LEARNER SUPPORT SERVICES, LEARNER CHARACTERISTICS, HIDDEN COSTS AND RETENTION OF DISTANCE LEARNERS: THE CASE OF BACHELOR OF EDUCATION PROGRAMMES OF THE UNIVERSITY OF NAIROBI, KENYA

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DECLARATION

This thesis is my original work and has not been submitted for the academic award in any other University.

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DEDICATION

I dedicate this thesis to my loving parents, Evelyne Mwithi Kisimbii and the late Leonard Kimeu Kisimbii for having shown me that education is always the key to success and my late Father-in-law William Mwafuma Mwamburi.

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LIST OF ABBREVIATIONS AND ACRONYMS

B.ED : Bachelor of Education

CEES : College of Education and Extenal Studies

DE : Distance Education

DL : Distance Learning

DLSRQ : Distance Learning Response Student Questionnaire

DLPs : Distance Learning Programs

FYE : First-Year Experience

G&C : Guidance and Counselling

HIPs : High-Impact Practices

LSS : Learner Support Services

MSE : Mean Square Error

MSR : Mean Square for Regression

ODeL : Open Distance and e-Learning

ODL : Open and Distance Learning

OUUK : Open University of the United Kingdom

SODL : School of Open and Diatance Learning

SPSS : Statistical Package for Social Sciences

SR : Student Retention

SMS : Short Message Services

TSC : Teachers Service Commission

UoN : University of Nairobi

ABSTRACT

This study sought to establish how the provision of Learner Support Services influences the retention of distance learners at the University of Nairobi. Today's Learner Support Services vary considerably, and little is known about the efficiency and effectiveness of these Support Services on learner retention. Given the resource and financial constraints on our public universities today, it is essential that we identify Learner Support Services that facilitate learning and increase student satisfaction and, ultimately student retention and graduation. This was guided by nine objectives; to determine the influence of Academic Support Services on retention of distance learners at the University of Nairobi, to examine the influence of Administrative Support Services on retention of distance learners at the University of Nairobi, to establish the influence of Guidance and Counseling Support Services on retention of distance learners at the University of Nairobi, to assess the influence of Technological Support Services influence on retention of distance learners at the University of Nairobi, to determine the influence of learner characteristics on retention of distance learners at the University of Nairobi, to determine the influence of Hidden Costs on retention of distance learners at the University of Nairobi, to examine the influence of the combined learner support services on retention of distance learners at the University of Nairobi, to establish the moderating influence of learner characteristics on the relationship between learner support services and retention of distance learners at the University of Nairobi, to examine the moderating influence of Hidden Costs on the relationship between learner support services and retention of distance learners at the University of Nairobi. The study was grounded on the Vincent Tinto model of institutional departure, Psychological model of student departure by John Bean, Input-Environment-Outcome Model by Alexander Astin, and the Transactional Distance Theory. Quantitative data was collected through structured self-administered questionnaires while qualitative was collected through focus group discussions after research instruments were pilot tested for reliability through test-retest criterion and validity through the content related method. The statistical tools of analysis for descriptive data were arithmetic mean and standard deviation while inferential statistics were Pearson's Product Moment Correlation (r), simple regression, multiple regressions and stepwise regression (R^2) and F-tests were used to test hypotheses in the study. The study established that Learner Support Services had a significant influence on the Retention of Distance Learners at the University of Nairobi. The study also established that Learner characteristics and Hidden Costs both had a statistically significant moderating influence on the relationship between Learner Support Services and retention of distance learners at the University of Nairobi. The findings from this study provide a strong indication that learner retention is influenced by learner support services namely academic support, administrative support, counselling support, and technological support. The findings from this study also provide a strong indication that learner characteristics and hidden costs do moderate the relationship between learner support services and retention of distance learners at the University of Nairobi. The empirical finding on hidden costs is particularly important because studies on hidden costs in higher education are few since most of the studies have tended to focus on primary and secondary education in Kenya. This implies that all institutions of higher learning that offer distance learning programs need to carefully consider how they offer these support services to enhance learner satisfaction and retention. In this era of reduced government funding, public universities must ensure that LSS is accessible to their learners if they wish to retain them, especially those learners who are in their first and second year of study. Given that this study focussed on learners in their first and second year of study, and in two distance learning programmes of the University of Nairobi, it is recommended that a similar study be replicated covering learners in their third and final year in the same programmes and then the same done to other programmes not only in the University of Nairobi but also in other public universities that are offer distance learning courses.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

