUBLIC UNIVERSITIES

BY

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A Thesis submitted in Fulfillment of the Requirements for the Award of the Degree of Doctor of Philosophy in Distance Education of the University of Nairobi

2018
DECLARATION

I declare that this thesis is my original work and has not been presented for an academic award in any other university.

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I dedicate this work to my three children, Joy Mwihaki, Meshack Njoroge and Mercy Mbithe. May this work always be a reminder to you that whatever is perceivable is achievable.
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ABBREVIATIONS AND ACRONYMS

CBL: Computer-based learning
DE: Distance Education
DL: Distance Learning
DVD: Digital Video Decoder
EFA: Education for all
ICT: Information Communication Technologies
IGNOU: Indira Gandhi National Open University
UoN: University of Nairobi
KENET: Kenya Education Network Trust
KESSP: Kenya Education Sector Support Programme
KU: Kenyatta University
MDGs: Millennium Development Goals
ODeL: Open, Distance and e-Learning
OUK: Open University of Kenya
SAIDE: South Africa Institute of Distance Education
STI: Science Technology and Innovation
UNESCO: United Nations Educational Scientific and Cultural Organization
UKOU: United Kingdom Open University
UNISA: University of South Africa
ABSTRACT
Distance Learning is a mode of study in which educators reach many learners in diverse locations at reduced costs unlike the conventional mode study. However, one of the major concerns of researchers in distance learning is the issue of students’ academic performance. In developed countries, research findings indicate that there is no significant difference in performance between distance learners and on-campus learners or traditional students but in developing countries, similar researches revealed contradictory results. This study sought to determine the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students in selected Kenyan public universities. The objectives of the study were; to determine the influence of learner support system on academic performance, to establish the extent to which curriculum resources influence academic performance, to determine in what ways instructional techniques influence academic performance, to determine the combined influence of institutional factors and learners’ self-efficacy on academic performance and finally to establish the moderating influence of learners’ self-efficacy on the relationship between institutional factors and academic performance. The study adopted an ex-post facto design. Two public universities namely Kenyatta University and the University of Nairobi were purposively selected for this study. These two universities have offered distance learning programmes for more than 10 years. The target population consisted of 847 Bachelor of Education (Arts) third year distance learning students, 149 lecturers who teach Bachelor of Education (Arts) third year distance learning students and two administrators in charge of distance learning programmes in the selected Kenyan public universities. Data was collected through questionnaires, interviews, document analysis and the instrument for measuring academic performance. The tests of hypotheses established that the learner support system, curriculum resources, instructional techniques and a combination of institutional factors and self-efficacy, positively and significantly influence students’ academic performance. The moderating influence of learners’ self-efficacy on the relationship between institutional factors and academic performance was not significant. The findings support the Systems Theory which underscores the importance of all elements of an institution. The study has contributed to the existing body of knowledge by establishing that a combination of institutional factors and learners’ self-efficacy influence students’ academic performance. The study recommends that a similar study be done in selected Kenyan private universities to test whether the outcome will be different.
CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Education is globally considered as a key contributor to social and economic development. It is an investment that empowers people and opens horizons for them. For the majority of the people, it determines increase in earnings and alleviates poverty. The benefits which accrue to both individuals and the society, have increased the demand for education in institutions of higher learning (Poulin & Straut, 2016; Allen & Seaman, 2017; Gupta, 2017). This demand has made the conventional mode of learning inadequate in meeting the need for education in institutions of higher learning (Pandor, 2007). With the increase in population in Africa, there is a corresponding increase in the need for equity, access and quality in education at all levels. However, the growth of educational institutions in Africa is not commensurate to the population growth. As a result, governments in Africa are exploring alternative ways of providing education in order to solve the challenges of access, equity and quality in education. Distance mode of learning is thus considered a viable alternative mode of study in this regard. It is considered as a key tool for addressing past inequalities in education (Muchiri, 2012; Wambugu 2012; Aluko, 2007; Owusu-Boampong & Holmberg, 2015).

The Government of Kenya is committed to progressive realization of the right to education by all citizens as articulated in article 43(1: f) of the Constitution (2010). However, the education sector in Kenya experiences a myriad of challenges in relation to access, equity, retention, gender parity, quality, completion and transition rates. In 2010, the transition rate from secondary to university education was 6.5% mainly due to low capacity in universities in relation to growing
numbers of students in secondary schools and inadequate funding (Sessional Paper No.1 of 2012, A policy Framework for Education, Training and Research). The Kenyan Government has put in place strategies to promote Open and Distance Learning, in an effort to increase equity, access, retention, gender parity, quality, completion and transition rates in education (National Strategy for University Education, 2008; Public Universities Inspection Board, 2007; Road Map for Open University, 2008). Open access, retraining, use of ICT in education process and open and distance learning mode of study are emphasized in various government policy documents in Kenya (Kenya Education Sector Support Programme 2005-2010; Sessional paper No.1 of 2005 on a Policy Framework for Education, Training and Research).

One of the main goals of The National ICT Master Plan in Kenya is to ensure ICT connectivity for all learners through provision of virtual classrooms. In education, ICT connectivity is aimed at connecting academic institutions, ensuring access to online resources for learners and facilitators, increasing online participation by adults and improving quality of education (Connected Kenya, 2017, National ICT Master Plan, 2012). Electronic learning is emphasized in the National Information and Communications Technology (ICT) Policy by the Ministry of Information and Communications (2006). The policy recommends the need for provision of affordable infrastructure, promotion of the development of content to address educational needs, creation of awareness opportunities offered by ICT, promotion of centres of excellence and exploitation of e-learning opportunities.
1.1.1 Concept of distance learning
Distance learning is a mode of study which is different from the traditional classroom face-to-face learning. It takes place when the facilitator and the student are separated in space, time or both. Distance learning mode of study can be offered through various media that include; print media and various forms of electronic and computer mediated media. Currently, distance learning mode of study relies heavily on Information Communication Technology (ICT) for instructional delivery. It involves the planning, development of instructional materials and the provision of learner support services through various ICT media. In this mode of study, learners are taught as individuals with possibility of occasional meetings either face-to-face or electronic means. Distance learning mode of study mainly appeals to students who are above 25 years old, are self-directed, have prior college experience and family responsibility, with an intention to reach higher socio-economic status (Keegan 1996; Peters, 1998; Knowles, 1984).

Through distance learning mode of study, students are provided with educational opportunities that meet their changing needs. It grants them the flexibility to learn anytime, anywhere and at a pace that meets their individual learning styles (Lynch & Corry, 1998). It is known as a mode through which educators reach many students, especially those who are not able to participate in educational institutions, through traditional face-to-face mode of study. Over the years, it has been accepted as an appropriate mode of study contributing to both social and economic development of individuals and countries (Onwe, 2013). Currently, there is rapid growth in the adoption of distance learning mode of study mainly due to the need for individuals to continually upgrade skills and due to rapid growth in technology (Hwang, Yang & Kim, 2010).
Distance learning may also mean a more learner-centred approach that is of higher quality and provides a new way of interaction. The mode of study has various benefits. First, it is cost effective to both the institution and the learners. Secondly, it offers high quality and cost-effective professional development at the place of work which is beneficial to employers. Thirdly, for governments, it helps in increasing access, equity and cost effectiveness of education and training systems and enhancement of quality. In addition, distance learning mode of study provides the means by which lifelong learning is achieved (Vikiru 2013; UNESCO, 2004; Ogunga, 2006). This mode of study is a universally accepted approach for knowledge acquisition in institutions of learning due to the limitations of the conventional mode of study in addressing the issues of access, equity and quality in education. Distance learning mode is considered to be 50% cheaper than conventional learning mode of study. It is a flexible mode of learning to students and it addresses the increasing demand for access to higher education (Daniel, 1996). This study focused on institutional factors and learners’ self-efficacy in relation to academic performance of students pursuing studies through distance learning mode of study.

1.1.2 Academic performance
Variables that contribute to academic performance have been a subject of study by many researchers over the years. Bandura’s (1986) Socio-Cognitive theory, explains that human behavior is influenced by environmental factors and personal factors. Peterson and Arnn (2005), elaborate that self-efficacy is the foundation of human performance. In this study, institutional factors and learners’ self-efficacy play a significant role in influencing the academic performance of distance learners. Constructivists see knowledge as being constructed by the learner based on experiences and motivation (Miller, 2000). Constructivists advocate for students to construct knowledge through discovery and problem solving. They argue that the best approach in learning
is a learner-centred approach in which the learner is active in learning while the teacher is the facilitator of the teaching and learning process.

1.1.3 Institutional factors in distance learning
Institutional factors in distance learning constitute the environment within the institution specifically designed to enhance the learning process. System’s theory argues that interactions within an institution contribute to the output. The theory states that schools are social systems with different activities, elements and sub systems which all interact to contribute to the social entity. The parts of the system operate together to achieve common objective(s), goals, or common purposes (Getzel’s, 1968; Robbins, Chatterjee, & Canda, 2006). Institutional factors in this study included: learner support system, curriculum resources and instructional techniques. These factors have been identified by Onwe (2013) as significant in determining the effectiveness of distance learning programmes.

1.1.3 Learner support system
The learner support system is a key institutional factor which influences the academic performance of distance learners. The learner support system is the holistic non subject assistance provided to every student by an institution other than generic teaching materials (SAIDE, 2003; Muchiri, 2012; Usun, 2004). It is the support that is available for every learner that directly affects his or her success and is part of the teaching and learning process (Mays, 2017; Mills, 2003). It involves -offering services such as mentorship, academic advisory, personal counseling, career services and, administrative support to students. The learner support system improves enrolment, retention, transition of students and assists in intellectual and personal growth which contributes to students’ academic success (Tinto 2006-2007; Bojuwoye et.al., 2014; Simpson, 2015). The quality of the learner support system is one of the key determinants of the
effectiveness of the distance learning mode of study. The learner support system also provides the competitive edge of an institution (Hwang, Yang & Kim, 2010; Global Watch Missions, 2006; Rossett& Chan, 2008; Tessema, Ready & William 2012).

Instructors are considered to be the main element of the learner support system. Effectiveness of instructors in providing good learner support depends on a number of factors namely; academic achievement, professional experience, lecturer-student ratio, availability for consultation by students, academic advising, feedback to students, and attitude (Muchiri, 2012; Jagero, 2013). Research findings have shown that there is a positive significant relationship between students’ perception of their instructors and academic performance (Ali & Ahmad, 2011; Adediwura&Tayo, 2007).

Other important elements in learner support system are guidance and counseling and administrative support. Various studies indicate that guidance and counseling services have a significant effect on students’ study attitude, habits and academic achievement (Ngugi & Kara, 2013; Hussain, 2006). Academic, social and career guidance and counseling are a critical part of the learner support system. They reduce feelings of isolation by the distance learning students and they resolve both academic personal problems (Lephoto&Mohasi, 2009; Simpson, 2002). Administrative support entails provision of information about examinations, academic progress, curriculum resources, technical support, courses and course tutors as well as information on non-course programmes and activities (Kimani, Kagira&Kendi, 2011). The provision of administrative support enables the students to go through their programmes of study with ease (Kamau, 2012; Tau, 2006; Komba, 2004).
1.1.4 Curriculum Resources

To enhance learning, facilitators use physical objects which provide visual, sound or both to the sense organs during teaching (Agina-obu, 2005). These physical or concrete objects are known as curriculum resources. According to Isola (2010) curriculum resources aid in making the lesson much clearer to the learner. Studies by Jagero, Adetoro and Adekunle (2013) found a significant relationship between curriculum resources and students’ academic performance. Research findings by Musau and Migosi (2013) found that girls’ achievement in classes with adequate SMT (Science, Mathematics and Technical Subjects) curriculum resources performed better than those with few or no resource materials. Other research findings indicate that there is a significant and positive relationship between student satisfaction and academic performance (Ali & Ahmad, 2011; Adediwura & Tayo, 2007).

1.1.5 Instructional techniques

Instructional techniques are methods used by instructors to organize course content, in order to achieve a particular learning outcome. This is a significant factor that affects academic performance of students. Research findings indicate that learners who have a positive perception about the instructional methods are likely to perform better than those with a negative perception (Hannay & Newvine, 2006). Some studies have however shown that there is no significant difference between modality of course delivery and academic performance (Carmel & Gold, 2007). Effectiveness of instructional techniques is determined by students’ perception of the experience as useful, productive, informative, satisfying or worthwhile (Theall & Franklin, 1990). The need for use of participatory and interactive techniques such as group discussions, problem solving and case studies has been encouraged (Robinson, 1995; UNISA, 2007). Integrating participatory approach in the teaching and learning process is essential in attaining intended
learning outcomes and in optimization of learning (Malamula, 2017; Mosha, 2004; Karthy, 2017).

1.1.6 Learners’ self-efficacy
Personal characteristics of learners influence the performance of students. One of the personal characteristics of learners affecting learning is self-efficacy. It refers to a learner’s convictions that he/she can confidently perform given tasks at designated levels. It is a student’s perceived confidence to successfully perform a particular academic task. These beliefs influence one’s task of choice, effort, learning style and achievement (Bandura, 1997). High self-efficacy increases a student's confidence in excelling in challenging tasks by enhancement of acquisition and use of values, skills and knowledge (Zajacova, Lynch & Espenshade, 2005; Johan, Valcke & Cai, 2009). Understanding learners’ self-efficacy will help institutions determine resources needed to be allocated towards the support of distance learners in regards to institutional support.

1.1.7 Distance learning in Kenyan Universities
Some of the main goals of education highlighted in the Kenya Vision 2030 are to reduce illiteracy, increase access, improve transition rates, and achieve an 80% adult literacy rate and to increase the school enrolment rate to 95%. The Government of Kenya plans to reduce the challenges of access, equity and quality faced at the institutions of higher learning by establishing the Open University of Kenya (Education Policy in Kenya, 2012; Sessional Paper No.1 of 2012 on a policy Framework for Education, Training in Kenya; Sessional Paper No.1 of 2005 on A policy Framework for Education, Training and Research). However, although the distance learning mode of study is credited for enhancing access in institutions of higher education, there is skepticism on the quality of learning achieved through this mode of study (Wambugu, 2012).
The Public Universities Inspection Board Report on Transformation of Higher Education and Training in Kenya to secure Kenya’s Development in the Knowledge Economy (2006) recommended the need for a national policy on open and distance education and the establishment of Open University of Kenya by 2008, in order to increase access in education. As a result of this recommendation, a Road Map for the establishment of the Open University of Kenya was outlined by Rumble (2008) as cited in the Blue print for the establishment of the Open University of Kenya, 2010. Consequently, a planning and implementation committee for establishment of the Open University of Kenya was established in 2009(Open University of Kenya: Blue print for the establishment of the Open University of Kenya, 2010). Through the direction of this committee, it is hoped that the Open University of Kenya will be implemented.

An e-readiness survey conducted by KENET (2009), revealed that 50 East African Universities are rapidly recognizing the importance of distance learning. They are providing distance learners withnot just the best but also the most modern educational resources. The survey indicated that Kenya requires the use of open and distance learning strategies to enhance Gross Enrolment Ratio and particularly to meet the high demand for university education in Kenya. It also pointed out the need to use e-learning to increase enrolment within the university community. The survey showed that Kenya was better ranked among East African Countries in regard to networked readiness. The survey indicated that Kenyan universities had improved in ICT strategy and ICT human capacity which offered adequate learner support to distance learners. The e-readiness 2013 survey of 30 Kenyan universities revealed that the universities were ready to use ICT in the teaching and learning process (Kashorda & Waema, 2014).
Kenya has 31 chartered public universities and 18 chartered private universities (Commission for University Education, 2017). One of the critical roles of University Education in Kenya is to provide equity, access and quality in education (The Universities Act, 2012). In this study Kenyatta University and University of Nairobi have been purposively selected. These two universities have been chartered for more than 10 years and they have offered distance learning programmes for more than 10 years. They have well established directorates of Distance learning mode of study, with elaborate policies on learner support systems, provision of curriculum resources, instructional delivery techniques and learner characteristics, which are variables being studied in this study. A study on the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students in these universities in Kenya will determine the resources needed to enhance learner support systems, provision of curriculum resources, instructional delivery techniques and learners’ self-efficacy in relation to the distance learning mode of study, thus contributing to knowledge in this area.

Studies carried out in Kenya indicate contradictory and conflicting results. A study carried out by Bowa (2008) revealed that most of the affective, cognitive, and systemic learner support services did not contribute significantly to academic performance of learners. The study revealed that the learner support services were either not adequately provided for or learners lacked access to the services. The said study focused on the influence of the learner support services and learner characteristics on academic performance of learners. This study did not however investigate the combined influence of institutional factors and learners’ self-efficacy on academic performance.
A study carried out by Muchiri (2012) found that learner support systems affect learning self-efficacy, which affects performance. She conducted the study on the construction and evaluation of the effectiveness of a needs-based learner support system in the School of Continuing and Distance Education, University of Nairobi. The study analyzed the expressed learner support needs of distance learners and a prototype learner support system based on the expressed learner needs. The effectiveness of the learner support system was evaluated. The respondents were satisfied with the learner support system. The study found that learner support services affect student satisfaction, and learner's self-efficacy. The study recommended that there is need for tailoring learner support services to be responsive to the needs of learners. This study however did not establish the influence of the learner support system on academic performance, which was investigated in the current study.

An investigation on challenges facing open and distance students in the use of learner support services provided by the Kenya Institute of Special Education at Migori Regional Centre by Otwoma (2010) established that although there was adequate tutoring support except in the area of giving feedback on continuous assessment tests to students, library support services were inadequate and, guidance and counseling services were seldom in the regional centres. This study did not however establish the influence of learner support system on academic performance which was to be established in the current study.

1.2 Statement of the problem
The Kenya Vision 2030 is the country’s development blueprint covering the period 2008-2030. Its objective is to provide a high quality of life to all its citizens by the year 2030. To achieve the Kenya Vision 2030, Science Technology and Innovation (STI) is considered to be
crucial. The vision proposes intensified application of STI to raise productivity and efficiency levels in all areas of development in Kenya (social, economic, political). One of the main goals in education highlighted in the Kenya Vision 2030 is to reduce illiteracy, increase access, improve transition rates, achieve an 80% adult literacy rate and to increase the school enrolment rate to 95%. It also aims at increasing the transition rates to technical institutions and universities from 3% to 8% by 2012. In the vision, public and private universities are encouraged to expand enrolment, with emphasis on science and technology courses. An effective strategy of increasing access, transition and literacy is through encouraging distance learning mode of study, since more students can enroll with minimum strain to educational institutions.

There are limited empirical studies conducted in regard to the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students. Addressing these factors is essential to the successful implementation of distance learning mode of study in universities in Kenya. It is important to note that most of the studies conducted in the area of academic performance of distance learning students were mainly based in developed countries (Russel, 2002; King & Doerfert, 1995; Johnson & Shaik, 2002, Carmel & Gold, 2007), and therefore the findings are not necessarily applicable to a developing country like Kenya.

Majority of the studies in relation to distance learning mode of study in Kenya have focused on issues other than academic performance. An assessment of e-learning as course delivery method in public universities in Kenya was done by Njagi (2012), the influence of institutional and human factors on the readiness to adopt e-learning in secondary schools in Kitui District was done by Mulwa (2012), Keiyoro (2010), investigated the factors influencing the effective use of
ICT in teaching and learning Science curriculum in Kenyan secondary schools, while, the effectiveness of a needs-based learner support system in the school of Continuing Education at the University of Nairobi was evaluated by Muchiri (2012). Wambua et. al (2012) investigated the preparedness of students for ICT based learning in Kenyan Universities while, Tarus, Gichoya and Muumbo, (2015) investigated the challenges of implementing eLearning in Kenya.

The limited research in the area of academic performance of distance learning students in Kenyan universities has created doubt in regards to the effectiveness of distance learning mode of study in producing graduates who are as qualified compared to those who study through the conventional mode of study. There is skepticism in Kenya on the quality of learning achieved through this mode of study (Wambuugu, 2012). The number of students enrolled in distance learning programmes in Kenya is low, (19, 038) compared to overall university enrolment (536,000), Nyerere, (2016). This study investigated the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students in selected Kenyan public universities. Specifically, the influence of learner support system, curriculum resources, instructional techniques and learners’ self-efficacy, on academic performance of distance learning students was studied.

1.3 Purpose of the Study
The purpose of this study was to establish the combined influence of institutional factors and learners’ self-efficacy on the academic performance of distance learning students in selected Kenyan public universities.

1.4 Objectives of the Study
The objectives of this study were to:
1. Determine the influence of learner support system on academic performance of distance learning students in selected Kenyan public universities.

2. Establish the extent to which curriculum resources influence academic performance of distance learning students in selected Kenyan public universities.

3. Determine in what ways instructional techniques influence academic performance of distance learning students in selected Kenyan public universities.

4. Determine the combined influence of institutional factors and learners’ self efficacy on academic performance of distance learning students in selected Kenyan public universities.

5. Establish the moderating influence of learners’ self efficacy on the relationship between institutional factors and academic performance of distance learning students in selected Kenyan public universities.

1.5. Research Questions

1. How does the learner support system influence academic performance?

2. To what extent do curriculum resources influence academic performance?

3. In what ways do instructional techniques influence academic performance?

4. To what extent does the combination of institutional factors and learners’ self efficacy influence academic performance?

5. To what extent does learners’ self efficacy moderate the relationship between institutional factors and academic performance?

1.6 Research Hypotheses

The following hypotheses were to be tested:
Hypothesis H₁ There is no relationship between learner support system and academic performance

Hypothesis H₂ There is no relationship between curriculum resources and academic performance

Hypothesis H₃ There is no relationship between instructional techniques and academic performance

Hypothesis H₄ There is no relationship between a combination of institutional factors and learners’ self efficacy and academic performance.

Hypothesis H₅ Learners’ self efficacy does not moderate the relationship between institutional factors and academic performance.

1.7 Significance of the Study
It is hoped that the research findings of this study will contribute towards development of policies in the field of distance education. Understanding the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students may assist universities in determining what resources to be allocated towards the support of distance learning programmes. In particular, the findings may inform the implementation of the proposed Open University of Kenya. Kenyan Universities may utilize the findings to assess the quality of learner support systems, curriculum resources, instructional techniques and learners’ self-efficacy in regards to academic performance of distance learning students. It is hoped that the findings will also contribute towards the achievement of Kenya Vision 2030 by reducing illiteracy, increasing access, improving transition rates, improving adult literacy rate and increasing the university enrolment rate. This may be done by adopting the strategies and methods utilized in the selected Kenyan public universities.
1.8 Delimitation of the Study
This study was restricted to University of Nairobi and Kenyatta University which were the selected Kenyan public universities. These two universities have well established directorates of distance learning mode of study, with elaborate policies on learner support systems, provision of curriculum resources, instructional delivery techniques and learner characteristics, which are variables being studied in this study. They have offered distance learning programmes for more than 10 years. Only the academic performance of distance learning students was investigated in relation to institutional factors and learners’ self-efficacy. The study was restricted to this measure alone since this is the best known and acceptable measure of output quality. This study adopted ex post facto design which is a type of research that observes relationship and effects between the dependent variable (s) and the independent variable (s). This design was selected because the researcher did not have direct control of the independent variables because their manifestations had already occurred and they were inherently not manipulable. Although several instruments could have been used, the researcher only used interviews, questionnaires, document analysis and the instrument for measuring academic performance because they were considered effective in collecting the quantitative and qualitative data essential for this study. Both quantitative and qualitative data analysis techniques were used.

1.9 Limitations of the study
In the course of conducting this study, it was not possible to control the attitudes of the respondents. This was minimized by establishing rapport with respondents. The instruments themselves constituted a limitation in that no particular instrument can be regarded as totally absolute. The use of four different tools (interviews, questionnaires, questionnaire for measuring academic performance and document analysis technique) of collecting data minimized this
limitation. Distance learners were in dispersed regions in Kenya. Getting access to them was a challenge. This limitation was overcome by working with centre coordinators, lecturers and student representatives.

1.10 Assumptions of the Study
The following assumptions were held for this study; the University of Nairobi and Kenyatta University had relatively equal resources because they receive funds from the government, the entry level of the students in these universities was the same because the admission criteria were based on the guidelines by Kenya Universities and Colleges Central Placement Service, the selected sample was representative of the target population, the study population was normally distributed and, the results could be generalized to the entire population.