The foundations of Distance Education can be traced back to the late 1800s. One of the first forms of distance education was a correspondence course study. Sir Issac Pittman founded Sir Isaac Pitman's Correspondence Colleges in England in the mid-1840s. Correspondence courses took advantage of the then-new rural free delivery of mail to deliver course material to students. Students worked independently on course material and interaction between faculty and students was limited to one-way communications The establishment of the British Open University in 1969, marked a significant development in the delivery of distance education by offering a mixed-media approach to distance learning technologies. Learning materials (text, audio and visuals) were sent to students by mail and supplemented by broadcast radio and television. (Jena, 2018).

As noted by Raisman (2013), the high demand for higher education among the working population coupled with the advancement in technology has contributed to the establishment of many Open and Distance Learning (ODL) institutions in the world. Some of these universities that include Islamic Azad University, Indira Gandhi National Open University, Allama Iqbal Open University, and Anadolu University, have even achieved mega status exceeding one million learners. Distance learning (DL) became successful when it was recognized that individuals could acquire any university qualification recognized both nationally and internationally through the distance study mode of learning. In the initial years, institutions offering courses through the DL mode of study could not be accredited and many academicians criticized and rejected this mode of study. It took the establishment of Open Universities in the seventies for this position and negative image to begin changing. As noted by Keegan (2003), although the Open University of United Kingdom (OUUK), the Universidad Nacional de Educacion a Distancia in Spain and Fernunversitat in Germany produced highly praised course materials, it was the Learner Support Services (LSS) and Feedback provided by these institutions that enabled DL to come of age.

Individuals join university due to the long term financial benefits that are associated with acquiring a university degree. Zaback and Crellin (2012), have noted that when a person fails to complete his or her college degree, normally it presents a personal setbacks for such an

individuals not only in terms of time and money spent but also unfulfilled promises and lost opportunities for future growth. In contrast, those who complete their college degree, are normally rewarded in terms of promotions, better job opportunities, higher incomes, better health and generally better standards of living. The also note that DL has grown because of its perceived advantages, which include one studying at the comfort of their office or home, ability to obtain a certificate, diploma, a degree or any qualification through this mode of study, lower fees charged when compared to the fee that face to face students are charged by contact institutions. Some studies such as that by Brindley, (2004) and Brennan, Durazzi and Sene, (2013), have however argued that most of the early DL institutions were more interested in admitting students without paying close attention to quality, and as a consequence, DL in its early stages was typified by high enrolments and also high dropout rates.

A study by Chapman, Laird, and Kewal-Ramani, (2010), pointed out that undergraduate student retention and graduation rates had continued to lag throughout the United States. On average, only 55% of students who start a four-year bachelor's degree at a public institution in the country would actually graduate within six years. Even more discouraging, they noted that was that the percentage of students who complete baccalaureate degrees had only improved by two points over the last ten years despite a multitude of programs and interventions designed to improve student retention. National data indicated that most attrition occurs during the first year of a student's enrollment in four-year public institutions, with institutions losing an average of 25% of their students before the second year (ACT, 2010).

It is because of these high dropout rates that ODL institutions developed Learner Support Services (LSS) as a defensive response. Brennan, Durazzi and Sene (2013), noted that the early form of LSS was course content based were the instructor became the human interface between the learner and course material especially the study module. Even as the ODL mode of study become common especially among the adult working class, concern about learner persistence grew. They noted that this concern leads to the establishment of a wide range of LSS in institutions that were offering courses in the ODL mode of study. Some of these services included orientation, advising and counseling, information, instructional support, admissions, and other registry services and student advocacy. They argue that LSS was meant to prepare the learners to cope with the special demands of DL and in particular help those adult learners who choose distance education (DE) with inadequate skills or preparation.

It has been observed that when appropriate LSS is put in place, they in many ways tend to enhance the academic and social integration of the learners and in essence impact positively their retention (Sukati, 2010). Adult learners under DL mode of study operate in contextually different academic and social environments than those in conventional settings. It has been recognized conventional students can easily identify and integrate socially with their institution than learners in ODL. This is due to the fact that ODL learners often work and study and their social activities are not Campus based but family and community-based. It is not difficult thus to see that ODL learners may fail to complete their studies due to competing work and family commitments. LSS is therefore pertinently indispensable in assisting the ODL learners to cope with academic and social pressure in such a way that they achieve the requisite level of academic and social integration (Bowa, 2008).

Universities are considered to be successful if they are able to retain and graduate students. Studies such as that of (Swail, 2006) as cited in Hendricks, (2016); Schneider and Yin, (2011); Noel-Levitz, (2013) and Braxton et al., (2014) have all observed that it is less expensive for an institution to retain the current as opposed to recruiting new ones. Noel-Levitz (2013), in a report, revealed that the median cost of recruiting an undergraduate student was four hundred and fifty-seven pounds. Hence, if for example, a public institution were to admit a class of 2,300 new students, that institution would have spent a million pounds on recruitment costs. Therefore given this large amount of mount spent to recruit students, and the cost implications in terms of lost fee revenue, loss of income from student accommodation and other revenue streams, when learners leave prematurely, then it was important for institutions to take action to put in place strategies that increase student retention to counter these negative impacts associated with premature departure. Braxton et.al (2014), arrived at similar conclusions when they observed that early departure of students had a negative impact on the stability of institutional enrollments, budgets and public perception of the quality of the programs. They noted that other negative consequences associated with premature departure from the learner's perspective included low self-esteem, lack of future bright employment opportunities, and other social and financial consequences.

LSS is a critical construct for ODL because it has some correlation with the quality of service delivery (Chakuchichi, 2011). Peterson, (1993a) points out that learners who are both socially and academically integrated and have formed a favorable opinion about their institution would

normally stay. The concept of LSS has deeper ramifications than meets the eye. On the surface, it focuses on attrition rates and quantum. However, there are the causal factors and the impact factors which include negative perception of an institution. According to Partington et.al (2009), LSS refers to a number of issues which include student mortality, engagement, drop-out, attrition, persistence, progression, withdrawal, completion, conclusion, successful completion, preferred learning, and success barriers.

Consequently, learner retention has become a critical issue in ODL institutions which have come under intense pressure to put in place strategies that will help facilitate their learners to persist. Powell, Francisco, and Maher, (2003) noted that there is no single factor that influences learners' persistence. Persistence is likely to be influenced by a complex set of many factors that include, social, financial, academic, interpersonal and institutional. Simpson (2004), hence observed that institutions are often left trying to solve challenges over which in most cases have little or no control over. However, studies such as those of (Powell, et.al 2003; Simpson, 2004; and Lorenzetti, 2009), have observed that some universities in the United States have managed to put in place successful schemes for learners who are in their first year and this has tended to have the biggest effect. One such scheme put in place is the early alert system, which tends not only to improve classroom engagement, expand tutoring and other academic services but has also increasingly become part of a plan to retain and graduate students.

These early alert systems are meant to identify learners who are facing challenges early in their studies and take appropriate measures to intercede with the student. One such program can be found at Dakota State University, where the University has installed a web-based system for referrals which allows academic advisors to collect alerts and students' concerns via a web portal. This information is then used in a targeted effort to intercede with the student early enough in the semester to make an impact and to generate positive change (Powell, et.al 2003). A key aspect of the early alert warning systems is that they can take a holistic approach to student success and thus improve their retention. These systems are able to connect the learners to faculty, academic counselors, student health, the counseling center, and other university constituencies in a unified response targeted to a particular student's needs. This communication between offices helps to break down any communication barriers and increase communication and the sharing of academic performance, absences, extracurricular activities,

and financial, personal, family, or health issues impacting students and their academic performance (Wasley, 2007). Hudson (2006) also noted that early interventions can have a positive impact on student success, especially interventions put in place to address absenteeism. It was noted learners who were engaged by the process of being contacted said they were not aware their attendance was being monitored and renewed their interest in their studies after the advice and guidance they received from their academic advisers.