1.11 Definitions of Significant Terms used in the study.

**Academic Performance:** is the cumulative mean score of distance learning students attained by the end of the first semester of third year.

**Distance Education:** It is institution based formal education which depends on interactive telecommunication systems that are used to connect learner, resources and instructors.

**Distance Learning Students:** They are learners enrolled for studies away from the physical university premises

**Distance mode of learning:** It is a mode of learning where the facilitator and the learner are separated in time or place, or both time and place. Training through this mode of delivery is self-paced in relation to the individual learners. A variety of media are used such as, print, audio and audio-visual. Both facilitators and learners interact as much as possible (online), as it is the case in a traditional class.
**Institutional Factors:** Institutional factors in this study are factors within the institution which influence student academic performance. They constitute (1) learner support system (academic support, guidance and counseling, and administrative support services), (2) curriculum resources; this refers to instructional materials (print/electronic or both or multi media) and library resources (collection of articles, textbooks, audio cassettes, video cassettes) which are aimed at supporting a course of study, and (3) instructional techniques; this refers to course delivery methods used by instructors/lecturers to organize and communicate the course content which include discussions, problem solving and case studies.

**Instructional materials:** These are learning materials. They are more substantial than handbooks but less labour intensive than interactive textbooks. They are commonly used in conjunction with other learning materials such video cassettes, audio cassettes, articles, textbooks, and broadcast programmes.

**Learner support services:** The learner support system is the holistic non subject assistance provided to every learner by an institution other than generic teaching. It involves offering services such as mentorship, academic advisory, personal counseling, career services and, administrative support at convenience of learners.

**Lecturer/facilitator/tutor/instructor:** An individual who has been hired on full-time or part-time basis to give instruction to registered students

**Self-efficacy:** it refers to a student’s convictions/confidence that he/she can successfully perform given tasks at designated levels. It is a student’s perceived confidence to successfully perform a particular academic task.
1.12 Organization of the study

The study is organized in five chapters. Chapter one consists of background to the study, statement of the problem, purpose of the study, objectives, research questions, hypotheses significance of the study, delimitations of the study, limitations of the study, assumptions, definitions of significant terms and organization of the study. Chapter two consists of the concept of distance learning, the academic performance of distance learning students, learner support system and academic performance of distance learning students; curriculum resources and academic performance of distance learning students; instructional techniques and academic performance of distance learning students, learners’ self efficacy and academic performance of distance learning students and it also includes the theoretical and conceptual frameworks. Chapter three gives a description of the study design, study population, sampling procedures and sample size. It describes the instruments that were used for data collection, piloting of data collection tools, validity, reliability, the methods of data analysis, ethical considerations, operational definition of dependent and independent variables, and, hypotheses and test criteria. Chapter four presents the data analysis, presentation, interpretation and discussion. It is arranged as follows; response rate and demographic of the unit of the study; tests for assumption of regression analysis; descriptive statistics of the variables used in the study; results of tests of hypotheses corresponding to the objectives of the study and; discussion on findings of the study. Chapter five presents information in the following sub headings; summary, conclusion, and, recommendations for the whole study.
CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presents a review of related literature under the following themes; the concept of
distance learning mode of study; academic performance of distance learning students;
Institutional factors and academic performance of distance learning students; learner support
system and academic performance of distance learning students; curriculum resources and
academic performance of distance learning students; instructional techniques and academic
performance of distance learning students; learners’ self efficacy; academic performance of
distance learning students, theoretical framework and conceptual framework and summary of
research gaps.

2.2 The Concept of Distance Learning

Distance learning is a global phenomenon. It is a mode of learning which is different from the
conventional mode of study. It takes place when the learner and the teacher are separated by
time, distance or both. Distance learning occurs through print media, power point, multimedia
(audiotape, videotape, computer based learning), tele-learning (audio teleconferencing, video
conferencing, television and radio) or, through internet – based access. This mode of learning
involves the planning for the learner support system, curriculum resources and instructional
techniques. The distance learning mode of study can be traced back to Paul’s epistles (written in
the first century AD) which were well written texts. They met the interests of the audience,
elements considered crucial in the distance learning mode (Daniels, 2004). Since then, distance
learning mode of study has continued to be globally recognized as a legitimate and effective
mode of study. The benefits which accrue to both individuals and the society as a result of education have increased the demand for education (Pandor, 2007). This demand has made the conventional mode of learning ineffective in meeting the need for education in universities. The distance learning mode of study attracts mainly students who are above 25 years, who are self-directed with prior college experience and family responsibility, with an intention to reach higher socio-economic status (Keegan, 1996; Knowles, 1984).

Distance learning mode of study gives flexibility to learners by enabling them study despite distance from the university and at a pace suited to their individual learning styles. It is recognized as a vehicle through which educators use to reach many people, especially those who are not able to participate in educational institutions, through conventional mode of study (Hwang, Yang and Kim, 2010). It has been accepted as an appropriate mode of study contributing to both social and economic development. There is rapid growth in the adoption of distance learning mainly due to the need to continually upgrade skills, and, due to rapid growth in technology. Through internet and world-wide web, learners are able to get various sources of knowledge which lead to self-development. Distance learning enhances individualized learning and it is cost effective since accommodation and transport cost are reduced. (UNESCO, 2004)

In spite of the numerous advantages associated with distance learning mode of study, it faces a number of limitations namely; some students may have problems comprehending scientific oriented courses due to separation between the learner and instructor, difficulties experienced by students in the process of learning may be shelved until a residential session or during a group discussion, lack of access to library and counseling resources, less developed skills in oral
presentations, interpersonal skills, conflict resolution, team building and leadership. Most of these limitations are associated with inadequate student-lecturer contact, negative attitude of lecturers, inadequate literacy in ICT, social responsibilities and work-related obligations, inadequate curriculum resources, ineffective instructional delivery techniques and learner characteristics (Muchiri, 2012; Wambugu, 2012; Wambua, Mwaniki & Kibaara, 2012; Gakuu, 2006; Mulwa, 2012; Keiyoro, 2010; Njagi, 2012).

The conventional mode of study is the traditional classroom learning in which the teacher/instructor and students are present. It is also referred to as on-campus learning or face to face mode of learning. It is considered as the universally accepted approach for knowledge acquisition in schools, colleges and universities (Tsolakidis, 2000; Ding, 1999). It is not a flexible mode of study because only those who have the time and are able to attend class as scheduled can participate. Conventional mode of study is the most accepted form of learning grounded on the premise that students have a lot to learn from the instructor. It is characterized by discussions, lectures, seminars, practical lessons, field trips, and periods of study in library or resource centres. It is however considered to be 50% more expensive than distance learning mode of study, and, it cannot meet the increasing demand for access to universities. It has been criticized because the instructors over rely on yellowed notes year after year. It is considered to encourage passive learning and, ignoring individual differences and needs of learners. Instructors have also been criticized for not paying attention to higher levels of thinking skills as they train students (Daniel, 1996).
Alternative ways of providing education are therefore explored by governments in both developed and developing countries to resolve the challenges of equity, quality and access to education. In developed countries, the distance mode of learning is considered as effective as the conventional mode of study (Russel, 2002; King&Doerfert, 1995; Johnson& Shaik, 2002, Carmel& Gold, 2007). In Africa, there is an ever increase in population growth which consequently increases the need for equity, quality and access to education. However, the growth of educational institutions in Africa is not commensurate to the population growth. The nations of Africa consider the distance learning mode of study as an effective strategy for resolving the challenges of equity, quality and access to education (Muchiri, 2012; Wambugu 2012)

In Kenya in particular, a number of strategies for resolving the challenges of equity, quality and access to education have been adopted such as promoting Open and Distance Education and Virtual institutions, (Sessional Paper No.1 of 2005 on a policy Framework for Education, Training and Research). The Kenya Education Sector Support Programme, (KESSP) 2005-2010(2005) emphasizes the need for use of ICT in education and the development of e-learning delivery systems. The National Strategy for University Education (2008) emphasizes the need to increase access, equity and quality in education through promoting the use of Information Communication Technology.

2.3 Academic performance of distance learning students
The issue of quality in educational services offered in institutions of higher learning is of great concern to scholars. Over the years, there has been debate as to whether the distance learning (DL) students perform as well as conventional students. Measurement of the academic achievement of students is often a difficult and a challenging one because education results in
transformation of knowledge, life skills and behavior. However, academic performance, frequently defined in terms of examination performance, is considered one of the most important determinants of academic performance (Kyoshaba, 2009). Academic performance ultimately impacts on career choice, personal income, and nature of participation in community life (Benford & Gess-Newsome, 2006; Battle & Lewis, 2002).

Studies have been conducted since early 1920s to compare academic performance of students pursuing studies through various modes. Russell (2002) came up with No Significance Difference (NSD) phenomenon. He collated a bibliography of 355 researches for the period 1927-1977 in the USA alone. The results of the researchers indicated that there was no significant difference in academic performance of students who studied through distance learning mode of study and the conventional mode of study. A descriptive experiment was carried out by King and Doerfert (1995) on 112 Bachelor of Arts students. He studied students enrolled in courses delivered by distance learning mode of study and the conventional mode of study. The findings showed that there was no significance difference in academic performance of students pursuing studies through the different modes. The studies were based in USA and therefore the results may not be replicated in Kenya.

Another investigation carried out by Aragon, Johnson and Shaik (2002) on the differences between academic performance and students' perception on the quality of Community Health Course offered through video conferencing and through conventional mode of learning. DL students reported that they felt they had learned just as much as their conventional learning counterparts. The academic performance showed no significant difference between students of
the two modes of study. The studies were based in USA and therefore the results may not be replicated in Kenya. Carmel and Gold (2007) studied the relationship between the mode of learning and the level of students’ Grade Points Average (GPA), satisfaction and retention achieved by students attending either modes of study. The results indicated that there was no statistically significant difference between the academic performances of students pursuing studies through the two modes of study. Some studies indicate that distance learning students perform better than conventional students (Bailey, et.al., 2018).

In Africa, there is limited research that has been done by scholars comparing the academic performance of students pursuing studies through DL mode of study and the conventional mode of study. The findings have been contradictory, with some indicating that there is a significant difference while others found that there is no significant difference in academic performance of students pursuing studies through DL and conventional mode of learning. A study by Magagula and Ngwenya (2004) on the comparison of the academic performance of students pursuing studies through the two modes of study at the University of Swaziland showed that distance learning students consistently performed better than conventional learning students in Academic Communication Skills (ACS), History, African Languages, Geography and in English. However, the conventional students performed better than the DL students in Theology. The reasons for the contradictory results were however not established.

In Kenya, studies have yielded contradictory results. A study by Mboroki (2007) found that there was parity of performance in Teaching Practice between students pursuing studies through the conventional mode and those who pursue through the DL mode at the University of Nairobi.
Another study by Mutonga (2011) on comparison of students under conventional and distance learning modes of study, registered for the Community Health Nurse Upgrading programme in Kenya, indicated that there was a significant difference in performance between students studying through the conventional mode of study and the distance learning mode of study. The conventional learning students performed better than those studying through the distance learning mode. There was therefore need to investigate the combined influence of institutional factors and learners’ self efficacy on academic performance of distance learning students in order to improve the quality of their academic performance.

2.4 Institutional factors and academic performance of distance learning students
Institutional factors in distance learning constitute the environment within the institution specifically designed to enhance the teaching and learning process. There are three main subsystems that institutions should plan for in implementation of distance learning mode of study (Open University of Kenya: Blue print for the establishment of the Open University of Kenya, 2010). One of the subsystems is the learner support system. This includes the provision of academic support, guidance and counseling and administrative support. The other subsystem is the provision of curriculum resources. This includes the development, production and distribution of programmes, courses, materials to learners. Lastly, there is the management aspect which focuses on leadership, planning and quality assurance. The institutional factors which this study investigated were learner support system, curriculum resources and instructional techniques.

2.5 Learner support system and academic performance of distance learning students
Learner support is the assistance provided to every learner by an institution other than generic teaching materials. It is the holistic non subject based support given to learners. It involves
offering services such as tutoring, mentorship, academic advisory, guidance and counseling, career, library and administrative services at convenience of learners. It enhances enrolment, retention, transition of students and, it assists in intellectual and personal growth which contributes to academic success. The lack of quality learner support services can sabotage the learning process (Muchiri, 2012; Usun, 2004).

According to the University of South Africa (2014), learner support is the provision of tutoring services. It also includes counseling and the organization of study centres. From the emotional perspective, learner support creates attachment to the institution which reduces the feelings of isolation among DL students. Academically, it provides feedback which enhances performance. It ensures that the special needs of learners are met. Several studies indicate that faculty is the most influential in regards to provision of learner support services (Jagero, 2013; Mulwa 2011; Gakuu, 2006; Muchiri, 2012). The investigations found out that effectiveness of faculty in influencing the student academic performance depends on different factors namely; availability by faculty for student consultation, availability by faculty for student academic advising, giving of timely feedback to students and attitude.

Different studies carried out in Africa indicate that learner support systems among students pursuing studies through distance mode of study are inadequate. A study by Aluko (2007) compared education programs of distance learning students and conventional students at the University of Pretoria in South Africa. Her study found that DL students felt that their experiences were inferior to those of conventional students because of ineffective learner support system. Seyoum (2008) studied stakeholders’ perceptions and concerns on open and distance
education in universities in Eastern Ethiopia and found out that class sizes and heavy workloads imposed on tutors affected their availability to students for consultation thus influencing success of DL mode of study. These studies however did not establish the influence of learner support system on academic performance, which was investigated in the current study.

Studies conducted in Kenya in relation to learner support system have mainly concentrated in the University of Nairobi. The studies have indicated that the learner support system is inadequate. A study conducted Wambugu (2012) on a comparative analysis of academic performance of Bachelor of Education (Science) students pursuing studies through distance and conventional modes of study at the University of Nairobi and found that the conventional students performed significantly higher than the DL students in Chemistry, Biology and in Teaching Practice. The same study however found that there was no significant difference between DL and conventional students in Physics. The study found that lack of interactivity between faculty and the students was a major contributor to the difference in performance of students in the two modes of study. The researcher recommended that learner support systems need to be strengthened in universities.

Similar recommendations were made by Mwaura (2010) whose findings indicated that learner support services were not prioritized at the University of Nairobi. The study was on factors influencing perceived affective provision of learner support services in distance education. Distance learning students said that personal consultation on academic and personal matters, feedback and return of marked assignments, and guidance and counseling support were dissatisfying. An investigation by Muchiri (2012) on the construction and evaluation of the
effectiveness of a needs-based learner support system in the school of Continuing and Distance Education, University of Nairobi, indicated that there was need to strengthen learner support services for DL students. The study analyzed the expressed learner support needs of distance learners and a prototype learner support system based on the expressed learner needs was constructed. The effectiveness of the learner support system was evaluated. The respondents were satisfied with the learner support system. The study found that learner support services affect student satisfaction, and learner’s self-efficacy. The study recommended that there was need for tailoring learner support services to be responsive to the needs of learners. This study however did not establish the influence of the learner support system on academic performance, which was investigated in the current study.

Although most of the studies conducted in the University of Nairobi did not establish the influence of the learner support system on academic performance, a study by Bowa(2008) revealed that most of the cognitive, affective and systemic learner support services did not contribute significantly to academic performance of learners because the services were either not adequately provided or because learners lacked access to the services. He established this through his study on the influence of the learner support services and learner characteristics on academic performance of Bachelor of Education(Arts) learners in the School of Continuing and Distance Education at the University of Nairobi.

Studies carried out in other institutions in Kenya in regards to learner support system have revealed that the services are inadequate. Muketha(2010) indicated that tutoring support was not adequate in University of Nairobi. This study however focused on students’ perception of learner
support system while the current study focused on the influence of the learner support on the academic performance. An investigation by Otewoma(2010) on challenges facing open and distance students in the use of learner support services provided by the Kenya Institute of special Education at Migori Regional Centre, found out that guidance and counseling services were seldom provided. This study did not however establish the influence of learner support system on academic performance which was established in the current study.

2.6 Curriculum resources and academic performance of distance learning students

Curriculum resources are concrete objects used during teaching (Agina-obu, 2005). According to Keegan (1996), one of the critical characteristics of the distance mode of learning is the planning, preparation, production and distribution of instructional materials. The materials can be print, audiovisual or audio. The instructional materials are print materials used for course packages. Keegan (1996) explains that instructional materials should be easy to read, meet diverse needs of learners, be carefully structured, and have self-testing questions, clear instructional objectives, model answers and typographical considerations. According to Mwaura (2010), instructional materials should be flexible in meeting diverse needs of learners, accessible any time, aligned to the learning outcomes, experiential oriented(meaning that they should enhance transfer of skills to experiences), they should enhance collaboration, be learning oriented, they should support different learning activities, and, they should help learners select and reconstruct meaning. They should be technology based. The current study investigated the access, adequacy and satisfaction in use of library resources and, availability, relevance and satisfaction in use of instructional materials.
Different studies indicate that there is a significant relationship between curriculum resources and academic performance (Adetoro & Adekunle, 2013; Jagero, 2013). A study carried out by Musau and Migosi (2013) found that girls’ achievement in classes with adequate SMT (Science, Mathematics and Technical Subjects) curriculum resources performed better than those with few or no resource materials. The high value of correlation coefficient (0.826) suggests that there is a strong linear relationship between the availability of curriculum resources and the girls’ achievement in SMT subjects. The current study focused on the university level.

Since the learners who study through the distance learning mode of study are self-regulated, the instructors should provide appropriate curriculum materials to enable them construct learning (Goulao, 2012). A study on stakeholders’ perceptions and concerns on open and distance education in higher institutions in Eastern Ethiopia by Seyoum (2008) revealed that late distribution of instructional materials to students affected the success of DL mode of delivery. The study did not however establish the influence of curriculum resources on academic performance which was established by the current study. The importance of curriculum resources was supported by Moore (1996) who explained that provision of curriculum resources determined the academic performance of students.

2.7 Instructional techniques and academic performance of distance learning students

Instructional techniques are methods used by instructors to organize course content, in order to achieve a particular learning outcome. This is a significant factor which affects academic performance. Available research findings indicate that students, who have a positive perception about the instructional techniques, are likely to perform higher than those with a negative
perception. Effectiveness of instructional techniques is judged by students’ perception of the experience as useful, productive, informative, satisfying or worthwhile. (Hannay&Newvine, 2006; Theall& Franklin, 1990). Distance learning mode of study occurs through print media, power point, multimedia (audiotape, videotape, computer based earning), tele-learning (audio teleconferencing, video conferencing, television and radio) or, through internet –based access. Distance learning relies heavily on Information Communication Technology for instructional delivery. Distance learning instructional techniques used in delivery of distance learning programmes include discussions, problem solving and case studies.

Majority of the studies in relation to distance learning mode of study in Kenya have focused on the use of ICT in learning rather than instructional techniques. Njagi (2012) assessed e-learning as course delivery method in public universities in Kenya, Mulwa (2012) investigated the influence of institutional and human factors on the readiness to adopt e-learning in secondary schools in Kitui District, Keiyoro (2010) investigated the factors influencing the effective use of ICT in teaching and learning Science curriculum in Kenyan secondary schools, and, Wambua et.al(2012)investigated the preparedness of students for ICT based learning in Kenyan Universities. There was therefore need for a study to establish in what ways distance learning instructional techniques influence academic performance of distance learning students.

2.8 Learners’ self-efficacy and academic performance of distance learning students
Learner factors constitute learner characteristics which influence academic performance. Personal characteristics of students are critical factors influencing the performance of distance learning students. One of the key factors affecting learning is self-efficacy. It refers to a student’s convictions that he/she can successfully perform given tasks at designated levels. It is a student’s
perceived confidence to successfully perform a particular academic task (Bandura, 1997). High self-efficacy increases student persistence to master challenging academic tasks by fostering efficient use of acquired knowledge and skills (Zajacova, Lynch and Espenshade, 2005; Johan, Valcke and Cai, 2009).

The relationship between self-efficacy and academic performance is of interest to many scholars. Scholars generally agree that self-efficacy is strongly related to one’s academic performance. Learners with high self-efficacy are optimistic, have got high expectations and are committed to remain in school (Chemers, Hu & Garcia, 2001). There is a positive correlation between self-efficacy and academic performance in Research Methods and Statistics (Li, 2011). Students with a higher self-efficacy are more committed in their academic work (Valle et al., 2009). A strong relationship exists between both test anxiety and self-efficacy and, between self-efficacy and exam grades (Barrows, Dunns & Lloyd, 2013; Abdi et al., 2012; Adewuyi, Taiwo & Olley, 2012). Academic self-efficacy reliably predicts performance. It successfully helps one to perform academic tasks such as doing assignments (Zajacova, Lynch & Espenshade, 2005). There is a strong relationship between self-efficacy and academic performance of adult learners in online context (Goulao, 2014). Studies have also revealed that there is a statistical significant relationship between performance and self-efficacy (Bates and Khasawreh, 2007; Cascio et al., 2013).

Most studies on the topic of self-efficacy have been conducted in developed countries, particularly in USA. However, due to differences in social-cultural norms, the findings of the studies may not be useful in explaining the case of Kenya. Majority of the studies have mainly
been limited to face to face learners. The combined influence of institutional factors and learners’ self efficacy has not been a focus of majority of the studies.

2.9 Theoretical Framework
The philosophical foundation of this study is based on an overlap of three schools of thought; constructivism, social cognitive and system’s theories.

2.9.1 Constructivist Theory
Constructivists see knowledge as being constructed by the learner based on experiences (Miller, 2000). In this study, learners construct knowledge based on the institutional environment and personal factors. Instructional techniques used should enable the learner to discover and construct knowledge. Constructivists advocate for learner centered approaches in education. Methods of teaching such as case studies and problem solving are prioritized. Learner centered approach in teaching and learning process is preferred because the learner regulates learning while the teacher is the facilitator. Distance learners are self regulated and they construct knowledge based on the experience from the environment. Institutional factors (learner support system, curriculum resources and instructional techniques) need to be so well planned because they play significant role in the performance of distance learning students.

2.9.2 Social Cognitive Theory
This theory has best been articulated by Bandura (1986). He explains that human behavior is shaped by both personal and environmental factors. The theory explains that observational learning, reinforcement, self control and self efficacy are critical in the learning process. Self efficacy includes goal-setting and self-monitoring. In this study, a learner’s self efficacy is considered a critical learner factor which impedes or promotes the academic performance of students. In this study, environmental factors are the institutional factors which affect the
performance of students. They include learner support systems, curriculum resources and instructional techniques. Since distance learning mode of study is largely self directed, learners’ self efficacy influences the academic performance to a great extent. Learners’ self efficacy is therefore considered a moderating variable in the study. However, this theory does not explain how interactions within the institution contribute to the achievement of the expected output.

2.9.3 Systems Theory
Proponents of the system’s theory argue that interactions within an institution contribute to the output. The theory states that schools are social systems with different activities, elements and sub systems which all interact to contribute to the social entity. The parts of the system operate together to achieve common objective(s), goals, or common purposes (Getzel’s, 1968; Robbins, Chatterjee, & Canda, 2006). The assumption of the systems theory is that institutions move, interact and change like living organisms do. Any movement, change or interaction affects the entire institution (Getzel’s, 1968; Robbins, Chatterjee, & Canda, 2006).

In this study, the learner support systems, curriculum resources, instructional techniques and learners’ self efficacy are the inputs in universities. Learners’ self efficacy influence factors within the environment and the academic performance. Learners’ self efficacy influences the activities that take place within the institution. Institutional factors in this study are the independent variables. They include learner support system, curriculum resources and instructional techniques which affect the output, which is the academic performance (dependent variable). The interaction in the system involves the teaching/learning process which is greatly influenced by learners’ self efficacy (moderating variable). The focus of this study was on the
influence of learner support system, curriculum resources and instructional techniques, on the academic performance. The moderating influence of learners’ self efficacy on institutional factors and academic performance was studied too.

2.10 Conceptual Framework: Using the University as an Input-Output System

Although there are different school outputs such as discipline and good citizenry, the quality of the output of an educational system is measured by results of examinations of given standards. Examination results are an indication of the change that has occurred in the students since based on behavioral theory, learning results in observable change in behavior. Examination results of the students studying through the distance learning mode of study is the dependent variable of this study.