1.1.1 Learner Support Services in Distance Education

LSS is has been viewed from different perspectives by various writers. The concept of LSS is a term used to capture all interactions between collage personnel learners. According to COL (2002), LSS is meant to capture the interactions between prospective and registered and is intended to assist them in meeting their objectives from the point of first inquiry through graduation and often for a lifetime. As revealed by Ipaye (2007), the main purpose of LSS is to provide a conducive learning environment for the learners so as to enable them to develop self-confidence and this would aid in their success. This can be made possible by availing to them a variety of resources and services. Studies such as those by (Kishore, 1998 and Ranasinghe, Vidanapathirana, Rajamanthri, Gamini and Bullumulle, 2009) have empathized on the importance of the LSS. In their opinion, learners in the ODL mode need continuous interactions and feedback otherwise such leaners may find themselves less focused and motivated and this would affect their success. The writers specifically, identified guidance and counseling support has been critical in the success of distance learners.

Some writers such as Robinson and Schaible (1995); and Tait (1995) have noted that there are two approaches to LSS, one is the supplementary approach and the second is the holistic approach. The supplementary approach limits LSS to issues of course materials while the holistic approach is regarded as critical and it encompasses the entire education system. According to the holistic approach, the DL experience would be incomplete without LSS, and that is the reason why more writers such as (Sache and Mark, 2000; Scalzo, Matela-Rodier, and Ferrauilo, 2000) are taking a holistic approach and considering LSS as an integrated part of the course and entire learning process in DE. There are many variations of LS models that have been identified in the literature. These modes have been developed by different instructions to cater to the needs of their learners. Thus, developing a general yet representative framework of LS has been a challenging task for researchers and practitioners

in this area. Even though writers differ on the exact way to conceptualizes LSS, Keast (1997), come up with four types of distinctive LSS concepts for distance learners, administrative support, academic support, technical support, and counseling support. Though this list may not be exhaustive, it nevertheless encapsulates the key functions of LSS. Most support services suggested by other researchers or practitioners fall under Keast's categories (Aoki and Pogroszewski, 1998; Lee, 2003; Sache and Mark, 2000). This study, therefore, considered these four elements as the key variables that describe the LSS construct and also looked at learner characteristics and hidden costs as key moderating variables for LSS.

1.1.1.1 Academic Support Services

Academic support services are one of the key components of LSS. It refers to a wide variety of instructional methods and educational services that are provided to learners in an effort to promote and enhance learning. In practice and specifically in DE academic support comprises a broad array of educational strategies that focus primarily on creating a conducive learning environment for the learners in order to ensure they meet learning standards and generally help them to succeed (Welch and Reed, 2005). Academic support is an important component in the retention effort. Studies such as that of Pascarella and Terenzini (2005), have demonstrated that this support service can play an important role in learners' decision to stay in college and hence increase their chance of completing the course and graduating from college.

Academic support services are meant to promote academic opportunity and student success through collaboration and engagement of the campus community at large. Academic support ensures that learners are academically integrated and are also able to develop a plan to guide them in achieving their academic goals. Viewed in this context therefore academic support would have some aspect of limited face-to-face tutorials, mentorship, peer interactions, telephone discussions, group discussions, instructor support on request, seminars tailored to help learners in developing certain and learning contracts (Carlson, Downs, Repman, and Clark, 1998; Carnwell, 2000). Other researchers such as Simpson (2004) have maintained that academic support encompasses the overall course structure, explanation of concepts, provision of feedback, and improvement of relevant skills as well as consistent monitoring of learners.

1.1.1.2 Administrative Support Services

Studies such as those of (Welch and Reed, 2005 and Brown, 2006) have shown that non-academic members of staff play an important role in supporting by ensuring that distance learners have access to course materials and information. The nature of the interaction between learner and administrative staff determines in most cases whether the learner will stay in the course and complete college or university. While the teaching staff support students in academic and research-related matters, administrative staff also make equally important contributions toward the successful of students. The administrative members of staff are often required to guide students through admission and registration processes, orient them to the university, offer administrative services during their residential, put in place a mechanism that helps to monitor the learners' progression, offer career services that are helpful post-graduation. In many institutions of higher, non-teaching staff is usually the first contact point with the learners. If this first interaction is negative, then a learner will remain with this negative impression and may influence their decision to stay. Most positive experiences that learners have in most of the cases have to do with their interactions with administrative members of staff.

Studies such as those by (Sonnekus, Louw and Wilson, 2006), have observed that if administrative services are not well-coordinated, they can cause a lot of frustration for distance learners. Various writers have provided different indicators for administrative support services, Simpson (2004) for example has listed these indicators as advising, administering and academic activities. Review of literature, however, revealed that the key indicators of administrative support include critical services such as dispatching or issuing course material, helping students with course selection and registration, fee payment, sending short messages, sending emails, manning learning centers and call centers, provision of medical and library services, among others.

1.1.1.3 Guidance and Counselling Support Services

Due to the nature of the mode of study and the nature of clientele, mostly adults, who are married with families and also working, counseling support becomes necessary in distance learning (Kabate, 2016). Given that ODL programs are designed for a clientele base that is not able to study using the conventional face to face mode of study, their rationale is to provide access to higher education for this population. As noted by Collis (1996), although this mode

of study is preferred because of its flexibility, the fact still remains that the mode stills demands a lot of effort and discipline on part of the adult learners. These learners must still be able to expand a great deal of effort by being self-motivated, be able to manage their time effectively, develop good study skills, and learn to study independently.

The nature of the leaner in the ODL mode of study necessitates that institutions provide these learners with counseling support. Writers such as Musika and Bukaliya (2015) have observed that the ODL mode is where learners are located in various geographical locations, and that there is vast distance not only between the learners themselves but also between the learners and the institution. They contend that the philosophy behind this mode of study is the assumption that learners, being mature adults know how to study on their own. More importantly is the assumption that these learners know how, where, when and what to study once they have been provided with the necessary study package. It is this assumption and the fact that learners sometimes come into this mode of study not exactly knowing the demands of their course that results in many of them facing difficulties with their course resulting in low learning motivation and a feeling of isolation when left on their own.

In the DL mode of study learners come into the program with different characteristics and hence may have difficulties arising from his personal circumstances. A learner, for example, may have family problems, may not have suitable place to study, be far away from their study centre and hence lack access to a literary or reference materials, not have time to study due to a challenging work schedule, have family commitments among, lack tuition fee and hence not be able to sit examinations, and many other challenges. Therefore it is imperative that such learners receive effective counselling support in order to encourage them or such learners may not only fail to learn well but may easily drop out of college (Malingumu and Chakwera, 2012). When learners fail to progress, they are normally seen as failures and this lack of progression by the learners in their studies is also seen as an economic waste when they terminate their studies. This is because learners would have invested a great deal in terms of money and time towards their personal growth. In order for the ODL model to be successful and sustainable, counselling support as one of the elements of LSS must be provided by the ODL institution to ensure that learners stay and complete their course and graduate from the institution. As noted by Biswalo, (1996) counselling support is meant to allow the learner to

appreciate and acknowledge his or her challenges develop strategies to cope with them so that they can be successful in their studies.

1.1.1.4 Technological Support Services

DL mode is associated with the separation of teacher and learner throughout the length of the learning process. This separation, therefore, makes the use of various technical media such as print, audio, video or computer a necessity in order to bridge this gap between the learner and the teacher. In essence, therefore, information and communication technologies have influenced in a great way the offering of education by the DL institutions. (Taylor and Newton, 2013 and Korucu and Alkan, 2011) have observed that technology has helped support teaching in DL by overcoming this distance between the learner and instructor enabling flexibility in the way education is delivered in terms of place and time.