The change in behavior is influenced by a number of factors. Constructivists see knowledge as being constructed by the learner based on experiences. In this study, learners construct knowledge based on the institutional environment and personal characteristics. The learner support system, instructional techniques and curriculum resources have got to be so well planned such that they enhance construction of knowledge by the learners. According to the cognitive theory, the use of techniques that support and motivate different learners is crucial to acquisition of knowledge, skills and values. Therefore, the learner support system, instructional techniques and curriculum resources put in place by universities should support and motivate learners studying through distance learning mode of study. The influence of learner support system, instructional techniques and curriculum resources on student academic performance will be tested in hypotheses H₁, H₂, H₃ and H₄.

According to Bandura (1986), self efficacy is critical in the learning process. Self efficacy influences the learner’s ability to solve difficult problems, the certainty in accomplishing goals
and the ability to manage time well. Learners with high levels of self efficacy trust their abilities and they imagine a successful outcome which leads them to perform better (Bandura, 1993). These values influence the learner’s use of learner support systems, instructional techniques and curriculum resources which affect the learner’s performance. The learner’s self efficacy influences the academic performance. The learner’s self-efficacy is therefore considered the moderating variable in this study. It will be tested in hypothesis H5. Getzel’s (1968) system’s theory explains how interactions within an institution contribute to the output. In this study, the learner support systems, curriculum resources, instructional techniques, learner’s self efficacy are the inputs in universities which interact to produce the output which in this study is the academic performance of distance learning students.
Institutional Factors

- H1
  - Independent variables
    - Learner Support System
      (a) Academic support
      (b) Guidance and Counseling support
      (c) Administrative support

- H2
  - Curriculum Materials
    (a) Library resources
    (b) Instructional Materials

- H3
  - Instructional Techniques
    (Discussions, case studies, problem solving)

Dependent variable

Academic Performance of third year B. Ed (Arts) Distance Learning Students
Cumulative mean score by the end of 1st Semester of Third Year
2.8 Summary of Literature
The literature reviewed has shown that due to the benefits which accrue to both individuals and the society, there is a rise in demand for education globally. This rise in demand for education has led to the need for alternative ways of providing education because the conventional mode of study cannot meet this demand. Distance learning mode of study has been recognized in the developed countries as effective as the conventional mode of study but there is still skepticism about its effectiveness in Africa. According to reviewed literature, numerous studies have been carried out to find out factors which influence academic performance. Institutional and learner factors have been found to be key determinants of academic performance of students. Among the institutional factors, learner support system, curriculum resources and instructional techniques have been considered key predictors of academic performance. Among the learner factors, learners’ self-efficacy is considered a key determinant of academic performance of students. From the reviewed literature, a number of gaps were identified. Most of the studies carried out in Kenya focused on variables other than academic performance. Academic performance was the dependent variable which was investigated in this study.
## 2.9 Summary of Research Gaps

### Table 2.1 Summary of Research Gaps

<table>
<thead>
<tr>
<th>Research by</th>
<th>Title of the study</th>
<th>Findings</th>
<th>Research Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowa (2008)</td>
<td>The influence of the learner support services and learner characteristics on academic performance of B.ed(Arts) learners in the School of Continuing and Distance Education at the University of Nairobi</td>
<td>The study revealed that most of the cognitive, affective and systemic learner support services did not contribute significantly to academic performance of learners because the services were either not adequately provided or because learners lacked access to the services.</td>
<td>This study did not however establish the combined influence institutional factors and learners’ self efficacy on the performance of DL students.</td>
</tr>
<tr>
<td>Muchiri(2012)</td>
<td>Construction and Evaluation of the effectiveness of a Needs-based Learner Support System in the school of Continuing Distance Education, University of Nairobi.</td>
<td>The study found that there is need for learner support services to be tailored and be responsive to the needs of learners.</td>
<td>This study however did not establish the influence of the learner support system on academic performance, which was investigated in the current study.</td>
</tr>
<tr>
<td>Mulwa (2011)</td>
<td>The Influence of Institutional and Human Factors on the Readiness to Adopt E-learning: The case of secondary schools in Kitui District-Kenya.</td>
<td>The study established that internet connectivity, access to source of energy and e-equipment, and academic achievement of teachers and, the personal characteristics of teachers and students were critical factors influencing the adoption of e-learning in schools.</td>
<td>The study focused on the readiness to adopt e-learning in secondary schools but the current study concentrates on the combined influence of institutional factors and learners’ self efficacy on academic performance in selected Kenyan Universities.</td>
</tr>
<tr>
<td>Onyango (2012).</td>
<td>Influence of Institutional Capacity on Academic Performance of Students in Public Secondary Schools in Usigu Division, Bondo, Kenya.</td>
<td>The study found out that low academic performance in the division was due to inadequacy of most physical facilities</td>
<td>The study utilized descriptive research design which is considered inadequate. The focus was on secondary schools while this research focused on institutions of higher learning</td>
</tr>
<tr>
<td>Oye et.al (2012)</td>
<td>The use of e-learning on student academic performance in the University of Technology of Malaysia.</td>
<td>The results indicated that perception and attitude towards e-learning determine academic performance.</td>
<td>The current study however focused on the influence of institutional factors and learners’ self efficacy on academic performance of students.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Summary</td>
<td>Notes</td>
</tr>
<tr>
<td>-----------</td>
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</tr>
<tr>
<td>Seyoum(2008)</td>
<td>Stakeholders’ perceptions and concerns on open and distance education in higher institutions in Eastern Ethiopia</td>
<td>Thirty tutors and 10 program coordinators participated in the study. The results indicated that large class sizes, heavy workloads imposed on tutors and late distribution of modules to students affected the success of DL mode of delivery.</td>
<td>This study did not however establish the influence of curriculum resources on academic performance.</td>
</tr>
<tr>
<td>Wambugu (2012)</td>
<td>A Comparative Analysis of Academic Performance of Bachelor of Education (Science) Distance and on-Campus learners at the University of Nairobi.</td>
<td>The study found that lack of interactivity between faculty and the students was a major contributor to the difference in performance of students in the two modes of study in which conventional students performed significantly higher than DL students.</td>
<td>The researcher recommended that learner support systems need to be strengthened in universities. The current research established the influence of learner support system on academic performance.</td>
</tr>
<tr>
<td>Aluko(2007)</td>
<td>Comparison of distance and conventional education programs at the University of Pretoria, South Africa. This study measured the perceptions of students in the two modes of learning.</td>
<td>His study found that DL students felt that their experiences were inferior to those of conventional students because of ineffective learner support.</td>
<td>The study did not establish the combined influence of institutional and learners’ self efficacy factors on student academic performance which was investigated in the current study.</td>
</tr>
<tr>
<td>Chemers,Hu and Garcia(2001)</td>
<td>Academic Self Efficacy and First Year College Student Performa and Adjustment</td>
<td>The study revealed that academic self efficacy and optimism were related to classroom performance, personal adjustment, stress, and health.</td>
<td>This study was done in USA. The results cannot therefore be replicated in Kenya.</td>
</tr>
<tr>
<td>Li(2011)</td>
<td>The attitude, self efficacy, effort and academic achievement of CityU students towards Research Methods and Statistics</td>
<td>The study found that there was a positive correlation between self efficacy and academic achievement in Research methods and statistics</td>
<td>This study was done in Hong Kong. The results cannot therefore be replicated in Kenya.</td>
</tr>
<tr>
<td>Barrows, Dunns and Lloyd (2013)</td>
<td>Anxiety, Self Efficacy and College Exam Grades</td>
<td>The study established that there was a strong relationship between test</td>
<td>This study was done in USA. The results cannot therefore be replicated in Kenya.</td>
</tr>
</tbody>
</table>
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
This chapter describes the methodology that was applied in carrying out this study. Methodology is defined as a collection of methods, procedures and techniques that guide research. The chapter gives a description of the research paradigm, research design, target population, sampling procedures and sample size. It describes the instruments that were used for data collection, piloting of data collection tools, data collection procedures, the methods of data analysis, ethical consideration, operational definition of dependent and independent variables and hypotheses and test criteria.

3.2 Research paradigm
The philosophical foundation of this study is pragmatism whose philosophy presupposes that ideas should be tested, hence the need for testing hypotheses in this study. The philosophy emphasizes the need for objectivity and use of scientific methods in research which are core values in this study (Onwuegbuzie & Leech, 2006). This study was guided by specific objectives which were to: Determine the influence of learner support system on academic performance of distance learning students in selected Kenyan public universities, Establish the extent to which curriculum resources influence academic performance of distance learning students in selected Kenyan public universities, Determine in what ways instructional techniques
influence academic performance of distance learning students in selected Kenyan public universities, Determine the combined influence of institutional factors and learners’ self efficacy on academic performance of distance learning students in selected Kenyan public universities and Establish the moderating influence of learners’ self efficacy on the relationship between institutional factors and academic performance of distance learning students in selected Kenyan public universities. Scientific methods were used. According to pragmatism knowledge is constructed and it is based on experience (Johnson & Onwuegbuzie, 2004). The experiences of distance learners, lecturers and Open, Distance and eLearning Campus Director and the Dean of the Digital School of Virtual and Open Learning and were critical and were expressed through carefully selected and constructed research instruments.

3.2.1 Research Design
Research design is the outline, strategy and scheme of how the research will be conducted. It includes methods and procedures of collection and analysis of data in order to solve the identified problem (Kerlinger, 1986; Kothari, 2004). This study adopted ex post facto design which investigates the relationship and effects between the dependent variable (academic performance of distance learning students) and the independent variables (Institutional factors). The design is systematic and empirical. The researcher does not have direct control of the independent variables because their manifestations have already occurred or, they are inherently not manipullable (Orodho 2005). In this study the independent variables were learner support systems, curriculum resources and instructional techniques. The dependent variable was the cumulative mean score of Bachelor of Education (Arts) third year distance learning students. The study was conducted in the University of Nairobi and Kenyatta University.
The study further adopted a combination of qualitative and quantitative techniques (mixed - method research techniques) which supplement each other. The use of quantitative and qualitative techniques helps in identifying the most promising interventions. They identify outcomes of interest and develop defensible outcome measures. Promising interventions emerge from many methods. Instructors learn new techniques and they customize and apply them selectively based on the needs of particular learners (Kothari, 2004).

3.3 Target Population
This study was based in Kenyatta University and University of Nairobi. These two universities have well established directorates of distance learning mode of study, with elaborate policies on learner support systems, provision of curriculum resources, instructional delivery techniques and learner characteristics, which are variables being studied in this study. They have offered distance learning programmes for more than 10 years. From Kenyatta University, the target population consisted of 267 Bachelor of Education (Arts) third year distance learning students and 59 lecturers who teach Bachelor of Education (Arts) third year distance learning students. From the University of Nairobi, the target population consisted of 580 Bachelor of Education (Arts) third year distance learning students and 90 lecturers who teach Bachelor of Education (Arts) third year distance learning students. The Director of Open, Distance and eLearning Campus from University of Nairobi and the Dean Kenyatta University Digital School of Virtual and Open Learning were also targeted.

It is important to note that in this study the students, lecturers and the administrators of the distance learning programmes were treated as the target population. Therefore, the target population consisted of 847 Bachelor of Education (Arts) third year distance learning students,
149 lecturers who teach Bachelor of Education (Arts) third year distance learning students and 2 administrators in charge of distance learning programmes from the selected Kenyan public universities.

Table 3.1. Target Population

<table>
<thead>
<tr>
<th>University of Nairobi</th>
<th>Category of respondents</th>
<th>Population (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecturers</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Education (Arts) third year Distance Learning Students</td>
<td>580</td>
</tr>
<tr>
<td>Open, Distance and eLearning Campus</td>
<td>Director</td>
<td>1</td>
</tr>
<tr>
<td>Kenyatta University</td>
<td>Category of respondents</td>
<td>Population (N)</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Education (Arts) third year Distance Learning Students</td>
<td>267</td>
</tr>
<tr>
<td>Kenyatta University Digital School of Virtual and Open Learning</td>
<td>Dean</td>
<td>1</td>
</tr>
<tr>
<td>Selected Kenyan Public Universities</td>
<td>Category of respondents</td>
<td>Population (N)</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Education (Arts) third year Distance Learning Students</td>
<td>847</td>
</tr>
<tr>
<td>Open, Distance and eLearning Campus and Kenyatta University Digital School of Virtual and Open Learning</td>
<td>Administrators</td>
<td>2</td>
</tr>
</tbody>
</table>

3.4.1 Sample Size
The sample indicates the total number of respondents selected from the target population. In order to get the sample size for the students and lecturers, the researcher used the statistical table for determining sample sizes for different population sizes, produced by Kcrecie and Morgan (1970), in Kasomo (2006). Based on the statistical table, the sample size from the University of
Nairobi consisted of 73 lecturers who teach Bachelor of Education (Arts) third year distance learning students, 306 Bachelor of Education (Arts) third year distance learning students, and the Director of Open, Distance and eLearning Campus. In Kenyatta University, the sample size included 52 lecturers who teach Bachelor of Education (Arts) third year distance learning students, 169 Bachelor of Education (Arts) third year distance learning students, and the Dean of Kenyatta University Digital School of Open and Virtual Learning. Therefore, the sample size from the selected Kenyan public universities consisted of 475 Bachelor of Education (Arts) third year distance learning students, 125 lecturers teaching Bachelor of Education (Arts) third year distance learning students and 2 administrators in charge of distance learning programmes. The sub samples from Kenyatta University and the University of Nairobi were joined to form a complete stratified sample shown in Table 3.2.

Table 3.2. Sample size

<table>
<thead>
<tr>
<th>University of Nairobi</th>
<th>Category of respondents</th>
<th>Population (N)</th>
<th>Sample size (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecturers</td>
<td>90</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Education (Arts) third year Distance Learning Students</td>
<td>580</td>
<td>306</td>
</tr>
<tr>
<td>Open, Distance and eLearning Campus</td>
<td>Director (administrator)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Kenyatta University</td>
<td>Category of respondents</td>
<td>Population (N)</td>
<td>Sample size (n)</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>59</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Education (Arts) third year Distance Learning Students</td>
<td>267</td>
<td>169</td>
</tr>
<tr>
<td>Kenyatta University Digital School of Virtual and Open Learning</td>
<td>Dean (administrator)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Selected Kenyan Public Universities</td>
<td>Category of respondents</td>
<td>Population (N)</td>
<td>Sample size (n)</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>139</td>
<td>125</td>
</tr>
</tbody>
</table>
3.4.2 Sampling Procedures
This element of research methodology describes the sampling procedures that were applied to obtain the required sample. In this study, sequential or multiphase sampling technique was adopted. Sampling was done at different levels. The first phase involved selection of respondents from University of Nairobi. The second phase involved selection of respondents from Kenyatta University. Purposive sampling was used in selecting the Director of Open, Distance and eLearning Campus from University of Nairobi and the Dean, Kenyatta University Digital School of Open and Virtual Learning. In each phase stratified simple random sampling was used to select the study sample. Orodho (2007) explains that stratified simple random sampling is used when there is need to divide the population into two or more mutually exclusive segments from which sub samples are drawn and they are later joined to form complete stratified sample. Therefore, the sub samples from Kenyatta University and the University of Nairobi were joined to form a complete stratified sample.

3.5 Research Instruments
In this study, questionnaires, interviews, document analysis and the document for measuring academic performance were used.
3.5.1 Questionnaires

Questionnaires are considered the heart of a survey operation. They allow greater uniformity of questions hence ensuring greater comparability in the process, thereby providing greater anonymity (Kothari, 2004). Questionnaires were used to collect data from students and lecturers.

The students’ questionnaire consisted of closed ended questions. It consisted of three sections. The items in Section A aimed at collecting data in relation to the respondents’ university, gender, age, and Grade at point of admission to the university. The items in Section B aimed at collecting data in relation to institutional factors. The instrument in this section was adopted from Muchiri’s (2012) instrument on the Analysis of learner support needs of distance learners in the University of Nairobi. The items elicited data on learner support, curriculum resources and instructional techniques as influencers of academic performance. The questions had a five point Likert scale with 1=very dissatisfied, 2=dissatisfied, 3=undecided, 4=satisfactory and 5=Very satisfied. The items in Section C aimed at collecting data on learners’ self efficacy. Data was collected on self efficacy as influencer of academic performance. The instrument for assessing self efficacy was adopted from Muchiri (2012) instrument for measuring self efficacy. It was adopted because it had been tested and proved to be efficient. The questions had a five point Likert scale with 1=strongly disagree, 2= disagree, 3= undecided 4= agree and 5= strongly agree. The mean was the final score. The higher the mean of the scores, the stronger the students’ self efficacy.

The lecturers’ questionnaire consisted of closed ended questions. It consisted of two sections. The items in Section A aimed at collecting data in relation to the respondents’ university, gender, age and highest academic experience, type of engagement and years of experience at the university level. The items in Section B aimed at collecting data on institutional factors. The instrument in this section was adopted from Muchiri’s (2012) instrument on the Analysis of
learner support needs of distance learners in the University of Nairobi. The items elicited data on learner support, curriculum resources and instructional techniques as influencers of academic performance. The questions had a five point Likert scale with 1=very dissatisfied, 2=dissatisfied 3= undecided 4=satisfactory and 5=Very satisfied. The mean was the final score.

**3.5.2 Interview Guide**

The researcher used interview guides to interview the Dean, Kenyatta University Digital School of Open and Virtual Learning, and the Director of Open, Distance and eLearning Campus, University of Nairobi. The interview method is interactive. It enabled the researcher to get data on opinions, experiences, feelings and aspirations of interviewees, thus covering the phenomenon being investigated in great depth (May, 1993; Mwanje, 2001). The interview helped identify variables and relations directly from interviewees.

The interview guide consisted of both open ended and closed ended questions. It consisted of two sections. The items in Section A aimed at collecting data in relation to the respondent’s university, gender, age and highest academic experience, type of engagement and years of experience at the university level. The items in Section B aimed at collecting data on institutional factors. The items elicited data on learner support, curriculum resources and instructional techniques as influencers of student academic performance.

**3.5.3 Document Analysis**

Document analysis is the identification of themes in text documents based on the objectives of the study. The text documents analysed included policy documents, student results documents and organizational memos on related topics of discussions. Written material sources including published and unpublished, qualitative and quantitative data, related to distance learning policy
issues from University of Nairobi and Kenyatta University, were analysed. Major ideas were presented in term of themes.

3.5.4 Research Instrument for measuring the academic performance

The instrument for measuring academic performance of distance learning students consisted of close ended questions. It collected data in relation to university, gender, age, mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester of first year, cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester in second year and cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The cumulative mean score showed both the historical perspective and the current position of Bachelor of Education (Arts) third year distance learning students’ performance.

3.6 Piloting of Research Instruments

Piloting was done in order to make adjustments on the instruments to ensure that the items were valid and reliable. The researcher administered research instruments to 40 students and 10 lecturers of one of the Kenyan public universities offering distance learning programmes but which was not part of the selected universities involved in the study. The pilot sample was more than 10% of the sample of the larger parent study (Connelly, 2008; Mugenda, 2008). The pilot study findings enabled the investigator to make adjustments on the instruments.

3.6.1 Validity Research Instruments

According to Orodho (2005) validity is the degree to which results obtained from the analysis of the research data actually represent the phenomenon under investigation. Fraenkel and Wallen (2000) explain that validity is the degree to which evidence supports the inferences made using data obtained in research. Kothari (2004) further elaborates that validity is the most crucial
criterion of sound measurement as it indicates the degree to which an instrument measures what it purports to determine.

This study adopted content, criterion and construct validity. To ensure content validity, the study considered variables and their dimensions in the literature. The study sought opinion from research supervisors as experts in distance learning mode of study. Construct validity was ensured by relating the items to the operationally defined theories and concepts. Criterion-related validity was ensured through checking the attributes in the research instruments in relation to what is perceived to be the proper measure. The use of different instruments enhanced validity through source and methodological triangulation. Validation was also enhanced through examination of research instruments by research experts from the University of Nairobi and Kenyatta University. To further ensure the validity of the instruments, the questionnaires were pre-tested. The problems that were identified were rectified.

3.6.2 Reliability of Research Instruments
According to Best and Kahn (2007), reliability is the level of internal consistency or stability of a measuring instrument. After the pilot test, reliability analysis was undertaken. For reliability analysis Cronbach’s alpha was calculated by using SPSS. Cronbach's alpha is the most common measure of internal consistency ("reliability"). It is most commonly used when you have multiple Likert questions in a survey/questionnaire that forms a scale and you wish to determine if the scale is reliable. The researcher used questionnaires to measure the influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students. Each question in the questionnaire was a 5-point Likert item from "very satisfied to very dissatisfied". In order to understand whether the questions in this questionnaire all reliably measure the same
latent variable likert scale a Cronbach's alpha was run. The value of the alpha coefficient ranges from 0 to 1 and may be used to describe the reliability of factors extracted from dichotomous (that is, questions with two possible answers) and/or scales (i.e., rating scale: 1 = very dissatisfied, to 5 = Very satisfied). A higher value shows a more reliable generated scale. The results of the reliability statistics indicated that the Cronbach's alpha was 0.954. This was a very high level of internal consistency. The closer the alpha is to 1 the higher the level of consistency.

3.7.1 Data collection Procedures
The researcher obtained permission to collect data from the management of University of Nairobi. The researcher thereafter obtained a research permit from the relevant authorities in the Government of Kenya, (Ministry of Education, Science and Technology). Further permission was sought from Kenyatta University. Questionnaires were distributed to the students and faculty by the researcher and they were collected at a later date. The researcher interviewed the Open, Distance and eLearningCampus Director of University of Nairobi, and the Dean, Kenyatta University Digital School. Text documents which included policy documents, student results documents and organizational memos on related topics of discussions were requested by the researcher from University of Nairobi and Kenyatta University. Written material sources including published and unpublished, qualitative and quantitative data, related to distance learning policy issues from University of Nairobi and Kenyatta University, were requested by the researcher. The documents requested were availed to the researcher.

3.7.2 Data Analysis Techniques
Content analysis involved checking the completeness of responses, the accuracy of answers and uniformity of interpretation of questions. Behavioural responses were converted into a numeric system (i.e. scoring the data). After scoring the instruments, the resultant data was coded,
tabulated and analyzed through the use of Statistical Package for Social Sciences (SPSS) computer programme.

Descriptive statistics used to summarize qualitative data were mean, frequencies and percentages. In addition, some amount of data was also thematically presented. This entailed identification of the major or outstanding issues relevant to the topic, research questions and objectives. Then the major or outstanding issues were condensed and categorized into thematic topics for presentation, description and discussion.

Inferential statistical procedures were used to analyze quantitative data. To test the hypotheses, Pearson Correlation analysis was done first to determine the co-relationship or association of the dependent and independent variables. After determining the co-relationship or association of the dependent and independent variables, Bivariate regression analysis was carried out to describe the numerical relationship of the independent variable to the dependent variables. It indicated the impact of unit change of one variable on another variable.

To establish the moderating influence of learners’ self efficacy on the relationship between institutional factors and academic performance of distance learning students in selected Kenyan public universities, Baron and Kenny (1986) four-step method. Linear regression was used in each step. In step one; academic performance was regressed on institutional factors. If $R^2$ and beta coefficients were considered statistically significant, the process would move to step two. If they were not significant, the process would terminate and the conclusion would be that learner’s self-efficacy does not moderate the relationship between institutional factors and academic
performance. Step 2 involved regressing institutional factors on learner’s self-efficacy. If the results were significant, the process would move to step 3 because the necessary condition for moderation existed. In step three the influence of learner’s self-efficacy on academic performance was tested using a simple linear regression model. A statistically significant effect of learner’s self-efficacy on academic performance was a necessary condition in testing for the moderation. If results were significant, the analysis would move to step 4. Finally, Step four would test the influence of institutional factors on academic performance while controlling for the effect of learner’s self-efficacy.

3.8 Ethical Considerations

Permission to collect data from the management of University of Nairobi was obtained. A research permit from the relevant authorities in the Government of Kenya, (National Commission for Science, Technology and Innovation) was obtained and permission to collect data from the authorities of Kenyatta University was sought.

In the process of collecting data, effort was made to ensure that the information being collected did not encroach on private life of respondents. Decisions of respondents on what information to give were respected. Complete confidentiality of information collected was guaranteed. Respondents were given the freedom to participate in the study or not. The respondents were explained to the objectives of the study and how the data collected was to be used in the study. Careful effort was made to ensure minimal risks to the respondents, for example, data was not collected during examination period to avoid any negative effects on students. Integrity was observed in the entire period of the study. Data collected was reported
without changing it or distorting the meaning. Issues which could undermine the integrity or personal lives of either the respondents or those mentioned in the study were not exposed. A moral code of behavior which is beyond any reproach was observed.