Several studies on the use of technology to support DL have tended to focus on the use of new technologies in designing and developing DL courses, with only a few of them directly focus on the use of new technologies to provide support services for distance courses. One such study is that by Gulati (2008) who contents that learning technology that includes print-materials, radio, television, video, audio, telephone, computers, and the internet reach a bigger number of learners and hence allow many more people to access education. On the other hand, Mnyanyi, Bakari, and Mbwette (2012) have noted that due to the globalization of information technology and the ever-changing technologies used in DL, this has led to the improvement in learning through the first, timely and fast delivery of learning materials, and secondly creating improved learning resources. Technology that is used by DL institutions to support learners varies from one institution to another and hence difficult to be categorized. However the following have been found to be common in most of these DL institutions, telephone communication, audio teleconferencing, video teleconferencing, computer software, audiotapes, courses supported by the World Wide Web, electronic post, use of mobile phones, and call centres for where learners are able to call for information and technical support. .

1.1.1.5 Learner Characteristics in ODL

Literature is rich with many studies on the importance of ODL institutions recognizing that adult learners who choose DL as a mode of study come in with diverse personal factors and

different expectations. They, therefore, need to understand who their learners are in order to develop strategies that can facilitate the learning process (Makoe, 2011). Studies like that of Tait (2000) has suggested that learner characteristics should at the minimum include aspects such as employment status, level of education, marital status, age, and gender, level of income, geographical location, and ethnicity, among others. However, researchers such as Hirschy, Bremer and Castellano (2011) have categorized learner characteristics into two, stable or malleable. According to their viewpoint, stable characteristics include socio-demographic attributes such as race, ethnicity, gender, age, parental education level, and ability to pay, marital status, pre College grades, student commitments to and responsibilities to their work, family, and community. On the other hand, malleable student characteristics include those that the program is likely able to influence such as student dispositions and skills which include motivation, self-efficacy, locus of control, coping skills, resilience, and study skills and educational and employment goals and intentions. They concluded that although college programs and policies can address malleable student characteristics, they also can provide effective support for students with certain stable characteristics. The challenge then is for DL institutions to offer LSS that address learner needs.

1.1.1.6 Hidden Costs

Researchers have observed that education and training can be reviewed as an investment where individuals and society make deliberate decisions to meet the total costs (direct and indirect) of education as a mechanism or strategy of gaining a wide range of direct and indirect benefits in the future. According to Kingori (2015), hidden costs are indirect costs of education incurred by parents/guardians besides the direct costs of education as indicated in the fees structure approved by the government through the Ministry of Education. The Government of Kenya introduced both Free Primary and Free Day Secondary Education to ensure that all children access both primary and secondary education. However several studies have observed that these are hidden costs of education that the government does not cater for and these are borne by households. They include the cost of school meals, PTA levies, for example, infrastructure development, cost of school uniform and opportunity cost which is not reflected in the monetary term but foregone opportunities by the student when in school. These costs have continued to hinder students' participation since households are required to meet them (Njoroge, 2013; Kingori, 2015; Adan and Orodho, 2015; Ndulu, 2015). At college level and especially ODL mode of study, apart from direct tuition fees paid by learners, other

indirect costs borne by the learners include the cost of lodgings, meals and transportation. There are other costs that are also incurred by the learners on academic items that are not provided by the university, these include the purchase of books, equipment, and supplies, photocopying of learning materials, airtime to purchase internet bundles. Hence this study wished to examine the influence of these hidden costs on their persistence, especially given the fact that they probably had not factored these costs when they joined the program.

1.1.2 Learner Retention in Open and Distance Learning

Scholars of higher education, especially retention experts, have variously defined retention amplifying certain elements based on their own theoretical perspective. Simpson, (2006) views retention as the successful completion of college by students and their graduation. Tinto (1993) sees retention as students meeting clearly defined educational goals whether they are course credits, career advancement, or achievement of new skills. Bean (1980) on the other sees retention as students' successful academic and social integration into the college community, marked by the feeling that one fits at the institution and positive educational attitudes and experiences. Astin (1984) looks at retention as the degree of direct involvement of students in the academic and social life of their institutions.