3.9 Operational Definition of Dependent and Independent Variables
Operational definitions of dependent and independent variables have been provided. The first objective was to determine the influence of learner support system on the academic performance; the dependent variable was the academic performance whose indicator is cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variable for this objective was learner support system whose indicators were faculty availability for consultation, academic advising and giving of timely feedback; access and satisfaction in use of guidance and counseling services and, access and satisfaction with administrative support.

The second objective was to establish the extent to which curriculum resources influence the academic performance. The dependent variable was the academic performance whose indicator was the cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variable in this objective was curriculum resources whose indicators were access, adequacy and satisfaction in use of library resources and, availability, relevance and satisfaction in use of instructional materials.

The third objective was to establish in what ways instructional techniques influence the academic performance. The dependent variable was the academic performance whose indicator was cumulative mean score of Bachelor of Education (Arts) third year distance learning students
by end of first semester third year. The independent variable was instructional techniques whose main indicator was the level of satisfaction in use of distance learning techniques.

The fourth objective was to determine the combined influence of institutional factors and learners’ self efficacy on academic performance. The dependent variable was the academic performance whose indicator was cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variables in this objective were learner support system, curriculum resources, instructional techniques and, learners’ self efficacy.

The fifth objective was to establish the moderating influence of learners’ self efficacy on the relationship between institutional factors and academic performance. The performance in this study was considered the dependent variable. The main indicator was cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variables in this objective were; ability to solve difficult problems, certainty in accomplishment of goals, and, ability to manage time well.
<table>
<thead>
<tr>
<th>Objective</th>
<th>Variables</th>
<th>Indicators</th>
<th>What to Measure</th>
<th>Measurement Scale</th>
<th>Analysis Approach Tools</th>
<th>Data analysis tools</th>
</tr>
</thead>
</table>
| Determine the influence of learner support system on the academic performance. | Learner Support System          | (a) Academic support  
  i. Availability of faculty for student consultation  
  ii. Availability of faculty for student Academic advising  
  iii. Giving of timely feedback to students  
(b) Guidance and Counseling support  
  i. Access to guidance and counseling support  
  ii. Level of satisfaction with counseling support  
(c) Administrative support  
  i. Access to administrative support  
  ii. Level of satisfaction with administrative support | Percep  tion                  | Qualitative-Content Analysis, Descriptive analysis  
Quantitative-Inferential Analysis | Measures of Central tendency, Bivariate Regression analysis                  |
| Establish the extent to which curriculum resources influence the academic performance | Curriculum Materials            | (a) Library resources  
  i. Accessibility to library resources  
  ii. Adequacy of library resources  
  iii. Satisfaction in use of library resources  
(b) Instructional Materials  
  i. Availability to Instructional Materials  
  ii. Relevance Instructional Materials  
  iii. Satisfaction in use of Instructional Materials | Percep  tion                  | Qualitative-Content Analysis, Descriptive analysis  
Quantitative-Inferential Analysis | Measures of Central tendency, Bivariate Regression analysis                  |
| Determine in what ways instructional techniques influence the academic performance. | Instructional Techniques         | Discussions, case studies, problem solving  
Level of satisfaction in use of the techniques | Perception | Interval scale | Qualitative-Content Analysis, Descriptive analysis  
Quantitative-Inferential Analysis | Measures of Central tendency, Bivariate Regression analysis                  |
To what extent does the combination of institutional factors and learners’ self-efficacy influence academic performance?

<table>
<thead>
<tr>
<th>Learner Support System, Curriculum Materials, Instructional Techniques and, Learners’ self-efficacy</th>
<th>Perception interval</th>
<th>Inferential Analysis</th>
<th>n analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic support</td>
<td>Qualitative-Content Analysis, Descriptive analysis</td>
<td>Measures of Central tendency</td>
<td></td>
</tr>
<tr>
<td>i. Availability of faculty for student consultation</td>
<td>Bivariate Regression analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Availability of faculty for student Academic advising</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. Giving of timely feedback to students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidance and Counseling support</td>
<td>Quantitative-Inferential Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Access to guidance and counseling support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Level of satisfaction with counseling support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Access to administrative support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Level of satisfaction with administrative support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Accessibility to library resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Adequacy of library resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. Satisfaction in use of library resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Availability to Instructional Materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Relevance Instructional Materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. Satisfaction in use of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Materials</td>
<td>Perception interval</td>
<td>Qualitative-Content Analysis, Descriptive analysis</td>
<td>Measures of Central tendency, Step wise Regression analysis</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------</td>
<td>-----------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>(f) Discussions, case studies, problem solving Level of satisfaction in use of the techniques</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent does learners’ self efficacy moderate the relationship between institutional factors and academic performance?</td>
<td>Learner’s self efficacy</td>
<td>Academic Performance of Students</td>
<td>Academic support</td>
</tr>
<tr>
<td></td>
<td>i. Ability to solve difficult problems</td>
<td></td>
<td>i. Availability of faculty for student consultation</td>
</tr>
<tr>
<td></td>
<td>ii. Certainty in accomplishment of goals</td>
<td></td>
<td>ii. Availability of faculty for student Academic advising</td>
</tr>
<tr>
<td></td>
<td>iii. Ability to manage time well</td>
<td></td>
<td>iii. Giving of timely feedback to students</td>
</tr>
<tr>
<td></td>
<td>(a) Academic support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Availability of faculty for student consultation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Availability of faculty for student Academic advising</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Guidance and Counseling support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Access to guidance and counseling support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Level of satisfaction with counseling support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Administrative support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Access to administrative support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Level of satisfaction with administrative support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(d) Library resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Accessibility to library resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Adequacy of library resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Satisfaction in use of library resources</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(e) Instructional Materials  
   i. Availability to Instructional Materials  
   ii. Relevance Instructional Materials  
   iii. Satisfaction in use of Instructional Materials  

(f) Discussions, case studies, problem solving  
   Level of satisfaction in use of the techniques

Table 3.4 Hypotheses and Test Criteria

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Key dimensions</th>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>Measurement criteria</th>
<th>To be measured</th>
<th>Scale</th>
<th>Statistical tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Learner support system</td>
<td>i. Academic Support</td>
<td>Academic performance</td>
<td>Cumulative Mean score by end of 1\textsuperscript{st} semester of third year</td>
<td>Strength of relationship between learner support and academic performance</td>
<td>Interval</td>
<td>Pearson’s product moment correlation, Bivariate Regression</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Guidance and Counseling support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. Administrative support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2</td>
<td>Curriculum resources</td>
<td>i. Library resources</td>
<td>&quot;</td>
<td>&quot;</td>
<td>Strength of relationship between availability of library and instructional materials and academic performance</td>
<td>&quot;</td>
<td>Pearson’s product moment correlation, Bivariate Regression</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Instructional Materials(modules)</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td></td>
</tr>
<tr>
<td>H3</td>
<td>Instructional techniques</td>
<td>i. Level of Satisfaction in use of distance learning techniques</td>
<td>Academic performance</td>
<td>Cumulative Mean score by end of 1\textsuperscript{st} semester of third year</td>
<td>Strength of relationship between satisfaction in use distance learning techniques</td>
<td>Interval</td>
<td>Pearson’s product moment correlation, Bivariate Regression</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_4$</td>
<td>Institutional factors and Self efficacy</td>
<td>i. Learner support system</td>
<td>ii. Curriculum resources</td>
<td>iii. Instructional techniques learners' self efficacy</td>
<td>Academic performance</td>
<td>Cumulative Mean score by end of 1st semester of third year</td>
<td>Strength of relationship between institutional factors and academic performance</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>$H_5$</td>
<td>Self efficacy</td>
<td>Institutional Factors</td>
<td>i. Learner support system</td>
<td>ii. Curriculum resources</td>
<td>iii. Instructional Techniques</td>
<td>Academic performance</td>
<td>Cumulative Mean score by end of 1st semester of third year</td>
</tr>
</tbody>
</table>
CHAPTER FOUR
DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction
This chapter presents the data analysis, findings and discussion. The chapter is arranged as follows; response rate and demographic of the unit of the study; tests for assumption of regression analysis; descriptive statistics of the variables used in the study; results of tests of hypotheses corresponding to the objectives of the study and; discussion on findings of the study.

4.2 Response rate
This study was based in selected Kenyan public universities. The selected Kenyan public universities were University of Nairobi and Kenyatta University. These two universities have well established directorates of distance learning mode of study, with elaborate policies on learner support systems, provision of curriculum resources, instructional techniques and learner characteristics, which were variables being studied in this study.

By the time of conducting this study, the universities had offered distance learning programmes for more than 10 years. Kenyatta University had 267 Bachelor of Education (Arts) third year distance learning students while University of Nairobi had 580 Bachelor of Education (Arts) third year distance learning students. From University of Nairobi, the study population comprised of 90 lecturers who teach Bachelor of Education (Arts) third year distance learning students. From Kenyatta University, the study population comprised of 59 lecturers who teach Bachelor of Education (Arts) third year distance learning students. Director of Open, Distance and eLearning Campus University of Nairobi and the Dean Kenyatta University Digital School of Virtual and Open Learning were also targeted. The sample size from
the selected Kenyan public universities consisted of 475 Bachelor of Education (Arts) third year
distance learning students, 125 lecturers teaching Bachelor of Education (Arts) third year
distance learning students and 2 administrators in charge of distance learning programmes.

In the University of Nairobi, questionnaires were distributed to 73 lecturers who teach Bachelor of
Education (Arts) Bachelor of Education (Arts) third year distance learning students, and,
the questionnaires were distributed to 306 third year distance learning students. In Kenyatta
University, the questionnaires were distributed to 52 lecturers who teach Bachelor of Education
(Arts) third year distance learning students, and questionnaires were distributed to 169 third year
Bachelor of Education (Arts) distance learning students. The Dean of Kenyatta University
Digital School of Open and Virtual Learning and the Director Open, Distance and eLearning
Campus, University of Nairobi were interviewed. Table 4.1 shows the response rate of the
respondents.

Table 4.1. Response Rate

<table>
<thead>
<tr>
<th>Item</th>
<th>Category of respondents</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filled Questionnaires and returned</td>
<td>Lecturers</td>
<td>92</td>
<td>73.6</td>
</tr>
<tr>
<td>Questionnaires Not Returned</td>
<td>Lecturers</td>
<td>33</td>
<td>26.4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>125</td>
<td>100</td>
</tr>
<tr>
<td>Filled Questionnaires and returned</td>
<td>Bachelor of Education (Arts) third year Distance Learning Students</td>
<td>380</td>
<td>80</td>
</tr>
<tr>
<td>Questionnaires Not Returned</td>
<td>Bachelor of Education (Arts) third year Distance Learning Students</td>
<td>95</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>475</td>
<td>100</td>
</tr>
</tbody>
</table>
As indicated in Table 4.1 the response rate for both the lecturers and Bachelor of Education (Arts) third year distance learning students was above 70% (73.6%) for lecturers and 80% for students. This response rate was considered adequate for the study (Mugenda, 2003; Bryman & Bell, 2007). All the administrators (100%) were available for the interview.

### 4.3 Demographic information

This section presents the background information of lecturers teaching Bachelor of Education (Arts) third year distance learning students and Bachelor of Education (Arts) third year distance learning students from selected Kenyan public universities. The presentation begins with information of the Bachelor of Education (Arts) third year distance learning students.

#### Table 4.2 Students’ Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>212</td>
<td>55.8</td>
</tr>
<tr>
<td>Female</td>
<td>168</td>
<td>44.2</td>
</tr>
<tr>
<td>Total</td>
<td>380</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As indicated in Table 4.2, 212 (55.8%) of the Bachelor of Education (Arts) third year distance learning students were male while 168 (44.2%) were females. The findings indicate that both genders were represented in the study, although in varying magnitude.
Table 4.3 Students’ Age

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-25 years</td>
<td>68</td>
<td>17.9</td>
</tr>
<tr>
<td>26-35 years</td>
<td>254</td>
<td>66.8</td>
</tr>
<tr>
<td>36-45 years</td>
<td>44</td>
<td>11.6</td>
</tr>
<tr>
<td>46-55 years</td>
<td>11</td>
<td>2.9</td>
</tr>
<tr>
<td>56+ years</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>380</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The findings in Table 4.3, reveal that 254 (66.8%) of distance learning students from selected Kenyan public universities were aged between 26-35 years old, 68 (17.9%) were aged between 16-25 years old, 44 (11.6%) of them were aged between 36-45 years old and 11 (2.9%) of distance learning students were over 45 years old. The findings present the normal scenario whereby majority of distance learning students are older than the students who study through conventional mode of study. These findings were supported by a number of scholars (Keegan 1996; Peters, 1998; Knowles, 1984). However, it is worth noting that 17.9% of the students were aged 16-25 years. This presents an immerging trend where young people are joining distance learning programmes. Very few of the students (2.9%) were aged 46 and above years implying that people who are close to retirement prefer to invest in areas with pecuniary benefits in retirement (Muchiri, 2012).
Table 4.4 Students’ Grade attained at “O” level

<table>
<thead>
<tr>
<th>Grade</th>
<th>n</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>KCSE C+</td>
<td>227</td>
<td>59.7</td>
</tr>
<tr>
<td>KCSE B</td>
<td>67</td>
<td>17.6</td>
</tr>
<tr>
<td>KCSE C</td>
<td>36</td>
<td>9.5</td>
</tr>
<tr>
<td>KCSE B-</td>
<td>25</td>
<td>6.6</td>
</tr>
<tr>
<td>EACE Division 2</td>
<td>9</td>
<td>2.3</td>
</tr>
<tr>
<td>KCSE B+</td>
<td>8</td>
<td>2.1</td>
</tr>
<tr>
<td>EACE Division 3</td>
<td>2</td>
<td>.5</td>
</tr>
<tr>
<td>KCSE A-</td>
<td>2</td>
<td>.5</td>
</tr>
<tr>
<td>EACE Division 1</td>
<td>1</td>
<td>.3</td>
</tr>
<tr>
<td>KCSE A</td>
<td>1</td>
<td>.3</td>
</tr>
<tr>
<td>KCSE C-</td>
<td>1</td>
<td>.3</td>
</tr>
<tr>
<td>KCSE D+</td>
<td>1</td>
<td>.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>380</td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

As shown in Table 4.4, 227(59.7%) of the distance learning students reported that they had attained C+ in their KCSE at ‘O’ level, 67(17.6%) said that they attained B plain, 25(6.6%) attained B-, 8(2.1) attained B+ whereas 36(9.5%) of them said that they had C plain. Most of the students342 (90%) had attained C+ and above as required in university entry point by Kenya Universities and Colleges Central Placement Service (2017).

The following is the demographic information of the lecturers teaching Bachelor of Education (Arts) third year distance learning students from selected Kenyan public universities.
Table 4.5 Lecturers’ Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>47</td>
<td>51.1</td>
</tr>
<tr>
<td>Female</td>
<td>45</td>
<td>48.9</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As indicated in Table 4.5, it was observed that 47(51.1%) of the lecturers teaching distance learning students were male while 45(48.9%) were females. It was noted that both genders were represented in the study, although in varying magnitude.

Table 4.6 Lecturers’ Age

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>26-35 years</td>
<td>11</td>
<td>12.0</td>
</tr>
<tr>
<td>36-45 years</td>
<td>31</td>
<td>33.7</td>
</tr>
<tr>
<td>46-55 years</td>
<td>32</td>
<td>34.8</td>
</tr>
<tr>
<td>56+ years</td>
<td>18</td>
<td>19.5</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100.0</td>
</tr>
</tbody>
</table>

It was observed as indicated in Table 4.6 that majority 63(68.5%) of lecturers were aged between 36-55 years old, 18(19.5%) of them were over 56 years old and above, while only 11(12.0%) of lecturers from selected Kenyan public universities were aged between 26-35 years old.
The findings presented in Table 4.7 revealed that 38 (41.3%) of the lecturers had taught for 6-10 years, 32 (34.8%) reported that they had taught for five years and below, while 12 (13.1%) of the lecturers said that they had taught for 16 years and above. It is worth noting that 60 (65.2%) of the lecturers had attained 6 years of experience in teaching at the university level. The experience of the lecturers was considered adequate for the study because the Commission for University Education in Kenya (2014) requires that for one to qualify as lecturer, the person must have a Master’s degree and must have taught at the university level for three years.

Table 4.8 Lecturers’ Nature of Engagement

<table>
<thead>
<tr>
<th>Nature of engagement</th>
<th>n</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full time</td>
<td>60</td>
<td>65.2</td>
</tr>
<tr>
<td>Part time</td>
<td>32</td>
<td>34.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>92</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
The findings in Table 4.8 indicate that majority 60(65.2%) of the lecturers were employed on full time basis in the selected Kenyan public universities with only 32(34.8%) of them being engaged on part time basis. This meant that most lecturers had adequate interaction with students and therefore they gave reliable information.

Table 4.9 Lecturers’ Level of Education

<table>
<thead>
<tr>
<th>Level of education</th>
<th>n</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master’s degree</td>
<td>41</td>
<td>44.6</td>
</tr>
<tr>
<td>Doctorate degree</td>
<td>51</td>
<td>55.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>92</td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Majority 51(55.4%) of the lecturers, shown in Table 4.9, were doctorate degree holders while 41(44.6%) of them were master’s degree holders. This implied that all the lecturers were qualified to teach the Bachelor of Education (Arts) third year distance learning students. The minimum requirement for a person to teach an undergraduate programme in Kenya is a Master’s degree (Commission for University Education, 2014).

Table 4.10 Mode of teaching used by lecturers

<table>
<thead>
<tr>
<th>Mode of study lecturers</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance learning</td>
<td>25</td>
<td>27.2</td>
</tr>
<tr>
<td>Both distance &amp; convectional</td>
<td>67</td>
<td>72.8</td>
</tr>
</tbody>
</table>
On the mode of study adopted by lecturers to teach, majority 67(72.8%) of the lecturers shown in Table 4.10, said that they were teaching through both distance learning and conventional mode of learning while 25(27.2%) of them said that they were only teaching distance learning students. The findings therefore show that the lecturers had relevant exposure to distance learning mode of study because all of them taught distance learning students, thus, the information provided by the lecturers was reliable.

4.4 Regression Assumptions
When conducting statistical procedures, there are underlying assumptions. In some cases, violating assumptions may not have any significant impact on research conclusions, but in quantitatively – based research, violations of assumptions may undermine conclusions (Garson, 2012). It is for that reason that a number of tests preceded regression analysis. They included the test for normality, multicollinearity, heteroscedasticity, and linearity.

4.4.1 Test for normality
An assessment of the normality of data is prerequisite for many statistical tests because normal data is an underlying assumption in parametric testing. There are two main methods of assessing normality; graphically and numerically. Table 4.11 shows the results of the numerical method of assessing normality.

4.11 Numerical test for normality

<table>
<thead>
<tr>
<th>Academic performance</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
</tr>
<tr>
<td></td>
<td>.996</td>
</tr>
</tbody>
</table>
Since the sample size for this study was less than 2000, Shapiro-wilk was used to test normality. As shown in Table 4.11 above, the Sig value under the Shapiro-Wilk column is greater than 0.05. This meant that the academic performance was normally distributed.

The same data was analyzed to produce Q-Q plots as shown in Figure 2.

![Normal Q-Q Plot of Academic performance](image)

**Figure 2: Q-Q Plot of Academic performance**

From the Q-Q plots, it can be concluded that the data appears to be normally distributed as it follows the diagonal line closely and does not appear to have non-linear pattern. Below is a histogram with a normal curve just to confirm the normality of the data.
Figure 3: Histogram with a normal curve

The histogram in Figure 3 also shows a normal distribution of the data.

4.4.2 Test for Multicollinearity

After the normality of the data in the regression model is met, the next step is to determine whether there is similarity or high degree of correlation among several independent variables (Aczel, 2009). To do this we carried out multicollinearity test. When independent variables are inter-correlated instead of being independent, there is multicollinearity (Doane & Seward, 2011). We tested multicollinearity by examining Tolerance and the Variance Inflation Factor (VIF). Tolerance is the measure of collinearity reported by most statistical programs e.g. SPSS. A tolerance value of less than 0.1 should be investigated further because it indicates that at least 90% of the variance of independent variable is shared with some other independent variables. A large tolerance indicates a minor problem with collinearity. Tolerance of a variable is defined as one minus the squared multiple correlation of this variable with all other independent variables in the regression equation (Doane & Seward, 2011). Table 4.12 indicates that the statistics for collinearity obtained Tolerance value of 0.555 for learner support, 0.564 for
curriculum resources, 0.619 for instructional techniques and 0.700 for self efficacy. These values are greater than 0.1 indicating that there was no collinearity issue.

The Variance Inflation Factor measures the impact of collinearity among variables in regression model. VIF is $1$ divided by tolerance and is always greater than or equal to $1$. A VIF of greater than $10$ indicates a serious problem of multicollinearity because when VIF is high, there is high multicollinearity. If the VIF value lies between $1$ and $10$ then there is no multicollinearity. If the VIF value is $<1$ or $>10$ then there is multicollinearity (Field 2009). The result of multicollinearity is shown in Table 4.12.

### 4.12 Test for Multicollinearity

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.227</td>
<td>.102</td>
<td></td>
<td>2.213</td>
<td>.028</td>
</tr>
<tr>
<td>Learner support</td>
<td>-.085</td>
<td>.030</td>
<td>-.201</td>
<td>-2.884</td>
<td>.004</td>
</tr>
<tr>
<td>Curriculum resources</td>
<td>.064</td>
<td>.025</td>
<td>.175</td>
<td>2.531</td>
<td>.012</td>
</tr>
<tr>
<td>Instructional techniques</td>
<td>.038</td>
<td>.021</td>
<td>.116</td>
<td>1.760</td>
<td>.079</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>.155</td>
<td>.026</td>
<td>.364</td>
<td>5.882</td>
<td>.000</td>
</tr>
</tbody>
</table>

Based on the coefficient output, collinearity statistics obtained VIF value of $1.80$ for learner support, $1.77$ for curriculum resources, $1.62$ for instructional techniques and $1.43$ for self-efficacy meaning that the VIF values obtained were all greater than one and less than ten, hence it can be concluded that there were no multicollinearity symptoms.
4.4.3 Test for heteroscedasticity

Heteroscedasticity is useful to examine whether there is a difference in the residual variance of the observation period. If the variances are equal, then the relative reliability of observation is (used in regression analysis) is unequal. The larger than variance the lower should be the importance attached to that observation.

Detection involves two steps.

1. Looking for patterns in the plot of the predicted variable and the residual
2. If the graphical inspection hints at heteroscedasticity, you must conduct a formal test

### 4.13 Test for heteroscedasticity

<table>
<thead>
<tr>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>Y-intercept (constant)</td>
<td>-.032</td>
<td>.058</td>
<td>-.549</td>
</tr>
<tr>
<td>Learners support</td>
<td>.026</td>
<td>.017</td>
<td>.116</td>
</tr>
<tr>
<td>Curriculum resources</td>
<td>.003</td>
<td>.014</td>
<td>.016</td>
</tr>
<tr>
<td>Instructional techniques</td>
<td>.017</td>
<td>.012</td>
<td>.102</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>.017</td>
<td>.015</td>
<td>.074</td>
</tr>
</tbody>
</table>

Based on output coefficients the obtained value Sig for learner support of 0.123, curriculum resources of 0.823, instructional techniques of 0.152 and self-efficacy of 0.266 were all greater than 0.05(sig>0.05) hence it can be concluded that there was no heteroscedasticity problem.

4.4.4 Test for linearity

In many situations, such as prior to testing linear regression analysis, researchers want to test their data for linearity. Linearity means that two variables “X” and “Y” are related by mathematical equation “y=cx” where “c” is any constant number. Linearity test aims to determine whether the relationship between independent variables and the dependent variable is linear or not. This means that before using common methods like linear regression, test of
Linearity must be performed otherwise the linear regression results may not be accepted. The linearity test is a requirement in the correlation and linear regression. Good regression model therefore should be a linear relationship between the free variable and the dependent variable.