Several studies revealed that one indicator that colleges and universities use to describe successful and functioning education system is retention. On the other hand, a low retention rate would indicate a poor, ineffective and dysfunctional education system. (Howard, 2013). More importantly, these studies have also revealed that low retention rates encourage student attrition, which impacts negatively on a learning institution's financial planning, funding, facilities, and long term curriculum development plans. Learners who are able to connect early to the campus culture in their academic experience are able to be socially integrated. Learners who are more involved especially in student organizations and engaging in campus social traditions can also positively influence institutional commitment and retention (McFarlane, 2013; Simpson, 2004; Allen, Smith and Muehleck, 2012).

There are various formulas and discussions in the literature that have been used to measure retention. According to (Hagedorn, 2005 and Daempfle, 2003) four basic types of retention have been identified in the literature and these include institutional, system, retention in a discipline or major, and retention in a particular course. Institutional retention is a measure of

the proportion of students who remain enrolled at the same institution from year to year. System retention, on the other hand, focuses on the student and ignores the institution a student is enrolled in. Based on these criteria, therefore, a student who leaves one institution to attend another is considered a persister. While the measure of system persistence is important to truly understand and measure student success, it requires tracking of the learner through either one or several institutions, which is a very expensive and difficult procedure. The third type of retention takes a more limited view by viewing retention within a major area of study, discipline, or a specific department or school. For example, a student who selects a discipline such as Economics as a major but then decides to change to Education may be retained in an institutional sense but is lost to the School of Economics. Therefore non-persisters in one department/school may earn a degree in another major within the same institution of original entry and thus be institutionally retained but departmentally non-retained. Finally, retention within certain courses, such as Engineering, may be of special interest due to the difficulty of recruitment and the predicted shortages in the fields. Engineering has a high rate of non-retention in the major, especially among women.

1.1.3 Learner Support Services at the University of Nairobi

At the University of Nairobi (UON), DE is now coordinated through the Open Distance and e-learning Campus that was recently established in 2017 with a mandate to enable the UON to diversify its delivery modes, enrich the learning process and increase access to quality University education by using open, distance and e-learning modes. Most of the Distance Education Programs (DEPs) are offered under various schools, with the School of Open and Distance learning (SODL) formally the School of Continuing and Distance Education (SCDE) in the College of Education and External Studies (CEES) being the oldest school having been established by the University Council in September 1985. The school offers LSS through Regional Centres and Learning Centres. These Centres are located in all the major counties in Kenya, in Nairobi, Mombasa, Nakuru, Kisumu, Nyeri, Kakamega, Bungoma, Meru, Isiolo, Kitale, Eldoret, and Kisii. These Centres serve to provide opportunities for tutors and learners to meet and have access to various LSS. They are also distribution points for course materials and student assignments. However, there are not the core functions of the Centres, given that they have students who study a range of courses from certificate to doctorate level which are mostly evening and weekend courses. Therefore the personnel in the centers are neither

specifically charged with LSS as their core function nor trained as LSS providers. (Muchiri, 2012).

The school holds face-to-face residential sessions for the Bachelor of Education Students and Bachelor of Science Students (in conjunction with the school of Physical Science) during school holidays, where the students attend lecturers for tuition, revision, and examination. After the residential sessions, students carry away course materials and assignments. In 2014, the school began offering these residential sessions as a pilot in regional centers in Kakamega, Kisii, Eldoret, and Kisumu; with the possibility of other major centers following suit. The SODL conducts field visits with students in the respective regions to share views with the regional staff and visiting academic from the school. These meetings are seen on an integral part of LSS. As observed by Muchiri (2012), the critical role played by CEES in providing LSS through the SCDE and the Extra-Mural Centres are what differentiates the College from other Colleges in the University of Nairobi. Her study concluded that most respondents were satisfied with the LSS offered by CEES. Extensive research has been conducted, on the importance of LSS from the Learners' viewpoint in Kenya. Bowa (2008) for example established that there is a correlation between LSS and academic persistence (performance) for undergraduate students at the University of Nairobi with Gakuu(2013) establishing similar results for undergraduate distance learners in Kenya Methodist University. Similarly, Getuba (2012) established a link between LSS on enrollment of Learners in DL at the University of Nairobi.