**Decision making in processing the linearity test**

1. If the value sig. deviates from the linearity > 0.05 then the relationship between the independent variables are linearly dependent.

2. If the value sig deviates from linearity < 0.05 then the relationship between independent variables with the dependent is not linear.

### 4.14 ANOVA-test for linearity

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>academic performance * Learners support</td>
<td>Linearity from</td>
<td>.501</td>
<td>1</td>
<td>.501</td>
<td>7.251</td>
</tr>
<tr>
<td></td>
<td>Deviation</td>
<td>11.419</td>
<td>113</td>
<td>.101</td>
<td>1.464</td>
</tr>
<tr>
<td>academic performance * curriculum resources</td>
<td>Linearity from</td>
<td>1.924</td>
<td>1</td>
<td>1.924</td>
<td>27.309</td>
</tr>
<tr>
<td></td>
<td>Deviation</td>
<td>4.370</td>
<td>37</td>
<td>.118</td>
<td>1.676</td>
</tr>
<tr>
<td>academic performance * Instructional techniques</td>
<td>Linearity from</td>
<td>1.793</td>
<td>1</td>
<td>1.793</td>
<td>23.773</td>
</tr>
<tr>
<td></td>
<td>Deviation</td>
<td>1.138</td>
<td>10</td>
<td>.114</td>
<td>1.509</td>
</tr>
<tr>
<td>academic performance * Self-efficacy</td>
<td>Linearity from</td>
<td>3.849</td>
<td>1</td>
<td>3.849</td>
<td>62.512</td>
</tr>
<tr>
<td></td>
<td>Deviation</td>
<td>4.990</td>
<td>40</td>
<td>.125</td>
<td>2.026</td>
</tr>
</tbody>
</table>

Apart from instructional techniques, the sig from linearity were all less than the set significance of 0.05 indicating that they were all non-linear, however looking at the sig deviation from linearity it was too small indicating that the non-linearity was not too strong or the deviation was not too spread.
4.5 Descriptive Statistics

The first objective was to determine the influence of learner support system on the academic performance; the dependent variable was the academic performance whose indicator is cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variable for this objective was learner support system whose indicators were faculty availability for consultation, academic advising and giving of timely feedback; access and satisfaction in use of guidance and counseling services and, access and satisfaction with administrative support.

The second objective was to establish the extent to which curriculum resources influence the academic performance. The dependent variable was the academic performance whose indicator was the cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variable in this objective was curriculum resources whose indicators were access, adequacy and satisfaction in use of library resources and, availability, relevance and satisfaction in use of instructional materials.

The third objective was to establish in what ways instructional techniques influence the academic performance. The dependent variable was the academic performance whose indicator was cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variable was instructional techniques whose main indicator was the level of satisfaction in use of distance learning techniques.

The fourth objective was to determine the combined influence of institutional factors and learners’ self efficacy on academic performance. The dependent variable was the academic
performance whose indicator was cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variables in this objective were learner support system, curriculum resources, instructional techniques and, learners’ self efficacy.

The fifth objective was to establish the moderating influence of learners’ self efficacy on the relationship between institutional factors and academic performance. The performance in this study was considered the dependent variable. The main indicator was cumulative mean score of Bachelor of Education (Arts) third year distance learning students by end of first semester third year. The independent variables in this objective were; ability to solve difficult problems, certainty in accomplishment of goals, and, ability to manage time well.

The study computed the percentages and means for all the study variables. The descriptive statistics are presented below.

4.5.1 Institutional Factors

Institutional factors were measured in various categories; learner support system, curriculum resources and instructional techniques. The respondents were asked to indicate the extent to which they were satisfied with the various services mentioned. Each item had a five point Likert scale with 1=very dissatisfied, 2=dissatisfied, 3=undecided, 4=satisfactory and 5=Very satisfied. The descriptive statistics for institutional factors are presented as follows; learner support system, curriculum resources and instructional techniques.
4.5.2 Learner Support System

The descriptive statistics for learner support system is presented in three main categories namely; academic support, administrative support and guidance and counseling. The results are presented in Table 4.15.

Table 4.15 Learner Support System

<table>
<thead>
<tr>
<th>Learner support system</th>
<th>Specific support</th>
<th>Category of Respondents</th>
<th>Satisfaction-Percentage %</th>
<th>Satisfaction-Mean out of 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic support</td>
<td></td>
<td>Students</td>
<td>72</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecturers</td>
<td>62</td>
<td>3.1</td>
</tr>
<tr>
<td>Guidance and counseling</td>
<td></td>
<td>Students</td>
<td>62</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecturers</td>
<td>54</td>
<td>2.7</td>
</tr>
<tr>
<td>Administrative Support</td>
<td></td>
<td>Students</td>
<td>72</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecturers</td>
<td>72</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Overall rating of Learner support system

|                  | Students      | 68.7 | 3.4 |
|                  | Lecturers     | 62.7 | 3.1 |

Composite Mean for lecturers and students

|                  | 65.7          | 3.25 |

The results in Table 4.15 show that 72% of the students were satisfied with academic support. The mean was 3.6 out of 5. This indicates that the students were satisfied with the fact that the lecturers were available for consultation when necessary, that the lecturers were available for guidance on academic matters when necessary and that the lecturers gave timely feedback on assignments and tests. The findings indicate that 62% of the lecturers were satisfied with the academic support they gave to distance learning students. The mean was 3.1. The satisfaction of lecturers was lower by 10% compared to the satisfaction of students which indicates that the
lecturers felt that they needed to do more to enhance the academic support of students. These findings were supported by the administrators of selected Kenyan public universities who explained that the academic support was satisfactory but it can be improved with more access to internet by lecturers. The administrators explained that the lecturers complained of the cost of internet while serving students when away from campus.

The findings in Table 4.15 indicate that 62% of the students were satisfied with financial aid guidance, career counseling and personal (mental health) counseling. The mean was 3.1. However, only 54% of lecturers were satisfied with the guidance and counseling support which the students received. The mean was 2.7. The satisfaction of lecturers was 8% lower than that of students meaning that the lecturers felt that more needed to be done to improve guidance and counseling services. It is important to note that the satisfaction of students in guidance and counseling was 10% lower compared to satisfaction in academic support. This meant that the students perceived that the academic support provided was more satisfying than the guidance and counseling support. These findings were consistent with the observation from the administrators who explained that although counseling services were available, the students, being distance learners, did not access the services adequately. This was despite clear information on the student information handbooks that pastoral and guidance services were offered through the chaplaincy. These findings indicate that something needs to be done to provide remotely accessible guidance and counseling services to distance learning students in selected Kenyan public universities since distance learning students were not able to access the guidance and counseling services in the offices within the universities.
The study revealed that 72% of students were satisfied with administrative support. The mean was 3.6. It is worth noting that the results of lecturers was similar to those of students. 72% of the lecturers were satisfied with the administrative support which the students received. It is worth noting that the student information handbooks provided elaborate details of the role of the departments of student affairs. According to the information available in the handbooks, clubs, societies, student governance and other activities were encouraged. The administrators however noted that more needed to be done to encourage participation of distance learners in organizations and in student governance.

Considering the overall response rate in the area of learner support system shown in Table 4.15, 68.7% of students were satisfied with the system with a mean of 3.4. This means that 31.3% of the students were dissatisfied with the learner support system. As noted earlier, much of the dissatisfaction is in the area of guidance and counseling whose percentage was 62%. Therefore, although efforts should be geared towards improving the entire learner support system, much more effort should focus on improving the provision of guidance and counseling services to distance learning students. When we look at the overall response rate for lecturers in relation to learner support system, 62.7% were satisfied. The mean was 3.1. This means that from the lecturers’ point of view, much more needs to be done to improve the learner support system since 37.3% of them were dissatisfied with this support. The composite mean was 3.25 which was equivalent 65.7%. This meant that in regards to learner support system the selected Kenyan public universities needed to do much more to enhance satisfaction of this support because 35% of lecturers and students were dissatisfied.
4.5.3 Curriculum Resources

The descriptive statistics on curriculum resources are presented as follows; library resources and instructional materials. The results are shown in Table 4.16.

Table 4.16 Curriculum Resources

<table>
<thead>
<tr>
<th>Curriculum Resources</th>
<th>Category of Respondents</th>
<th>Satisfaction Percentage</th>
<th>Satisfaction Mean out of 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Resources</td>
<td>Students</td>
<td>74</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>74</td>
<td>3.7</td>
</tr>
<tr>
<td>Instructional Materials</td>
<td>Students</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>78</td>
<td>3.9</td>
</tr>
<tr>
<td>Overall rating of Curriculum Resources</td>
<td>Students</td>
<td>77</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>76</td>
<td>3.8</td>
</tr>
</tbody>
</table>

**Composite mean for lecturers and students** 77 3.85

The findings on Table 4.16 show that the level of satisfaction of both students and lecturers in relation to library resources was similar. 74% of both students and lecturers were satisfied with access, availability and use of reference books and e-journals. The mean was 3.7. The administrators explained that the library resources were satisfactory. The student information handbook explained that Kenyatta University had over 400,000 volumes of books and bound periodicals and it subscribes to over 20 electronic databases. The student information handbook from the University of Nairobi explains that the university has access to over 40,000 peer reviewed full text electronic journals and it has subscribed to over 50,000 e-books from Elibrary.
and Taylor and Francis. The administrators explained that the students were satisfied with the library resources as evidenced in the student information handbooks. However, it is worth noting that 26% of both lecturers and students were not satisfied with provision of library resources, indicating that much needed to be done to improve access, availability and use of reference books and e-journals.

In regards to the instructional materials, the study results in Table 4.16 revealed that 80% of the students were satisfied with availability of instructional materials, their relevance and their usage. The mean was 4.0. Among the lecturers, 78% of them were satisfied with availability of instructional materials, their relevance and their usage. The mean was 3.9. The findings were consistent with those of the administrators who explained that the students were satisfied with the instructional materials because there were stringent measures in place to ensure that instructional materials were available, relevant and easy to use. These findings indicate that instructional materials were developed, availed and used according to the set standards.

The overall rating of curriculum resources shown in Table 4.16 shows that 78% of students were satisfied, with a mean of 3.9 while 76% of the lecturers were satisfied with a mean of 3.8. The satisfaction rate is quite high indicating that generally the selected Kenyan public universities were doing well in terms of provision of curriculum resources. It is however important to note that the satisfaction in regards to instructional materials was higher (80% of students were satisfied) than that of library resources (74% of students were satisfied). The selected Kenyan public universities need to look for ways of enhancing access, availability and use of reference books and e-journals. The composite mean of both the lecturers and students in regards to
satisfaction with curriculum resources was 3.85, equivalent to 77%. This is quite high compared to the composite mean in regards to the learner support system which was 3.25 equivalent 65.7%. The difference is 11.3%. This implies that the selected Kenyan public universities were doing better in regards to provision of curriculum resources than in provision of learner support system.

4.5.4 Instructional Techniques
The descriptive statistics for instructional techniques are presented as follows; the use of study groups, case studies and, the use of problem solving activities.

<table>
<thead>
<tr>
<th>Instructional Techniques</th>
<th>Category of Respondents</th>
<th>Satisfaction-Percentage %</th>
<th>Satisfaction-Mean out of 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of study groups</td>
<td>Students</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td>Use of case studies</td>
<td>Students</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td>Use of problem solving activities</td>
<td>Students</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td>Overall rating of Instructional Techniques</td>
<td>Students</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Lecturers</td>
<td>80</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Composite mean for lecturers and students</strong></td>
<td><strong>80</strong></td>
<td><strong>4.0</strong></td>
<td><strong>4.0</strong></td>
</tr>
</tbody>
</table>
The results revealed on Table 4.17 indicate that both the lecturers and the students had the same level of satisfaction on the instructional techniques used, namely; use of study groups, case studies and the use of problem solving activities. The response rate was 80% which was equivalent to a mean of 4.0. This was the highest response rate in relation to all institutional factors. The findings were consistent with the findings from administrators who explained that the students were satisfied with the use of instructional techniques. They elaborated that there were specific guidelines for development and revision of instructional materials. Development of the instructional materials involves the use of interactive methods and application of Bloom’s Taxonomy. These methods helped the students to understand concepts being taught and they aided in the acquisition of knowledge, skills and values. Lecturers were trained on the kind of techniques to use in development of materials before the actual process began. The process of development of materials involved thorough review by subject experts. This explains the high satisfaction rate by both the lecturers and students. The composite mean for instructional techniques was 4.0 equivalent to 80% compared to 3.85, equivalent to 77% of curriculum resources and, 3.25 equivalent 65.7% of learner support system. This implies that the selected Kenyan public universities were doing well in provision of instructional techniques and provision of curriculum resources (percentages were 80% and 77% respectively) but much more is needed to be done in provision of satisfying learner support system because the satisfaction level was 65% (15% less than satisfaction in instructional techniques and 11.3% less than satisfaction in provision of curriculum resources).

4.6 Self-efficacy

For the measurement of learners’ self efficacy, the students were asked the extent to which they agreed to mentioned statements. The statements had a five point Likert scale with 1=strongly,
disagree, 2= disagree, 3= undecided 4= agree and 5= strongly agree. Out of the 13 items the students were to respond to, 84% of the students indicated that they agreed with the statements. The mean was 4.2. This meant that the students had high self-efficacy. Only 16% had low self-efficacy, however, although the percentage is high, the students with low self-efficacy should be catered for especially through guidance and counseling so as to increase the level of self-efficacy. The descriptive statistics for learners’ self-efficacy are presented as follows; the ability to solve difficult problems, certainty in accomplishment of goals and the ability to manage time well.

Table 4.18 Learners’ Self-efficacy

<table>
<thead>
<tr>
<th>Category of Respondents</th>
<th>Satisfaction-Percentage</th>
<th>Satisfaction-Mean out of 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to solve difficult problems</td>
<td>Students</td>
<td>86</td>
</tr>
<tr>
<td>Certainty in accomplishment of goals</td>
<td></td>
<td>84</td>
</tr>
<tr>
<td>Ability to manage time well</td>
<td>Students</td>
<td>82</td>
</tr>
</tbody>
</table>

Composite mean for students | 84 | 4.2 |

From the information in Table 4.18, it is clear that the leaners had high self-efficacy, the composite mean was 4.2 however, it is worth noting that they expressed a challenge in their ability to manage time well. The mean was 4.1 while certainty in accomplishing goals was 4.2 and ability to solve difficult students’ problems was 4.3. This is an indication that distance learning students need guidance on how to manage their time well.
4.7 Academic Performance

Academic performance was the dependent variable in this study. A historical perspective of the performance of the selected Bachelor of Education (Arts) third year distance learning students from selected Kenyan public universities was analyzed. From the secondary data obtained from the examination officers and record clerks, the performance of selected Bachelor of Education (Arts) third year distance learning students from selected Kenyan public universities was analyzed in the following categories: performance of selected Bachelor of Education (Arts) third year distance learning students by the end of first semester in first year, performance of selected Bachelor of Education (Arts) third year distance learning students by the cumulative mean score they obtained by the end of first semester in second year and performance of selected Bachelor of Education (Arts) third year distance learning students by the cumulative mean score they obtained by the end of first semester in third year. This approach showed the historical perspective of the performance of the selected Bachelor of Education (Arts) third year distance learning students from selected Kenyan public universities as indicated in the tables below.

<table>
<thead>
<tr>
<th>Grade</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (70% and above)</td>
<td>1</td>
<td>0.21</td>
</tr>
<tr>
<td>B (60-69%)</td>
<td>147</td>
<td>30.95</td>
</tr>
<tr>
<td>C (50-59%)</td>
<td>241</td>
<td>50.74</td>
</tr>
<tr>
<td>D (40-49%)</td>
<td>58</td>
<td>12.22</td>
</tr>
<tr>
<td>E-F (Below 40%)</td>
<td>28</td>
<td>5.90</td>
</tr>
<tr>
<td>Total</td>
<td>475</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean score obtained by the end of first semester in first year: 51.1
The results in Table 4.19 indicate that 81.9% of students scored C and above (50-70 and above), 12.22% scored D (40-49%) while 5.9% scored below 40% by the end of first semester in first year. It is noted that the mean score obtained by the end of first semester in first year was 51.1%. The performance was above average.

Table 4.20 Academic Performance by the cumulative mean score obtained by end of first semester second year

<table>
<thead>
<tr>
<th>Grade</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (70% and above)</td>
<td>5</td>
<td>1.13</td>
</tr>
<tr>
<td>B (60-69%)</td>
<td>132</td>
<td>29.73</td>
</tr>
<tr>
<td>C (50-59%)</td>
<td>252</td>
<td>56.76</td>
</tr>
<tr>
<td>D (40-49%)</td>
<td>45</td>
<td>10.14</td>
</tr>
<tr>
<td>E-F (Below 40%)</td>
<td>10</td>
<td>2.25</td>
</tr>
<tr>
<td>Total</td>
<td>444</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Cumulative Mean score obtained by the end of first semester in second year

The findings in Table 4.20 indicate that 87.62% scored C and above (50-70 and above), 10.13% scored D (40-49%) while 2.25% scored below 40% by the end of first semester in second year. It is noted that the cumulative mean score obtained by the end of first semester in second year was 53.11%. The performance was above average. There was an improvement of 2.01% from the performance of the first semester of first year.

Table 4.21 Academic Performance by the cumulative mean score obtained by end of first semester third year

<table>
<thead>
<tr>
<th>Grade</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (70% and above)</td>
<td>7</td>
<td>1.70</td>
</tr>
<tr>
<td>B (60-69%)</td>
<td>154</td>
<td>37.38</td>
</tr>
<tr>
<td>C (50-59%)</td>
<td>206</td>
<td>50</td>
</tr>
<tr>
<td>D (40-49%)</td>
<td>40</td>
<td>9.71</td>
</tr>
<tr>
<td>E-F (Below 40%)</td>
<td>5</td>
<td>1.21</td>
</tr>
</tbody>
</table>
The findings in Table 4.21 indicate that 89.08% scored C and above (50-70 and above), 9.71% scored D (40-49%) while 1.21% scored below 40% by the end of first semester in third year. The cumulative mean score obtained by the students by the end of first semester in third year was 55.65%. There was an improvement of 1.54% from the Cumulative Mean score obtained by the end of first semester in second year. This positive trend in the improvement in performance of the students shows that the selected Kenyan public universities were doing a good job in supporting the academic performance of the students. However, since the cumulative mean score is 55.65% which is Grade C (50-59%) and most distance learning students indicated that they had high self efficacy, it means that more needs to be done to improve the performance of distance learning students. According to Bandura’s (1986) Socio-Cognitive theory, human behavior is influenced by environmental factors and personal factors. Peterson and Arnn (2005), argue that self-efficacy is the foundation of human performance. Therefore, the selected Kenyan public universities should develop and implement rigorous quality assurance frameworks which ensure quality provision of especially the learner support system, which has been identified as wanting by the findings of this study (Latchem, 2016).

4.8 Tests of hypotheses
There were 5 hypotheses for this study, which corresponded to the five objectives. The hypotheses which were to be tested were; there is no relationship between learner support system and academic performance, there is no relationship between curriculum resources and
academic performance, there is no relationship between instructional techniques and academic performance, there is no relationship between a combination of institutional factors and learners’ self efficacy and academic performance, and, learners’ self efficacy does not moderate the relationship between institutional factors and academic performance. To test the hypotheses, Pearson Correlation analysis was done first to determine the co-relationship or association of the dependent and independent variables. After determining the co-relationship or association of the dependent and independent variables, Bivariate regression analysis was carried out to describe the numerical relationship of the independent variable to the dependent variables. It indicates the impact of unit change of one variable on another variable.

4.8.1 Hypothesis H1: There is no Relationship between Learner Support System and Academic Performance.

The first objective was to determine the influence of learner support system on academic performance of distance learning students in selected Kenyan public universities. Hypothesis H1 predicted that there is no relationship between learner support system and academic performance. Correlation analysis using Pearson’s Product Moment technique was done to determine the relationship between learner support system and academic performance.

<table>
<thead>
<tr>
<th>Learner Support System</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
<th>Learner Support System</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.22 Correlation between Learner Support System and Academic Performance

**. Correlation is significant at the 0.01 level (2-tailed).
Results from the Table 4.2 reveal that there is a significant positive relationship between learner support system and academic performance ($r = 0.412$). This implies that there is a very strong association between learner support system and academic performance. Later, a bivariate regression analysis for each of the sub-items under learner support was carried out to determine how each affected the academic performance of distance learning students in selected Kenyan public universities. The results are represented in Table 4.23

**Table 4.23** Bivariate regression results for Learner Support System and academic performance

<table>
<thead>
<tr>
<th>Item</th>
<th>$\beta^*$</th>
<th>$R^2$</th>
<th>$p$</th>
<th>t-value</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic support</td>
<td>0.546</td>
<td>0.020</td>
<td>0.013</td>
<td>2.490</td>
<td>6.21</td>
</tr>
<tr>
<td>Guidance and counseling</td>
<td>0.159</td>
<td>0.002</td>
<td>0.417</td>
<td>1.812</td>
<td>2.660</td>
</tr>
<tr>
<td>Administrative support</td>
<td>0.713</td>
<td>0.024</td>
<td>0.007</td>
<td>2.736</td>
<td>7.486</td>
</tr>
<tr>
<td><strong>Learner support</strong></td>
<td><strong>0.421</strong></td>
<td><strong>0.049</strong></td>
<td><strong>0.043</strong></td>
<td><strong>2.560</strong></td>
<td><strong>17.16</strong></td>
</tr>
</tbody>
</table>

The outcomes of the bivariate regressions presented in Table 4.23 shows that academic support explains 2.0% of the variance in the distance learning students’ academic performance and it statistically and significantly influence academic performance ($R^2 = 0.020$, $p$-value =0.013). Specifically, a unit change in academic support is associated with 0.546 change in academic performance. Guidance and counseling explains only 0.2% of the variance in academic performance and it is statistically not significant ($R^2=0.002$, $P=0.417$) thus it is concluded that
guidance and counseling on its own does not influence academic performance of distance learning students from selected Kenyan public universities. The findings further revealed that a unit change in guidance and counseling explains a 0.159 change in academic performance.

Administrative support explains only 2.4% of the variance in the distance learning students’ academic performance. This implies that although the model is significant \((R^2=0.024, P=0.007)\) only a very small proportion of academic performance is influenced by administrative support. The findings further revealed that a unit change in administrative support explains a 0.713 change in academic performance. Finally, the entire learner support explains 4.9% of the variance in distance learners’ academic performance \((R^2=0.049, P=0.043)\). This outcome indicates that learner support system statistically and significantly influences academic performance of distance learning students from selected Kenyan public universities, although at a low level. A unit change in the composite learner support system explains a 0.421 change in academic performance. Hypothesis one was therefore rejected as stated.

The findings do not agree with some of the results of a study by Bowa (2008) which revealed that most of the cognitive, affective and systemic learner support services did not contribute significantly to academic performance of learners because the services were either not adequately provided or because learners lacked access to the services. The current study revealed that academic support statistically and significantly influences academic performance \((R^2 = 0.020, p\text{-value }=0.013)\) although in a low level, (2.0%), and, administrative support significantly influences academic performance \((R^2=0.024, P=0.007)\) although in a low level, (2.4%). This was evidenced by the findings of this study which revealed that 74% of the students were satisfied with academic and administrative support which they received.
The findings in the study by Bowa (2008) further indicated that, social counseling services did not have significant influence on academic performance because the services were low and ineffective. He established this through his study on the influence of the learner support services and learner characteristics on academic performance of Bachelor of Education (Arts) learners in the School of Continuing and Distance Education at the University of Nairobi. These findings are consistent with the current study which found out that, guidance and counseling does not influence academic performance of distance learning students from selected Kenyan public universities. The study revealed that guidance & counseling explains only 0.2% of the variance in academic performance and it is statistically insignificant ($R^2=0.002$, $P=0.417$). These findings were consistent with the observation from the administrators who explained that although counseling services were available, the students, being distance learners, did not access the services adequately. This is despite clear information on the student information handbooks that pastoral and guidance services were offered through the chaplaincy. This means that the provision of guidance and counseling services need to be reconceived so as to ensure support irrespective of the location of distance learning students from the university.

4.8.2 Hypothesis H2: There is no Relationship between Curriculum Resources and Academic Performance of Distance Learning Students

The second objective was to establish the extent to which curriculum resources influence academic performance of distance learning students in selected Kenyan public universities. The hypothesis predicted that there is no relationship between curriculum resources and academic performance of distance learning students. Correlation analysis using Pearson’s product moment
A technique was done to determine the relationship between curriculum resources and academic performance of distance learning students. The results are represented in Table 4.24.

Table 4.24. Correlation between curriculum resources and academic performance of distance learning students

<table>
<thead>
<tr>
<th></th>
<th>curriculum resources</th>
<th>academic performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>curriculum resources</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>378</td>
</tr>
<tr>
<td>academic performance</td>
<td>Pearson Correlation</td>
<td>.425</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>378</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Results from Table 4.24 reveal that there is a significant positive relationship between curriculum resources and academic performance ($r = 0.425$). This implies that there is a very strong association between curriculum resources and academic performance.

After ascertaining the relationship between curriculum resources and academic performance, a bivariate regression analysis was carried out for each of the sub items under curriculum resources to determine how each affected the academic performance of distance learning students in selected Kenyan public universities. The results were presented in the Table 4.25

Table 4.25 Bivariate regression results for Curriculum Resources and academic performance

<table>
<thead>
<tr>
<th>Item</th>
<th>$\beta^*$</th>
<th>$R^2$</th>
<th>$P$</th>
<th>t-value</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library resources</td>
<td>0.937</td>
<td>0.070</td>
<td>0.000</td>
<td>4.754</td>
<td>22.59</td>
</tr>
<tr>
<td>Instructional materials/modules</td>
<td>0.810</td>
<td>0.054</td>
<td>0.000</td>
<td>4.415</td>
<td>17.18</td>
</tr>
<tr>
<td>Curriculum resources</td>
<td>.966</td>
<td>0.081</td>
<td>0.000</td>
<td>5.168</td>
<td>26.71</td>
</tr>
</tbody>
</table>
The outcome of the bivariate regressions presented in Table 4.25 shows that library resources explain 7.0% of the variance in the distance learning students’ academic performance thus it can be concluded that it statistically and significantly influences the academic performance (p-value =0.000, R²=0.070). Specifically, a unit change in library resources leads to 0.937 change in academic performance. Instructional materials/modules on the other hand explain 5.4% of the variance in academic performance and it is statistically significant (R²=0.054, P=0.000). The findings further reveal that a unit change in instructional materials leads to a 0.810 change in academic performance. The composite curriculum resources explains 8.1% of the variance in distance learners’ academic performance (R²=0.081, P=0.000). This outcome indicates that there exists a positive relation between curriculum resources and academic performance of distance learning students from selected Kenyan public universities. A unit change in the composite curriculum resources explains a 0.966 change in academic performance. It is therefore concluded that there is a positive relationship between curriculum resources and academic performance of distance learning students from selected Kenyan public universities, but at a low level of 8.1%. Hypothesis two was therefore rejected as stated.

These findings are consistent with different studies which indicate that there is a significant relationship between curriculum resources and academic performance (Adetoro & Adekunle, 2013; Jagero, 2013). A study carried out by Musau and Migosi (2013) found that girls’ achievement in classes with adequate SMT (Science, Mathematics and Technical Subjects) curriculum resources performed better than those with few or no resource materials. The results indicated that there was a strong linear relationship between the availability of curriculum resources and the girls’ achievement in SMT subjects. This study was however carried out in secondary schools and therefore the context of the study is different from the current study. In
the current study however, the results revealed that only a small percentage (8.1%) of the curriculum resources statistically, significantly and positively determined the academic performance of distance learning students in the selected Kenyan public universities. This indicates that much more needs to be done to improve the provision and usage of curriculum resources. As noted earlier, the satisfaction in regards to instructional materials was higher (80% of students were satisfied) than that of library resources (74% of students were satisfied). This means more needs to be done to improve the access, availability and use of reference books and e-journals in the selected Kenyan public universities.

These findings indicate that instructional materials were developed availed and used according to the set standards. The findings are consistent with the findings by Nyerere (2016) which revealed that Kenyan universities had put in place strategies to ensure lecturers were trained on course module development, in an effort to enhance credibility and recognition of distance learning programmes. The findings were supported by a study on distance learning quality management systems at the University of Nairobi which revealed that 79.3 % of the respondents agreed that course content was easy to understand (Munyaio, 2017).The same study revealed that care was taken towards the preparation of course materials, the materials were well bound and well packaged. It is however important to note that findings of this study were inconsistent with results revealed in studies by Ngugi and Kara (2013), and Anyona (2009), which indicated that the provision of study materials and course modules were dissatisfying in Kenyatta University. This implies that the selected Kenyan public universities had improved their services in regards to provision of instructional materials. This implies that the selected Kenyan public universities were doing better in regards to provision of curriculum resources than in provision of learner support system. These findings were consistent with the findings by Carlsen et.al. (2016) whose
study revealed that European universities had prioritized curriculum resources more than the learner support system.

4.8.3 Hypothesis H3: There is no Relationship between Instructional Techniques and Academic Performance

The third objective was to determine in what ways instructional techniques influence academic performance of distance learning students in selected Kenyan public universities. The hypothesis predicted that there is no relationship between instructional techniques and academic performance. Correlation analysis using Pearson’s Product Moment technique was done to determine the relationship between instructional techniques and academic performance. The results are represented in Table 4.26.

<table>
<thead>
<tr>
<th></th>
<th>instructional techniques</th>
<th>academic performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>instructional</strong></td>
<td>Pearson Correlation</td>
<td>.513</td>
</tr>
<tr>
<td><strong>techniques</strong></td>
<td>Sig. (2-tailed)</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>378</td>
</tr>
<tr>
<td><strong>academic</strong></td>
<td>Pearson Correlation</td>
<td>.513</td>
</tr>
<tr>
<td><strong>performance</strong></td>
<td>Sig. (2-tailed)</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>378</td>
</tr>
</tbody>
</table>

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

*. Correlation is significant at the 0.05 level (2-tailed).
The findings in Table 4.26 indicated that there was a significant positive relationship between instructional techniques and academic performance ($r = 0.513$) thus, depicting that instructional techniques have a significant positive relationship to academic performance.

Later a bivariate regression analysis was carried out to determine how instructional techniques affected the academic performance of distance learning students in selected Kenyan public universities. The outcome of the bivariate regression analysis is presented in Table 4.27.

**Table 4.27 Bivariate Regression Results for Instructional Techniques and Academic Performance**

<table>
<thead>
<tr>
<th>Item</th>
<th>$\beta^*$</th>
<th>$R^2$</th>
<th>$p$</th>
<th>$t$-value</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional techniques</td>
<td>0.864</td>
<td>0.055</td>
<td>0.000</td>
<td>4.181</td>
<td>17.482</td>
</tr>
</tbody>
</table>

Table 4.27 shows that instructional techniques explains 5.5% of the variance in the distance learning students’ academic performance, thus it is concluded that it statistically and significantly influences their academic performance ($R^2 = 0.055$, $p = 0.000$) though to a small percentage. The findings further revealed that a unit change in instructional techniques led to 0.864 change in academic performance. Hypothesis three was therefore rejected as stated.

In regards to instructional techniques, administrators explained that the students were satisfied with instructional techniques used. The administrators, through interviews, explained that the development of instructional materials involved the use of interactive methods and application of Bloom’s Taxonomy which assist students in understanding the concepts taught through the instructional materials. These findings imply that an increased usage of interactive instructional techniques such as use of group discussions, case studies and problem solving approaches in teaching would result in higher performance of distance learning students. These findings are supported by Omollo, et.al.(2017) who underscored the significance of using participatory
approach in the teaching and learning process. The results of their study on application of participatory teaching and learning approach in teacher training colleges in Tanzania indicated the principals supported the use of participatory approaches. The findings of the current study, which indicate that instructional techniques, statistically and significantly influence the academic performance of distance learning students\(R^2 = 0.055, F=17.482, p < 0.000, \text{Beta}= 0.864\) although at a low level, imply that much more needs to be done to improve the use of participatory approaches in the teaching and learning process Omollo, et.al.(2017).

The findings of this study are inconsistent with the findings by Gao (2012) whose study revealed that distance learning students were not satisfied with interactivity related support services. The students indicated that they seldom or never had group discussions. This implies that the selected Kenyan public universities had designed their instructional materials to promote deep learning. The use of participatory techniques is essential in optimizing learning (Omollo et.al, 2017). This implies that the selected Kenyan public universities were doing well in use of learner centered methods of teaching and provision of curriculum resources (percentages were 80% and 77% respectively). However, much more needed to be done in provision of satisfying learner support system because the satisfaction level was 65% (15% less than satisfaction in instructional techniques and 12% less than satisfaction in provision of curriculum resources). Several studies have revealed that there is need to prioritize learner support system (Ngugi & Kara, 2013, Anyona, 2009; Kamau, 2012; Tau, 2006; Mohasi; 2009; Bailey et.al, 2018)

of institutional and human factors on the readiness to adopt e-learning in secondary schools in Kitui District, Keiyoro (2010) investigated the factors influencing the effective use of ICT in teaching and learning Science curriculum in Kenyan secondary schools, and, Wambua et.al(2012)investigated the preparedness of students for ICT based learning in Kenyan Universities. There is therefore limited comparison between the results of this study and other studies.

4.8.4 Hypothesis H4: There is no Relationship between a Combination of Institutional Factors and Learners’ Self-efficacy and Academic Performance

The fourth objective was to determine the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students in selected Kenyan public universities. The hypothesis predicted that there is no relationship between a combination of institutional factors and learners’ self-efficacy and academic performance. Correlation analysis using Pearson’s Product Moment technique was done to determine the relationship between combination of institutional factors and learners’ self-efficacy and academic performance. The results are represented in Table 4.28.
Table 4.28. Correlation between a Combination of Institutional Factors and Learners’ Self-efficacy and Academic Performance academic performance of distance learning students

<table>
<thead>
<tr>
<th></th>
<th>Learner Support System</th>
<th>Curriculum Resources</th>
<th>Instructional Techniques</th>
<th>Learners’ Self-efficacy</th>
<th>Academic Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learner Support System</strong></td>
<td>Pearson Correlation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>378</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Curriculum Resources</strong></td>
<td>Pearson Correlation</td>
<td>.422</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.005</td>
<td>378</td>
<td>378</td>
</tr>
<tr>
<td><strong>Instructional Techniques</strong></td>
<td>Pearson Correlation</td>
<td>.453</td>
<td>.415</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.002</td>
<td>.005</td>
<td>378</td>
<td>378</td>
</tr>
<tr>
<td><strong>Learners’ Self-efficacy</strong></td>
<td>Pearson Correlation</td>
<td>.421</td>
<td>.402</td>
<td>.432</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.003</td>
<td>.002</td>
<td>.001</td>
<td>378</td>
</tr>
<tr>
<td><strong>Academic Performance</strong></td>
<td>Pearson Correlation</td>
<td>.442</td>
<td>.468</td>
<td>.480</td>
<td>.465</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.004</td>
<td>.001</td>
<td>.001</td>
<td>.005</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Relationship between Learner Support System and Academic Performance

Results from Table 4.28 reveal that there is a significant positive relationship between Learner Support System and Academic Performance ($r = 0.442$). This implies that there is a significant and very strong association between learner support system and academic performance.

Relationship between Curriculum Resources and Academic Performance

The findings also disclosed a significant positive relationship between curriculum resources and academic performance ($r = 0.468$), thus implying that curriculum resources positively and significantly influence academic performance.

Relationship between Instructional Techniques and Academic Performance

The findings revealed a significant positive relationship between instructional techniques and academic performance ($r = 0.480$) thus, depicting that instructional techniques positively and significantly influence academic performance.

Relationship between Learners’ Self Efficacy and Academic Performance

The findings indicated a significant positive relationship between learners’ self efficacy and academic performance ($r = 0.465$) thus, depicting that learners’ self efficacy has a significant positive relationship to academic performance.

After establishing the correlation between a combination of institutional factors and learners’ self efficacy and academic performance, a bivariate regression analysis was carried out and the results are shown in Table 4.29
Table 4.29. Bivariate Regression Results for a Combination of Institutional Factors and Learners’ Self-Efficacy and Academic Performance

<table>
<thead>
<tr>
<th>Academic performance</th>
<th>( \beta^* )</th>
<th>( R^2 )</th>
<th>p-value</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined institutional factors and self-efficacy</td>
<td>0.316</td>
<td>0.100</td>
<td>0.000</td>
<td>33.65</td>
</tr>
</tbody>
</table>

The outcome of bivariate regression analysis revealed in Table 4.29 indicates that combined institutional factors and self-efficacy explain 10.0% of the variance in distance learning students’ academic performance from selected Kenyan public universities. It is concluded that institutional factors and self-efficacy of distance learning students statistically and significantly influence academic performance \((R^2=0.100)\) but only a small percentage (10.0%) of academic performance of distance learning students can be explained by the combination of the institutional factors and students’ self-efficacy implying that other factors also influence academic performance of distance learning students. The findings further revealed that a unit change in combined institutional factors and self-efficacy led to 0.316 change in academic performance. Hypothesis four was therefore rejected.

These findings indicate that an integrated approach in management of distance learning programmes would yield higher academic performance among distance learning students. This implies that as the selected Kenyan public universities adopt strategies to improve institutional factors, they alongside need to consider ways of boosting learners’ self-efficacy. Distance learning institutions are social systems bounded by a set of elements, subsystems, and activities that interact, and constitute a social entity (Getzel’s, 1968; Robbins, Chatterjee, & Canda, 2006). In this study, the learner support system, curriculum resources, instructional techniques and learners’ self efficacy are the inputs in universities. The interactions of these inputs result in the
output which in this study is the academic performance of distance learning students (Moore & Kearsley, 2005). Although the topic on the relationship between self-efficacy and academic performance is of interest to many scholars, the study on the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students has not been the focus of most scholars. Scholars generally agree that self-efficacy is strongly related to one’s academic performance. Li (2011) found out that there is a positive correlation between self-efficacy and academic performance in Research Methods and Statistics.

4.8.5. Hypothesis H5: Learners’ Self-Efficacy does not moderate the Relationship between Institutional Factors and Academic Performance

This hypothesis was tested using Baron and Kenny (1986) four-step method. Linear regression was used in each step. In step one; academic performance was regressed on institutional factors. If $R^2$ and beta coefficients were considered statistically significant, the process would move to step two. If they were not significant, the process would terminate and the conclusion would be that learner’s self-efficacy does not moderate the relationship between institutional factors and academic performance. Step 2 involved regressing institutional factors on learner’s self-efficacy. If the results were significant, the process would move to step 3 because the necessary condition for moderation existed. In step three the influence of learner’s self-efficacy on academic performance was tested using a simple linear regression model. A statistically significant effect of learner’s self-efficacy on academic performance was a necessary condition in testing for the moderation. If results were significant, the analysis would move to step 4. Finally, Step four would test the influence of institutional factors on academic performance while controlling for the effect of learner’s self-efficacy. These tests were done using simple linear regression analysis. The influence of institutional factors on academic performance would not be
statistically significant when learner’s self-efficacy is controlled. This is a necessary condition in testing for moderation. Results from the four steps are presented in table 4.30, 4.31, 4.32 and 4.33 respectively.

**Step one:** Test of the influence of institutional factors on academic performance

The results of the regression analysis are presented in Table 4.30.

**Table 4.30. Regression Results from the Test of the Influence of institutional factors on academic performance**

<table>
<thead>
<tr>
<th>(a) Model Summary</th>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>.372</td>
<td>.298</td>
<td>.223</td>
<td>.187</td>
</tr>
<tr>
<td>a. Predictors: (Constant), Institutional Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(b) ANOVA</th>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regression</td>
<td>6.033</td>
<td>3</td>
<td>2.011</td>
<td>9.261</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>69.19</td>
<td>374</td>
<td>.185</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>75.223</td>
<td>378</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Dependent Variable: Academic Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Predictors: (Constant), Institutional Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(c) Coefficients</th>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.611</td>
<td>.363</td>
<td>.321</td>
</tr>
<tr>
<td>Institutional Factors</td>
<td>.512</td>
<td>.523</td>
<td>1.236</td>
</tr>
<tr>
<td>a. Dependent Variable: Academic Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Data (2018)

The results in Table 4.30 show that institutional factors had a moderate positive relationship with academic performance (R=.372). The model explained 29.8% of the variation in academic performance which was significant (R²=0.223, F=9.261, P<0.05) leaving 71.2 percent unexplained. The results thus confirmed the first step of testing for the moderation of learner’s self-efficacy between institutional factors and academic performance.
Step two: the test for the moderation of learner’s self-efficacy in the relationship between institutional factors and academic performance involved testing the influence of institutional factors on learner’s self-efficacy. The results of the tests are presented in Table 4.31

Table 4.31 Regression Results from the Test of the Effect of institutional factors on learner’s self-efficacy

<table>
<thead>
<tr>
<th>(a) Model Summary</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model R R Square Adjusted R Square Std. Error of the Estimate</td>
<td></td>
</tr>
<tr>
<td>1 .425 .321 .332 4.563</td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), institutional factors

<table>
<thead>
<tr>
<th>(b) ANOVA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Sum of Squares df Mean Square F Sig.</td>
<td></td>
</tr>
<tr>
<td>Regression 102.34 1 102.34 12.434 .000</td>
<td></td>
</tr>
<tr>
<td>Residual 15951.624 377 42.312</td>
<td></td>
</tr>
<tr>
<td>Total 16053.964 378</td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: learner’s self-efficacy
Predictors: (Constant), institutional factors

<table>
<thead>
<tr>
<th>(c) Coefficients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Unstandardized Coefficients Standardized Coefficients t Sig.</td>
<td></td>
</tr>
<tr>
<td>B Std. Error Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant) 28.345 3.214 2.312 .000</td>
<td></td>
</tr>
<tr>
<td>institutional factors .654 .109 .423 5.112 .000</td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: learner’s self-efficacy
Predictors: (Constant), institutional factors

Source: Field Data (2018)

The results presented in Table 4.31 indicate that institutional factors had a positive strong and significant effect on learner’s self-efficacy (R=.425). The model explained 42.5% (R²=.321) of the variation in learner’s self-efficacy, leaving 57.5% unexplained. The results, therefore suggest that the second step of testing confirms intervention of learner’s self-efficacy in the relationship between institutional factors and academic performance and thus permits analysis to move to step 3.
The third step of the test for the moderation of learner’s self-efficacy in the relationship between institutional factors and academic performance involved testing the influence of learner’s self-efficacy on academic performance. The results for the step 3 are presented in Table 4.32.

### Table 4.32. Regression Results Depicting Moderating Effect of learner’s self-efficacy on the Relationship between institutional factors and academic Performance

| (a) Model Summary |  |
|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .219 | .115 | .001 | .325 |

| (b) ANOVA |  |
|---|---|---|---|---|
| Model | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | .256 | 1 | .256 | 2.098 | .003 |
| Residual | 82.186 | 377 | .218 |
| Total | 82.442 | 378 |

| (c) Coefficients |  |
|---|---|---|
| Model | Unstandardized Coefficients | Standardized Coefficients |
| | B | Std. Error | Beta | t | Sig. |
| learner’s self-efficacy | 152 | .286 | .105 | .120 | .215 |
| Institutional factors | .098 | .221 | .125 | 2.097 | .187 |

Predictors: (Constant), learner’s self-efficacy, institutional factors
Dependent Variable: academic Performance
Source: Field Data (2018)

The results in Table 4.32 indicate that learner’s self-efficacy had a weak positive relationship with academic performance (R=.219). The model explained 21.9% of the variation in academic performance. 78.1% of academic performance is explained by other factors not considered in the model. The results were not statistically significant at P>0.05. The results therefore did not satisfy the condition in the third step in testing for moderation effect of learner’s self-efficacy in
the relationship between institutional factors and academic performance. Thus, the process terminated at step 3 and consequently there cannot be results for step 4 to present. The results were indicative of the fact that institutional factors interacts with learner’s self-efficacy and the interaction has an effect on their influence on academic performance, though the indirect effect was not clear from the results in this study. The study accepts the hypothesis that learners’ self-efficacy does not moderate the relationship between institutional factors and academic performance.

The findings are consistent with a study carried out by Keren, Yoav and Asya (2016) which revealed that when reward is high, self efficacy has a positive effect on performance but when reward is low, the effect of self efficacy on performance is negative. A study by Lugo et al (2016) found out that there are potential negative effects of intuitive decision making in combination with high self efficacy. The study further explained that the combination of self-efficacy and ‘gut feelings’ impairs decision making success because they increase the probability that one may take an easy but wrong option which is not appropriate for a complex problem. These studies support the findings of this study which indicates that self efficacy has a negative effect on the relationship between institutional factors and academic performance.

These findings are inconsistent with findings of different scholars who argue that learners’ self efficacy influences positively academic performance of distance learning students. High self-efficacy increases student effort to master challenging academic tasks by enhancing efficient use of acquired knowledge and skills (Zajacova, Lynch &Espenshade, 2005; Johan, Valcke & Cai, 2009). Li (2011) found out that there is a positive correlation between self-efficacy and academic performance in Research Methods and Statistics. Academic self-efficacy is a reliable predictor of
performance. It enables a student carry out academic tasks such as writing term papers effectively (Zajacova, Lynch&Espenshade, 2005). There is a strong relationship between self-efficacy and academic performance of adult learners in online context (Goulao, 2014). Studies have also found a statistical significant relationship between performance and self efficacy (Bates and Khasawreh, 2007; Cascio et al, 2013). A study by Kithinji and Kanga (2017) on the relationship between learner characteristics and academic performance of distance learning students in Kenyan universities indicates that there is a significant relationship between learner characteristics and academic performance. The findings of the current study therefore imply that with 84% of the distance learning students indicating that they had high self efficacy much more needed to be done in regards to provision of learner support services, curriculum resources and use of learner centered participatory approach, for learners’ self efficacy to have any meaningful impact.
CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This chapter presents information in the following subheadings; summary of findings on research objectives, hypotheses, conclusion, implications and recommendations for the whole study.

5.2 Summary of findings
The purpose of this study was to establish the combined influence of institutional factors and learners’ self-efficacy on the academic performance of distance learning students in selected Kenyan public universities. The study collected data from 125 lecturers teaching Bachelor of Education (Arts) third year distance learning students, 475 Bachelor of Education(Arts) third year distance learning students and 2 administrators in charge of distance learning programmes in selected Kenyan public universities.

The background information of the selected Bachelor of Education (Arts) third year distance learning students from selected Kenyan public universities indicates that both genders were represented in the study, although in varying magnitude (55.8% males and 44.2% females), majority of the students were aged between 26-35 years old (66.8%), but it was worth noting that 17.9% of the students were aged 16-25 years. This presents an immerging trend where young people are joining distance learning programmes. Most of the students 342 (90%) had attained
C+ and above as required in university entry point by Kenya Universities and Colleges Central Placement Service (2017).

The demographic information of the selected lecturers teaching Bachelor of Education (Arts) third year distance learning students from selected Kenyan public universities showed that both genders were represented in the study, although in varying magnitude (51.1% males and 48.9% females). It was worth noting that 60 (65.2%) of the lecturers had attained 6 years of experience in teaching at the university level. The experience of the lecturers was considered adequate for the study because the Commission for University Education in Kenya (2014) requires that for one to qualify as lecturer, the person must have a Master’s degree and must have taught at the university level for three years. Majority 60 (65.2%) of the lecturers were employed on full time basis in the selected Kenyan public universities with only 32 (34.8%) of them being engaged on part time basis. This meant that most lecturers had adequate interaction with students and therefore they gave reliable information. Majority 51 (55.4%) of the lecturers, were doctorate degree holders while 41 (44.6%) of them were master’s degree holders. This implied that all the lecturers were qualified to teach the Bachelor of Education (Arts) third year distance learning students. The lecturers had relevant exposure to distance learning mode of study because all of them taught distance learning students, thus, the information provided by the lecturers was reliable.

Regarding academic support, the study results showed that 72% of the students were satisfied with academic support. The mean was 3.6. This indicates that the students were satisfied with the fact that the lecturers were available for consultation when necessary, that the lecturers were
available for guidance on academic matters when necessary and that the lecturers gave timely feedback on assignments and tests. The findings indicate that 62% of the lecturers were satisfied with the academic support they gave to distance learning students. The mean was 3.1. The satisfaction of lecturers was lower by 10% compared to the satisfaction of students which indicates that the lecturers felt that they needed to do more to enhance the academic support of students. These findings were supported by the administrators of selected Kenyan public universities who explained that the academic support was satisfactory but it could be improved with more access to internet by lecturers. The administrators explained that the lecturers complained of the cost of internet while serving students while away from campus.

The findings indicated that 62% of the students were satisfied with financial aid guidance, career counseling and personal (mental health) counseling. The mean was 3.1. However, only 54% of lecturers were satisfied with the guidance and counseling support which the students received. The mean was 2.7. The satisfaction of lecturers was 8% lower than that of students meaning that the lecturers felt that more needed to be done to improve guidance and counseling services. It is important to note that the satisfaction of students in guidance and counseling was 10% lower compared to satisfaction in academic support. This meant that the students perceived that the academic support provided was more satisfying than the guidance and counseling support.

These findings were consistent with the observation from the administrators who explained that although counseling services were available, the students, being distance learners, did not access the services adequately. This was despite clear information on the student information handbooks that pastoral and guidance services were offered through the chaplaincy. These findings indicate
that something needs to be done to provide remotely accessible guidance and counseling services to distance learning students in selected Kenyan public universities since distance learning students were not able to access the guidance and counseling services in the offices within the universities.

The study revealed that 72% of students were satisfied with administrative support. The mean was 3.6. It is worth noting that the result of lecturers was similar to that of students. 72% of the lecturers were satisfied with the administrative support which the students received. It is worth noting that the student information handbooks provided elaborate details of the role of the departments of student affairs. According to the information available in the handbooks, clubs, societies, student governance and other activities were encouraged. The administrators however noted that more needed to be done to encourage participation of distance learners in organizations and in student governance.

Considering the overall response rate in the area of learner support system, 68.7% of students were satisfied with the system with a mean of 3.4. This means that 31.3% of the students were dissatisfied with the learner support system. As noted earlier, much of the dissatisfaction is in the area of guidance and counseling whose percentage was 62%. Therefore, although efforts should be geared towards improving the entire learner support system, much more effort should focus on improving the provision of guidance and counseling services to distance learning students. When we look at the overall response rate for lecturers in relation to learner support system, 62.7% were satisfied. The mean was 3.1. This means that from the lecturers’ point of view, much more needs to be done to improve the learner support system since 37.3% of them were
dissatisfied with this support. The composite mean was 3.25 which was equivalent to 65%. This meant that in regards to learner support system the selected Kenyan public universities needed to do much more to enhance satisfaction of this support because 35% of lecturers and students were dissatisfied.

The study revealed that the level of satisfaction of both students and lecturers in relation to library resources was similar. 74% of both students and lecturers were satisfied with access, availability and use of reference books and e-journals. The mean was 3.7. The administrators explained that the library resources were satisfactory. The student information handbook explained that Kenyatta University had over 400,000 volumes of books and bound periodicals and it subscribes to over 20 electronic databases. The student information handbook from the University of Nairobi explains that the university has access to over 40,000 peer reviewed full text electronic journals and it has subscribed to over 50,000 e-books from Elibrary and Taylor and Francis. The administrators explained that the students were satisfied with the library resources as evidenced in the student information handbooks. However, it is worth noting that 26% of both lecturers and students were not satisfied with provision of library resources, indicating that much needed to be done to improve access, availability and use of reference books and e-journals.

In regards to the instructional materials, the study results revealed that 80% of the students were satisfied with availability of instructional materials, their relevance and their usage. The mean was 4.0. Among the lecturers, 78% of them were satisfied with availability of instructional materials, their relevance and their usage. The mean was 3.9. The findings were consistent with
those of the administrators who explained that the students were satisfied with the instructional materials because there were stringent measures in place to ensure that instructional materials were available, relevant and easy to use. This implies that the selected Kenyan public universities had improved their services in regards to provision of instructional materials.

The overall rating of curriculum resources revealed that 78% of students were satisfied, with a mean of 3.9 while 76% of the lecturers were satisfied with a mean of 3.8. The satisfaction rate is quite high indicating that generally the selected Kenyan public universities were doing well in terms of provision of curriculum resources. It is however important to note that the satisfaction in regards to instructional materials was higher (80 of students were satisfied) than that of library resources (74% of students were satisfied). The selected Kenyan public universities need to look for ways of enhancing access, availability and use of reference books and e-journals. The composite mean of both the lecturers and students in regards to satisfaction with curriculum resources was 3.85, equivalent to 77%. This is quite high compared to the composite mean in regards to the learner support system which was 3.25 equivalent 65%. The difference is 12%. This implies that the selected Kenyan public universities were doing better in regards to provision of curriculum resources than in provision of learner support system.

The results revealed that both the lecturers and the students had the same level of satisfaction on the instructional techniques used, namely; use of study groups, case studies and the use of problem solving activities. The response rate was 80% which was equivalent to a mean of 4.0. This was the highest response rate in relation to all institutional factors. The findings were consistent with the findings from administrators who explained that the students were satisfied
with the use of instructional techniques. They elaborated that there were specific guidelines for
development and revision of instructional materials. Development of the instructional materials
involves the use of interactive methods and application of Bloom’s Taxonomy. These methods
helped the students to understand concepts being taught and they aided in the acquisition of
knowledge, skills and values. Lecturers were trained on the kind of techniques to use in
development of materials before the actual process began. The process of development of
materials involved thorough review by subject experts. This explains the high satisfaction rate by
both the lecturers and students.

The composite mean for instructional techniques was 4.0 equivalent to 80% compared to 3.85,
equivalent to 77% of curriculum resources and, 3.25 equivalent 65% of learner support system.
This implies that the selected Kenyan public universities were doing well in provision of
instructional techniques and provision of curriculum resources (percentages were 80% and 77%
respectively) but much more needs to be done in provision of satisfying learner support system
because the satisfaction level was 65% (15% less than satisfaction in instructional techniques and
12% less than satisfaction in provision of curriculum resources). The findings further showed that
out of the 13 items the students were to respond to, 84% of the students indicated that they
agreed with the statements on self efficacy. The mean was 4.2. This meant that the students had
high self efficacy.

The statistics on performance indicated an upward trend from a mean of 51.1% at the end of the
first semester of first year to 53.11% cumulative mean score at the end of the first semester of
second year and to 55.65% cumulative mean score at the end of first semester of third year. The
percentage of students with grade E-F (below 40%) dropped from 5.90% at the end of first semester of first year to 2.25% at the end of first semester of second year and finally to 1.21% at the end of the first semester of third year. The upward trend in performance is an indication that the selected Kenyan public universities were doing a good job in supporting the academic performance of the students. However, since the cumulative mean score is 55.65% which is Grade C (50-59%) and most distance learning students indicated that they had high self efficacy, it means that more needs to be done to improve the performance of distance learning students. Therefore, the selected Kenyan public universities should develop and implement rigorous quality assurance frameworks which ensure quality provision of especially the learner support system, which has been identified as wanting by the findings of this study.

The first objective was to determine the influence of learner support system on academic performance of distance learning students in selected Kenyan public universities. The researcher executed a bivariate regression with the three independent variables (academic support, guidance and counseling and administrative support) and distance learners’ academic performance. The results indicated that the independent variables explains 4.9% of the academic performance ($R^2 = 0.049, F= 17.16, p=0.043$). It was therefore concluded that learner support though only to a small percentage statistically significantly and positively determine the academic performance of distance learning students in selected Kenyan public universities. Hypothesis one (1) was thus rejected.

The second objective was to establish the extent to which curriculum resources influence academic performance of distance learning students in selected Kenyan public universities. The
researcher executed a bivariate regression with the two independent variables (library resources and instructional materials) and distance learning students’ academic performance. The outcome indicated that the model explains 8.1% of the distance learning students’ academic performance ($R^2 = 0.081$, $F = 26.71$, $p = 0.000$). It was therefore concluded that curriculum resources though only to a small percentage statistically significantly and positively determined the academic performance of distance learning students in selected Kenyan public Universities. Hypothesis two (2) was thus not supported.

The third objective was to determine in what ways instructional techniques influence academic performance of distance learning students in selected Kenyan public universities. A bivariate regression analysis was carried out to test the hypothesis that there is no relationship between instructional techniques and academic performance. The outcome of the bivariate regression analysis shows that instructional techniques explains 5.5% of the variance in the distance learning students’ academic performance thus it was concluded that instructional techniques statistically and significantly influence academic performance ($R^2 = 0.055$, $F = 17.482$, $p < 0.000$, Beta= 0.864) though to a small percentage. The administrators, through interviews, explained that the development of instructional materials involves the use of interactive methods and application of Bloom’s Taxonomy which promote the acquisition of knowledge, skills and values. Hypothesis three (3) was therefore rejected.

The fourth objective was to determine the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students in selected Kenyan public universities. A bivariate regression analysis was carried out and it revealed that combined
institutional factor and self-efficacy explain 10.0% of the variance in distance learning students’ academic performance from selected universities in Kenya. It was concluded that institutional factors and distance learning students’ self-efficacy statistically and significantly influence academic performance ($R^2=0.100$, $F=33.65$, $P<0.000$, $\text{Beta}=0.316$) but only a very small percentage (10.0%) of distance learning students’ academic performance can be explained by the combination of the institutional factors and students self-efficacy. Hypothesis four (4) was therefore rejected.

The fifth objective was to establish the moderating influence of learners’ self-efficacy on the relationship between institutional factors and academic performance of distance learning students in selected Kenyan public universities. Stepwise regression analysis was used to establish the moderating effect of learners’ self-efficacy on the academic performance of distance learners in selected Kenyan public universities. The process terminated at step 3 and consequently there could not be results for step 4 to present. The results were indicative of the fact that institutional factors interacted with learner’s self-efficacy and the interaction had an effect on their influence on academic performance, though the indirect effect was not clear from the results in this study. The study accepts the hypothesis that learners’ self-efficacy does not moderate the relationship between institutional factors and academic performance. Hypothesis five (5) was thus supported.

5.3 Conclusions
The purpose of this study was to establish the combined influence of institutional factors and learners’ self-efficacy on the academic performance of distance learning students in selected Kenyan public universities. The specific objectives of the study were to; determine the influence of learner support system on academic performance of distance learning students in selected
Kenyan public universities, establish the extent to which curriculum resources influence academic performance of distance learning students in selected Kenyan public universities, determine in what ways instructional techniques influence academic performance of distance learning students in selected Kenyan public universities, determine the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students in selected Kenyan public universities, and, to establish the moderating influence of learners’ self-efficacy on the relationship between institutional factors and academic performance of distance learning students in selected Kenyan public universities. The findings of the study led to several conclusions.

The study revealed that learner support system statistically, significantly and positively influences academic performance of distance learning students in selected Kenyan public universities although only in a small percentage. However, among the variables in the learner support system (academic support, guidance and counseling and administrative support), guidance and counseling support was the only variable which did not significantly influence academic performance of distance learning students. These findings imply that although, provision of academic support, guidance and counseling and administrative support would result in higher levels of academic performance of distance learning students, more emphasis should be geared towards enhancing guidance and counseling support. The provision of guidance and counseling services need to be reconceived so as to ensure support irrespective of the location of distance learning students from the university (Muchiri, 2012; Kamau, 2012; Anyona, 2009). Guidance and counseling services should be remotely accessible (Bailey, et.al.2018, Chatpakkarattana&Khaisang, 2012; Baloyi, 2014).
The study findings revealed that curriculum resources statistically and significantly, and, positively influence academic performance of distance learning students in selected Kenyan public universities although in a small percentage. These findings imply that increase of accessibility, adequacy and use of reference books and e-journals as well as increase of availability, relevance and usage of instructional materials would more likely improve the performance of distance learning students. Since the results indicated that instructional materials had a higher influence on academic performance than library resources, it therefore implies that more effort should be geared towards enhancing accessibility, adequacy and use of reference books and e-journals.

The study results showed that instructional techniques statistically and significantly influence academic performance of distance learning students in selected Kenyan public universities. These findings imply that increase in use of interactive instructional techniques would more likely improve the performance of distance learning students. This implies that the processes put in place to ensure the use of interactive methods and application of Bloom’s Taxonomy by lecturers in the selected Kenyan public universities should be encouraged because these methods enhance the acquisition of knowledge, skills and values.

Comparison of the influence of the various variables on academic performance shows that curriculum resources had the highest influence (8.1%), followed by instructional techniques, (5.5%) and learner support system whose influence was 4.9%. This implies that there is a lot of focus on provision of curriculum resources in the selected Kenyan public universities. Among
the institutional factors being studied, learner support had the lowest influence. These findings imply that although all institutional factors need to be enhanced, specific strategies need to be employed to increase effectiveness of the learner support system in an effort to enhance the academic performance of distance learning students in selected Kenyan public universities. Therefore, the selected Kenyan public universities should develop and implement rigorous quality assurance frameworks which ensure quality provision of especially the learner support system, which has been identified as wanting by the findings of this study (Latchem, 2016).

The study findings further showed institutional factors and distance learning students’ self-efficacy (combined) statistically and significantly influence academic performance of distance learning students’ academic performance. It was worth noting that individually, the learner support influenced only 4.9% of academic performance, curriculum resources only influenced 8.1% of academic performance while instructional techniques influenced 5.5% of academic performance. However, the institutional factors and learners’ self-efficacy combined influenced 10% of the academic performance of distance learning students. This implies that an integrated approach should be used when enhancing the distance learners’ academic performance. Distance learning institutions are social systems bounded by a set of elements, subsystems, and activities that interact, and constitute a social entity (Getzel’s, 1968; Robbins, Chatterjee, & Canda, 2006). A systems approach in implementing distance learning programmes is recommended (Moore & Kearsley, 2005).

Finally, the findings of the study revealed that learners’ self-efficacy did not produce a statistically significant positive effect when introduced as a moderating variable to the
relationship between institutional factors and academic performance of distance learners in selected Kenyan public universities. The process of stepwise regression analysis terminated at step 3 and consequently there could not be results for step 4 to present. The results were indicative of the fact that institutional factors interact with learner’s self-efficacy and the interaction has an effect on their influence on academic performance, though the indirect effect was not clear from the results in this study. The study accepts the hypothesis that learners’ self-efficacy does not moderate the relationship between institutional factors and academic performance. This implies that there is need to enhance learners’ self efficacy in order to improve academic performance of distance learning students. The provision of guidance and counseling services need to be reconceived so as to ensure support irrespective of the location of distance learning students from the university (Muchiri, 2012; Kamau, 2012; Anyona, 2009). Guidance and counseling services should be remotely accessible (Bailey, et.al.2018, Chatpakkarattana&Khaisang, 2012; Baloyi, 2014).

5.4 Recommendations
Based on the findings of the study and subsequent conclusions, the study makes the following recommendations to policy, practice and theory. The learner support system is the backbone of successful distance learning programmes. It should be integrated in the core business of distance learning programmes. There is therefore urgent need of developing and implementing rigorous quality assurance frameworks to ensure quality provision of learner support system. Particular focus should be on the provision of remotely accessible guidance and counseling services since distance learning students cannot physically access the services which are within campuses.
The fact that curriculum resources influence academic performance of distance learning students in selected Kenyan public universities calls upon universities to develop strategies which enhance accessibility, adequacy and use of reference books and e-journals as well as developing strategies which increase availability, relevance and usage of instructional materials. Specific measures should be put in place to ensure that the curriculum resources can be accessed and used easily by learners.

The study findings showed that instructional techniques influence academic performance of distance learning students in selected Kenyan public universities. Universities are therefore called upon to increase the use of interactive instructional techniques so as to improve the performance of distance learning students. Universities should lay down clear processes that encourage the use of interactive methods and application of Bloom’s Taxonomy by lecturers so as to enhance the acquisition of knowledge, skills and values.

Based on the finding that institutional factors and distance learning students’ self-efficacy (Combined) influence academic performance of distance learning students’ academic performance in selected Kenyan public universities, this implies that integrating institutional factors and distance learning students’ self-efficacy will enhance the academic performance distance learners. Universities should therefore adopt an integrated approach in their focus on strategies to enhance distance learners’ academic performance. As strategies are being put in place to enhance institutional factors, likewise, those strategies which enhance self efficacy should be considered. A systems approach in implementing distance learning programmes is recommended.
Finally, the findings of the study revealed that learners’ self-efficacy does not moderate the relationship between institutional factors and academic performance of distance learners in selected Kenyan public universities. This further emphasizes the need for guidance and counseling services which are remotely accessible so as to enhance learners’ self efficacy, in an effort towards improving the academic performance of distance learning students in selected Kenyan public universities.

5.5 Contribution to Knowledge
This study analyzed institutional factors, learners’ self efficacy and academic performance of distance learning students. It contributed to empirical knowledge on institutional factors and learners’ self efficacy. The study portrayed that institutions of higher learning ought to provide appropriate learner support services, curriculum resources and enhance the use of interactive methods in teaching and learning process. It further sheds light on the need to look for ways of integrating institutional factors and students’ self efficacy because when these two are combined they influence academic performance of distance learning students positively.

The findings of this study support the systems theory which states that institutions are social systems bounded by a set of elements, subsystems, and activities that interact, and constitute a social entity. The first four hypotheses have shown that learner support system, curriculum resources, instructional techniques, and, a combination of institutional factors and learners’ self efficacy all contribute to students’ academic performance. The fifth hypothesis has shown that learners’ self efficacy on its own, does not moderate the relationship between institutional factors and students’ academic performance. Thus an integrated approach needs to be adopted in improving academic performance of distance learning students.
Finally, the selected Kenyan public universities will gain from the knowledge of the study by applying it to develop and implement rigorous quality assurance frameworks to ensure quality provisions of distance learning services. From this research, two papers have been published, ‘Learner Support System and Academic Performance of Distance Learning Students in Selected Kenyan Public Universities’ by DETA Online Journal 2018, and, ‘Learners’ self efficacy and Academic Performance of Distance Learning Students in Selected Kenyan Public Universities’ by Journal of Education and Practice.

5.6 Suggestions for further research
This study revealed research gaps which provide some basis for further empirical investigations. The study focused on selected Kenyan public universities, a similar study needs to be done in selected Kenyan private universities offering distance learning programmes in order to show whether the findings have universal application and can form building blocks for theoretical explanations of academic performance in distance learning programmes.

A gap was revealed in the area of provision of learner support. The findings indicated that guidance and counseling support did not influence the academic performance of distance learning students because the students did not have access to the services or the services were not adequate. Research needs to be done to explore this gap.

Regarding curriculum resources, the current study found out that this variable had the highest influence on academic performance. However, the results indicated that instructional materials had a higher influence on academic performance than library resources. Since the findings from
the document analysis indicated that the selected Kenyan public universities had provided adequate library resources, more research needs to be done to assess the access and usage of online library resources.

This study focused on instructional techniques used in the development of instructional materials. Research can be done to find out the influence of online instructional techniques such as discussion forums, chats, brainstorming, question and answer sessions, problem solving, and case studies, on academic performance of distance learning students. There is limited scholarly work in the use of instructional techniques to improve performance of distance learning students.

The findings of the study showed that learners’ self efficacy did not moderate the relationship between institutional factors and distance learning students’ academic performance in selected Kenyan public universities. A different study needs to be carried out to investigate if high reward on self efficacy has a positive influence on the relationship between institutional factors and academic performance of distance learning students.

Although distance learning programmes are known to attract mainly adults who are working and are not able to participate in the conventional mode of study, it was worth noting that 18% of the students in this study were aged 16-25 years. This presents an emerging trend where young people are joining distance learning programmes. Research can be done to investigate this emerging trend.
Table 5.1 Summary of Results of Tests of Hypotheses

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Hypothesis</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Determine the influence of learner support system on academic performance of distance learning students in selected Kenyan public universities.</td>
<td>Hypothesis ( H_1 ) There is no relationship between learner support system and academic performance</td>
<td>( R^2 = 0.049, ) ( F = 17.16, ) ( p = 0.043 )</td>
<td>Reject</td>
</tr>
<tr>
<td>2. Establish the extent to which curriculum resources influence academic performance of distance learning students in selected Kenyan public universities.</td>
<td>Hypothesis ( H_2 ) There is no relationship between curriculum resources and academic performance</td>
<td>( R^2 = 0.081, ) ( F = 26.71, ) ( p = 0.000 )</td>
<td>Reject</td>
</tr>
<tr>
<td>3. Determine in what ways instructional techniques influence academic performance of distance learning students selected Kenyan public universities.</td>
<td>Hypothesis ( H_3 ) There is no relationship between instructional techniques and academic performance</td>
<td>( R^2 = 0.055, ) ( F = 17.482, ) ( p &lt; 0.000, ) Beta = 0.864</td>
<td>Reject</td>
</tr>
<tr>
<td>4. Determine the combined influence of institutional factors and learners’ self-efficacy on academic performance of distance learning students in selected Kenyan public universities.</td>
<td>Hypothesis ( H_4 ) There is no relationship between a combination of institutional factors and learners’ self-efficacy and, academic performance.</td>
<td>( R^2 = 0.100, ) ( F = 33.65, ) ( p &lt; 0.000, ) Beta = 0.316</td>
<td>Reject</td>
</tr>
</tbody>
</table>
| 5. Establish the moderating influence of learners ‘self-efficacy on the relationship between institutional factors and academic performance of distance learning students in selected Kenyan public universities. | Hypothesis \( H_5 \) Learners’ self-efficacy does not moderate the relationship between institutional factors and academic performance. | Step 1: \( R^2 = 0.223, \) \( F = 9.261, \) \( p < 0.05 \)  
Step 2: \( R^2 = 0.321, \) \( F = 12.434, \) \( p < 0.05 \)  
Step 3: \( R^2 = 0.115, \) \( F = 2.098, \) \( p > 0.05 \) | Accept         |
REFERENCES


Agina-Obu, T. N. (2005). The *Relevance of Instructional Materials in Teaching and Learning* in Robert-


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Benford S. & Gess-Newsome (2006). Factors Affecting Student Academic Success in Gateway Courses at Northern Arizona University


Carmel A. & Gold S. (2007). The Effects of Course Delivery Modality on Student Satisfaction and Retention and GPA in On-Site Vs. Distance Courses. *Turkish Online Journal of Distance Education, Vol. 8*, No. 2, Article 11


Gesinde, M. & Akinwale, M.O. (2014). Trends and Future Directions in Open and Distance Learning Practice in Africa. University of Lagos


Holmberg(1989). Theory and Practice of Distance Education. London: Routledge


Ji-Yeon (2000). Current state of learner support in Distance education; *In Annual proceedings of selected Research and Development papers Presented at the National Convection of the association for Educational Communications and technology* Oct.25-28,2000 Vol.1-2,10p


Jung I., & Hong S. (2014). An Elaborated Model of Student Support to Allow for Gender Considerations in Asian Distance Education. *The International Review of Research in Open and Distributed Learning* Vol.15. No.2. pp 170-188


138


Kyoshaba, M. (2009). *Factors Affecting Academic Performance of Undergraduate Students at Uganda Christian University, Kampala, Makerere University*


Mills, R. (2003). The Centrality of Learner Support in Open and Distance Learning: A paradigm shift in thinking. In A. Tait and R. Mills (Eds), Rethinking learner support in Distance Education: Change and continuity in an international context. London: Routledge Falmer


Wordsworth Publishing Company.


Otwoma (2010). *Challenges facing open and distance students in the use of learner support services provided by Kenya Institute of Special Education at Migori Regional Centre*. An unpublished master’s project, University of Nairobi

Owusu-Boampong & Holmberg C. (2015). *Distance Education in European higher education- The Potential*. Oslo: International Council for Open and Distance Education


SAIDE (2003). *Minimum Targets for Distance Education in South Africa.* Johannesburg: SAIDE


Taipjutorus, W., Hansen, S., & Brown, M. 2012. Investigating a Relationship between Learner Control and Self-efficacy in an Online Learning Environment. Journal of Open, Flexible, and Distance Learning, 16(1), 56 – 69


Usun, S. (2004). Learner Support Services in Distance Education Systems (A Case Study of Turkey) *Turkish online journal of DE-TOJDE Oct 204ISSN 1302_6488 Vol.5No.4*


APPENDIX I: LETTER OF INTRODUCTION

Dear Respondent,

I am conducting a research on The Influence of Institutional Factors and Learners’ Self efficacy on Academic Performance of distance learning students in Selected Universities in Kenya. The study will be based in University of Nairobi and Kenyatta University.

You have been selected as a respondent to assist in providing the required information. I therefore request you to kindly spare a few minutes and answer the attached questionnaire. The information obtained will be used for academic purposes only and will be treated with strict confidentiality. Do not write your name anywhere in the questionnaire. Please respond to all questions as honestly as possible based on your observation as you interact with students.

Yours sincerely

REBECCA M. WAMBUA

L80/51338/2016
Appendix ii: Students’ Questionnaire (SQ)

Section A: Background information

a. Name of university: University of Nairobi □ Kenyatta University □ Indicate with a tick (√)

b. Sex
   Male □ Female □ Indicate with a tick (√)

c. Age
   16-25yrs □ 26-35yrs □ 36-45yrs □ 46-55yrs □ 56+ □ Indicate with a tick (√)

d. What grade did you attain at ‘O’ level? Indicate with a tick (√)

   EACE  KCSE
   Division 1 □ A □ A- □
   Division 2 □ B+ □ B □ B- □
   Division 3 □ C+ □ C □ C- □
   Division 4 □ D+ □ D □ D- □

Section B: institutional factors

e. The purpose of this section is to evaluate learner support system, instructional techniques and curriculum resources in regards to satisfaction. The instrument in this section is adopted from Muchiri’s (2012) instrument on The Analysis of learner support needs of distance learners in the University of Nairobi. Use the scale 1=very dissatisfied, 2=dissatisfied 3=Undecided 4=satisfactory, 5=Very satisfied, to make your choice by checking in the appropriate box.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1= very dissatisfied</th>
<th>2= dissatisfied</th>
<th>3= Undecided</th>
<th>4= satisfactory</th>
<th>5= Very satisfied</th>
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<tr>
<td>(a)Learner support system:</td>
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<td>i. Academic Support</td>
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<tr>
<td>1 Lecturers are always available for consultation when necessary( within and outside class time)</td>
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<tr>
<td>2 Lecturers are always available</td>
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for Guidance on academic matters when necessary (within and outside class time)

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<td>3</td>
<td>Lecturers always Give timely feedback by lecturer on assignments and tests</td>
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**ii. Guidance and Counselling**

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<tr>
<td>1</td>
<td>Counselors are always accessible to give financial aid guidance</td>
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<td>2</td>
<td>I am always satisfied with financial aid guidance</td>
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<tr>
<td>3</td>
<td>Counselors are always accessible to give career counseling</td>
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<td>4</td>
<td>I am always satisfied with career counseling</td>
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<tr>
<td>5</td>
<td>Counselors are always accessible to give personal (mental health) counseling</td>
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<tr>
<td>6</td>
<td>I am always satisfied with personal (mental health) counseling</td>
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**iii. Administrative Support**

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<tr>
<td>1</td>
<td>Administrators are always accessible to give information about getting textbooks and course units</td>
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<tr>
<td>2</td>
<td>I am always satisfied with information about getting textbooks and course units</td>
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<td></td>
<td>Administrators are always accessible to give information about assignments</td>
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<td></td>
<td>I am always satisfied with information about assignments</td>
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<td>5</td>
<td>Administrators are always accessible to give information about Continuous Assessment Tests (CATs)</td>
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<tr>
<td></td>
<td>I am always satisfied with information about Continuous Assessment Tests (CATs)</td>
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<tr>
<td>6</td>
<td>Administrators are always accessible to give information about Examination Results</td>
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<td></td>
<td>I am always satisfied with information about Examination Results</td>
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<tr>
<td>7</td>
<td>Administrators are always accessible to give information about course tutors</td>
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<tr>
<td></td>
<td>I am always satisfied with information about course tutors</td>
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<td>8</td>
<td>Administrators are always accessible to give information about my records</td>
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<td></td>
<td>I am always satisfied with information about my records</td>
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<tr>
<td>9</td>
<td>Administrators are always accessible to give information about course registration</td>
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<td></td>
<td>I am always satisfied with information about course registration</td>
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<td>10</td>
<td>I am always satisfied with information about course registration</td>
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<td>11</td>
<td>I am always satisfied with information about course registration</td>
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<tr>
<td>12</td>
<td>I am always satisfied with information about course registration</td>
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<td>13</td>
<td>I am always satisfied with information course registration</td>
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<td>14</td>
<td>I am always satisfied with information course registration</td>
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<td>Description</td>
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<td>15</td>
<td>Learner support staff are always accessible</td>
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<td>16</td>
<td>I am always satisfied with communication with learner support staff</td>
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<tr>
<td>17</td>
<td>Computer technical staff are always accessible</td>
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<tr>
<td>18</td>
<td>I am always satisfied with Computer technical support</td>
<td></td>
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<tr>
<td>19</td>
<td>Administrators are always accessible to give orientation</td>
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<tr>
<td>20</td>
<td>I am always satisfied with orientation by administrators</td>
<td></td>
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<tr>
<td>21</td>
<td>Administrators are always accessible to give non-course educational programmes on issues such as financial management, family life and social issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>I am always satisfied with non-course educational programmes on issues such as financial management, family life and social issues</td>
<td></td>
<td></td>
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<tr>
<td>23</td>
<td>Administrators are always accessible to give information about student organizations</td>
<td></td>
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<tr>
<td>24</td>
<td>I am always satisfied with information about student organizations</td>
<td></td>
<td></td>
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<tr>
<td>25</td>
<td>Administrators are always accessible to give information about student governance</td>
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<tr>
<td></td>
<td>I am always satisfied with information about student governance</td>
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<tr>
<td>26</td>
<td>Administrators are always accessible to give information about student activities</td>
<td></td>
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<tr>
<td>27</td>
<td>I am always satisfied with information about student activities</td>
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</tbody>
</table>

**Curriculum resources**

**i. Library resources**

<table>
<thead>
<tr>
<th></th>
<th>Reference books are always accessible</th>
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<tbody>
<tr>
<td>1</td>
<td>Reference books are always adequate</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>I am always satisfied with the use of reference books</th>
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<tbody>
<tr>
<td>3</td>
<td>e-journals are always accessible</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>e-journals are always adequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>I am always satisfied with the use of e-journals</td>
</tr>
</tbody>
</table>

**ii. Instructional materials/modules**

<table>
<thead>
<tr>
<th></th>
<th>Instructional materials/modules are always available</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Instructional materials/modules are always relevant</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>I am always satisfied with the use of instructional materials/modules</th>
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<tbody>
<tr>
<td>3</td>
<td></td>
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</table>
### (c) Instructional Techniques

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>1 strongly disagree</th>
<th>2 Disagree</th>
<th>3 Undecided</th>
<th>4=agree</th>
<th>5 strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am always satisfied with Discussions in study groups</td>
<td></td>
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<tr>
<td>2</td>
<td>I am always satisfied with Case Studies used in instructional materials</td>
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<tr>
<td>3</td>
<td>I am always satisfied with Problem Solving activities in instructional materials</td>
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#### f. Section C: Learner Factors; self efficacy

(This instrument has been adopted from Muchiri’s (2012) evaluation on learner’s self efficacy)

How confident are you in performing these academic activities? Use the scale from 1=strongly disagree, 2= disagree, 3=Undecided 4= agree, 5= strongly Agree) to make your choice by checking in the appropriate box.

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>1 strongly disagree</th>
<th>2 Disagree</th>
<th>3 Undecided</th>
<th>4=agree</th>
<th>5 strongly Agree</th>
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<tbody>
<tr>
<td>1</td>
<td>I can manage to solve difficult problems</td>
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<td>2</td>
<td>I am certain that I can accomplish my goals</td>
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<tr>
<td>3</td>
<td>If someone opposes me, I can find the means and ways to get what I want</td>
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<tr>
<td>4</td>
<td>I am confident that I could deal efficiently with unexpected events</td>
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<td>5</td>
<td>I can remain calm when facing difficulties because I can rely on my coping abilities</td>
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<td>6</td>
<td>When I am confronted with a</td>
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<td>7</td>
<td>Whatever comes my way, I will usually be able to handle it</td>
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<td>8</td>
<td>I can understand the most difficult materials presented in readings</td>
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<td>9</td>
<td>I am usually able to deal with exam anxiety</td>
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<td>10</td>
<td>When writing an assignment, I usually know the right procedure and format to use</td>
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<td>11</td>
<td>I am sufficiently equipped in planning my career</td>
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<td>12</td>
<td>When I have any academic or administrative issues, I am able to sort them out fast</td>
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<td>13</td>
<td>If I need to search for a job, I will do successfully</td>
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**Appendix iii: Lecturers’ Questionnaire (LQ)**

**Section A: Background information**

a. Name of university: University of Nairobi [ ] Kenyatta University [ ] Indicate with a tick

(✓)
b. Sex

Male  
Female

Indicate with a tick (√)

c. Age

26-35yrs  
36-45yrs  
46-55yrs  
56-65  
66+ 

Indicate with a tick (√)

d. What is the Nature of your Engagement?

Full time  
Part Time

Indicate with a tick (√)

e. Experience as a lecturer (Indicate with a tick (√))

0-5 yrs  
6-10yrs  
11-15yrs  
16-20yrs  
21-25yrs  
above 25yrs

f. Level of Education: (Indicate with a tick (√))

Masters degree  
Doctorate

(g. What mode of study do you teach: (Indicate with a tick (√))

Distance learning mode of study  
Both distance learning and conventional mode of study

h. Section B Institutional Factors

Please respond to the following questions by indicating a tick (√) in your preferred option.

The purpose of this section is to evaluate learner support system, instructional techniques and curriculum resources in regards to satisfaction. The instrument in this section is adopted from Muchiri’s (2012) instrument on The Analysis of learner support needs of distance learners in the University of Nairobi. Use the scale 1=very dissatisfied, 2=dissatisfied 3=Undecided 4=satisfactory, 5=Very satisfied, to make your choice by checking in the appropriate box.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1=very dissatisfied</th>
<th>2=dissatisfied</th>
<th>3=Undecided</th>
<th>4=satisfactory</th>
<th>5=Very satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Learner support system: iv. Academic Support</td>
<td>Lecturers are always available for consultation when</td>
<td></td>
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</tbody>
</table>
Lecturers are always available for Guidance on academic matters when necessary (within and outside class time).

Lecturers always give timely feedback by lecturer on assignments and tests.

### v. Guidance and Counselling

1. Counselors are always accessible to give financial aid guidance.

2. Distance learners are always satisfied with financial aid guidance.

3. Counselors are always accessible to give career counseling.

4. Distance learners are always satisfied with career counseling.

5. Counselors are always accessible to give personal (mental health) counseling.

6. Distance learners are always satisfied with personal (mental health) counseling.

### vi. Administrative Support

1. Administrators are always accessible to give information about getting textbooks and course units.

2. Distance learners are always satisfied with information about getting textbooks and course units.

3. Administrators are always accessible to give information about assignments.

4. Distance learners are always satisfied with information about assignments.

5. Administrators are always accessible to give information about Continuous Assessment Tests (CATs).

6. Distance learners are always satisfied with information.
<table>
<thead>
<tr>
<th></th>
<th>about Continuous Assessment Tests (CATs)</th>
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</thead>
<tbody>
<tr>
<td>7</td>
<td>Administrators are always accessible to give information about Examination Results</td>
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<tr>
<td>8</td>
<td>Distance learners are always satisfied with information about Examination Results</td>
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<tr>
<td>9</td>
<td>Administrators are always accessible to give information about course tutors</td>
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<tr>
<td>10</td>
<td>Distance learners are always satisfied with information about course tutors</td>
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<tr>
<td>11</td>
<td>Administrators are always accessible to give information about my records</td>
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<td>12</td>
<td>Distance learners are always satisfied with information about my records</td>
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<td>Learner support staff are always accessible</td>
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<td>16</td>
<td>Distance learners are always satisfied with communication with learner support staff</td>
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<td>17</td>
<td>Computer technical staff are always accessible</td>
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<td>18</td>
<td>Distance learners are always satisfied with Computer technical support</td>
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<td>19</td>
<td>Administrators are always accessible to give orientation</td>
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<td>20</td>
<td>Distance learners are always satisfied with orientation by administrators</td>
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<td>21</td>
<td>Administrators are always accessible to give non-course educational programmes on issues such as financial management, family life and social issues</td>
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<td>22</td>
<td>Distance learners are always satisfied with non-course educational programmes on</td>
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<td>23</td>
<td>Administrators are always accessible to give information about student organizations</td>
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<tr>
<td>24</td>
<td>Distance learners are always satisfied with information about student organizations</td>
</tr>
<tr>
<td>25</td>
<td>Administrators are always accessible to give information about student governance</td>
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<tr>
<td>26</td>
<td>Distance learners are always satisfied with information about student governance</td>
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<td>27</td>
<td>Administrators are always accessible to give information about student activities</td>
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<td>28</td>
<td>Distance learners are always satisfied with information about student activities</td>
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</table>

(b) Curriculum resources

iii. Library resources

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<tr>
<td>1</td>
<td>Reference books are always accessible</td>
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<td>2</td>
<td>Reference books are always adequate</td>
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<td>3</td>
<td>Distance learners are always satisfied with the use of reference books</td>
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<td>4</td>
<td>E-journals are always accessible</td>
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<td>5</td>
<td>E-journals are always adequate</td>
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<td>6</td>
<td>Distance learners are always satisfied with the use of e-journals</td>
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iv. Instructional materials/modules

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<td>2</td>
<td>Instructional materials/modules are always relevant</td>
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<td>3</td>
<td>I am always satisfied with the use of instructional materials/modules</td>
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</table>

(c) Instructional Techniques
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<th>Distance learners are always satisfied with Discussions in study groups</th>
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<tbody>
<tr>
<td>2</td>
<td>Distance learners are always satisfied with Case Studies used in instructional materials</td>
</tr>
<tr>
<td>3</td>
<td>Distance learners are always satisfied with Problem Solving activities in instructional materials</td>
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</tbody>
</table>
Appendix iv: Interview Guide for the ODeL Dean

Section A: Background information

a. Name of university: University of Nairobi [ ] Kenyatta University [ ] Indicate with a tick (√)

b. Sex Male [ ] Female [ ] Indicate with a tick (√)

c. Age 26-35yrs [ ] 36-45yrs [ ] 46-55yrs [ ] 56-65 [ ] 66+ [ ] Indicate with a tick (√)

d. Experience as a lecturer (Indicate with a tick (√))

0-5 yrs [ ] 6-10yrs [ ] 11-15yrs [ ] 16-20yrs [ ] 21-25yrs [ ] above 25yrs [ ]

e. Level of Education: (Indicate with a tick (√))

Masters degree (MD): ______________ (Masters degree)

Doctorate (PD) ______________ (PhD degree)

f. Section B Institutional Factors

<table>
<thead>
<tr>
<th>Statement</th>
<th>Comment on actual position</th>
<th>Challenges</th>
<th>Way forward</th>
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<td>(a) Learner support system:</td>
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<tr>
<td>i. Academic Support</td>
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<tr>
<td>1 Lecturers are always available</td>
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<tr>
<td>for consultation when necessary( within and outside class time)</td>
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<tr>
<td>2 Lecturers are always available</td>
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<tr>
<td>for Guidance on academic matters when necessary( within and outside class time)</td>
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<td>3 Lecturers always Give timely feedback by lecturer on</td>
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</table>
### ii Guidance and Counselling

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<tr>
<td>1</td>
<td>Counselors are always accessible to give financial aid guidance</td>
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<td>2</td>
<td>Distance learners are always satisfied with financial aid guidance</td>
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<tr>
<td>3</td>
<td>Counselors are always accessible to give career counseling</td>
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<td>4</td>
<td>Distance learners are always satisfied with career counseling</td>
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<td>5</td>
<td>Counselors are always accessible to give personal (mental health) counseling</td>
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<td>6</td>
<td>Distance learners are always satisfied with personal (mental health) counseling</td>
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### iii Administrative Support

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<tr>
<td>1</td>
<td>Administrators are always accessible to give information about getting textbooks and course units</td>
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<td>2</td>
<td>Distance learners are always satisfied with information about getting textbooks and course units</td>
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<tr>
<td>3</td>
<td>Administrators are always accessible to give information about assignments</td>
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<td>Distance learners are always satisfied with information about assignments</td>
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<td>4</td>
<td>Administrators are always accessible to give information about Continuous Assessment Tests (CATs)</td>
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<td>5</td>
<td>Distance learners are always satisfied with information about Continuous Assessment Tests (CATs)</td>
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<td>6</td>
<td>Administrators are always accessible to give information about Examination Results</td>
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<td>7</td>
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<td>8</td>
<td>Administrators are always accessible to give information about course tutors</td>
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<td>9</td>
<td>Distance learners are always satisfied with information about course tutors</td>
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<td>10</td>
<td>Administrators are always accessible to give information about my records</td>
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<td>11</td>
<td>Distance learners are always satisfied with information about my records</td>
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<td>12</td>
<td>Administrators are always accessible to give information about course registration</td>
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<td>Distance learners are always satisfied with information about course registration</td>
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<td>Administrators are always accessible to give information about course registration</td>
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<td>learner support staff are always accessible</td>
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<td>16</td>
<td>Distance learners are always satisfied with communication with learner support staff</td>
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<td>17</td>
<td>Computer technical staff are always accessible</td>
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<td>Administrators are always accessible to give information about student organizations</td>
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<td>25 Administrators are always</td>
<td>accessible to give information about student</td>
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<td>26 Distance learners are always</td>
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<td>27 Administrators are always</td>
<td>accessible to give information about student</td>
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<tr>
<td>28 Distance learners are always</td>
<td>satisfied with information about student</td>
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<tr>
<td>(b) <strong>Curriculum resources</strong></td>
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<td><strong>I Library resources</strong></td>
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<td>1 Reference books are always</td>
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<td>2 Reference books are always</td>
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<tr>
<td>3 Distance learners are always</td>
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<td>4 e-journals are always</td>
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<td>5 e-journals are always</td>
<td>adequate</td>
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<td>6 Distance learners are always</td>
<td>satisfied with the use of e-journals</td>
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<td>ii. <strong>Instructional materials/module</strong></td>
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<td><strong>1</strong></td>
<td>Distance learners are always satisfied with Discussions in study groups</td>
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<td>Distance learners are always satisfied with Case Studies used in instructional materials</td>
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<td><strong>3</strong></td>
<td>Distance learners are always satisfied with Problem Solving activities in instructional materials</td>
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Any other comments?
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Appendix v: Interview Guide for the ODeL Director

Section A: Background information

a. Name of university: University of Nairobi [ ] Kenyatta University [ ] Indicate with a tick (√)
b. Sex Male [ ] Female [ ] Indicate with a tick (√)
c. Age 26-35yrs [ ] 36-45yrs [ ] 46-55yrs [ ] 56-65 [ ] 66- [ ] Indicate with a tick (√)
d. Experience as a lecturer (Indicate with a tick (√))
   0-5 yrs [ ] 6-10yrs [ ] 11-15yrs [ ] 16-20yrs [ ] 21-25yrs [ ] above 25yrs [ ]
e. Level of Education: (Indicate with a tick (√))
   Masters degree (MD): ______________ (Masters degree )
   Doctorate (PD) ______________ (PhD degree )

f. Section B Institutional Factors

<table>
<thead>
<tr>
<th>Statement</th>
<th>Comment on actual position</th>
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<tbody>
<tr>
<td>(a)Learner support system:</td>
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<tr>
<td>1 Lecturers are always available for consultation when necessary( within and outside class time)</td>
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<td>2 Lecturers are always available for Guidance on academic matters when necessary( within and outside class time)</td>
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<td>3 Lecturers always Give timely feedback by lecturer on assignments and tests</td>
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<td>II Guidance and</td>
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<td><strong>Counselling</strong></td>
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<tr>
<td>1 Counselors are always accessible to give financial aid guidance</td>
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<td>4 Distance learners are always satisfied with career counseling</td>
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<td>5 Counselors are always accessible to give personal (mental health) counseling</td>
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<td>6 Distance learners are always satisfied with personal (mental health) counseling</td>
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<td><strong>Administrative Support</strong></td>
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<td>1 Administrators are always accessible to give information about getting textbooks and course units</td>
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<td>2 Distance learners are always satisfied with information about getting textbooks and course units</td>
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<td>16</td>
<td>Distance learners are always satisfied with communication with learner support staff</td>
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<tr>
<td>17</td>
<td>Computer technical staff are always accessible</td>
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<tr>
<td>18</td>
<td>Distance learners are always satisfied with Computer technical support</td>
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<tr>
<td>19</td>
<td>Administrators are always accessible to give orientation</td>
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<tr>
<td>20</td>
<td>Distance learners are always satisfied with orientation by administrators</td>
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<tr>
<td>21</td>
<td>Administrators are always accessible to give non-course educational programmes on issues such as financial management, family life and social issues</td>
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<tr>
<td>22</td>
<td>Distance learners are always satisfied with non-course educational programmes on issues such as financial management, family life and social issues</td>
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<tr>
<td>23</td>
<td>Administrators are always accessible to give information about student organizations</td>
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<td>24</td>
<td>Distance learners are always satisfied with information about student organizations</td>
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<tr>
<td></td>
<td>Administrators are always accessible to give information about student governance</td>
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<tr>
<td>26</td>
<td>Distance learners are always satisfied with information about student governance</td>
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<td>27</td>
<td>Administrators are always accessible to give information about student activities</td>
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<tr>
<td>28</td>
<td>Distance learners are always satisfied with information about student activities</td>
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**(b) Curriculum resources**

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<td>Reference books are always adequate</td>
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<tr>
<td>3</td>
<td>Distance learners are always satisfied with the use of reference books</td>
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<tr>
<td>4</td>
<td>e-journals are always accessible</td>
</tr>
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<td>5</td>
<td>e-journals are always adequate</td>
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<td>6</td>
<td>Distance learners are always satisfied with the use of e-journals</td>
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**Instructional materials/module**

<p>|   | instructional materials/modules are always available |</p>
<table>
<thead>
<tr>
<th></th>
<th>instructional materials/modules are always relevant</th>
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<tbody>
<tr>
<td></td>
<td>I am always satisfied with the use of instructional materials/modules</td>
</tr>
<tr>
<td>(c)Instructional Techniques</td>
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<tr>
<td>1</td>
<td>Distance learners are always satisfied with Discussions in study groups</td>
</tr>
<tr>
<td>2</td>
<td>Distance learners are always satisfied with Case Studies used in instructional materials</td>
</tr>
<tr>
<td>3</td>
<td>Distance learners are always satisfied with Problem Solving activities in instructional materials</td>
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</table>

Any other comments?

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........................................................................................................................................................................
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Appendix vi: Instrument for Measuring Academic Performance

Section A: Background information

1. Name of university: University of Nairobi [ ] Kenyatta University [ ]

2. Indicate the number of Bachelor of Education (Arts) third year distance learning students enrolled in the year 2017. [ ]

3. Indicate the number of Bachelor of Education (Arts) third year distance learning students enrolled in the year 2017 according to Sex. Male [ ] Female [ ]

4. Indicate the number of Bachelor of Education (Arts) third year distance learning students enrolled in the year 2017 according to Age 16-25yrs [ ] 26-35yrs [ ] 36-45yrs [ ] 46-55yrs [ ]

5. Please indicate the number of Bachelor of Education (Arts) third year distance learning students based on their mean score by the end of First Semester in First year.
   A (70-79%) [ ]
   B (60-69%) [ ]
   C (50-59%) [ ]
   D (40-49%) [ ]
   E (39-0%) [ ]

6. Please indicate the mean score of Bachelor of Education (Arts) third year distance learning students by the end of First Semester in First year. .................................................................

7. Please indicate the number of Bachelor of Education (Arts) third year distance learning students based on their cumulative mean score by the end of First Semester in Second year.
   A (70-79%) [ ]
   B (60-69%) [ ]
   C (50-59%) [ ]
8. Please indicate the cumulative mean score of Bachelor of Education (Arts) third year distance learning students based on their mean score by the end of First Semester in Second year…………………………..

9. Please indicate the number of Bachelor of Education (Arts) third year distance learning based on their cumulative mean score by the end of First Semester in third year.

   A (70-79%) □
   B (60-69%) □
   C (50-59%) □
   D (40-49%) □
   E (39-0%) □

10. Please indicate the cumulative mean score of Bachelor of Education (Arts) third year distance learning students of First Semester in third year……………………………………………………………………..
## Appendix viii: sample size of different population sizes

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<th>Population Size</th>
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