These studies reveal that the DE system and students are closely related to each other through a network of support services and it cannot be expected to exist one without the other (Brindley, 2014). The completion and success rate in open universities reveals that a considerable number of students do not complete the courses and there are number of possible reasons for student drop out (Doluweera, Biswas, and Somaratne, 2012; Hodijah, 2012); Doluweera, Biswas and Somaratne, 2012; and Gakuu, 2013) and with an effective LSS System, the student drop out could be reduced.

1.1.4 Learner Retention at the University of Nairobi

With ever-increasing pressure to retain students to graduation, getting a successful start in the students' first year of study is one of the most important elements universities are addressing

in their attempts at improving the retention of students to graduation. The first-year, and even more critically, the first few weeks of the first semester, are important times when students are deciding if they belong in college (Pascarella and Terenizini, as cited in Derek, 2015). Universities are allocating time, attention, and resources to identify tools and tactics to improve retention of the student to their second year and ultimately to graduation. Several studies and a wide array of anecdotal evidence from counselors and student advisors alike argue that the forces that shape departure during the first year of college, are qualitatively different from those that mold departure in the latter years of college.

The repercussions of attrition in higher education are at least twofold. For the institution, there are significant financial implications. Institutions potentially lose thousands of dollars for every student who leaves their institution-monies that would be realized in tuition, fees, and possible, alumni contributions. For the student, there are similar, significant, financial implications. Often, the choice to leave higher education will leave the student in circumstances that will allow him or her to earn much less money over his or her lifetime (Celento, 2008). Student retention is an important goal of the University of Nairobi. Stable enrollment depends as much on retaining students as it does on recruiting them. Tables 1.1 and 1.2 present statistics on learner progression/retention in two programs at the University of Nairobi for the period 2009 to 2013.

Table 1.1 Enrolment and Retention Rates for B.Ed. (Arts) Students

Intake	Applied & Admitted	Registered	Students who did not Register/ **(%)**	Completed Year I/ **(did not complete Year I)**	Completed Year II/**(did not complete Year II)**
August 2009	1662	790	872 (52.47%)	754 **(36)**	743 **(56)**
April 2010	1117	695	422 (37.78%)	695 **(0)**	561 **(134)**
August 2011	1057	589	468 (44.27%)	588 **(10)**	553 **(36)**
April 2012	780	574	206 (26.64%)	537 **(37**)	499 **(75)**
Dec. 2012	508	450	58 (11.14%)	434 **(16)**	414 **(36)**
August 2013	615	337	278 (45.20%)	325 **(12)**	290 **(47)**

Source (ODeL Campus, Students Records Office, 2017)

Table 1.1 presents information on the Enrolment and Progression/Retention Rates for B.ED (Arts) Students for the period 2009 to 2013. It can be observed that there is a big discrepancy between the number of applicants who applied and were admitted against those who actually reported for the course and were registered, for example in 2009 this was 52.47 percent whereas in 2013 the number dropped to about 45.20 percent. The information also demonstrates that there were some learners who failed to progress in their first year and also into their second year. Those leaners who failed to complete their first year in 2009 were 36 and those who did not complete their second year were 56 which was 5% and 7% respectively. In 2013 the percentages for those who did not complete year one and year two were 4% and 14% respectively.

Over the years the government of Kenya has been reducing the level of funding especially for public universities forcing the universities to rely on other sources of revenues to finance their activities. Hence self-sponsored students have become an important source of revenue for most public universities in Kenya that are looking for ways to generate additional resources to fill in this resource gap. In this regard attrition or non-persistence creates a problem for such universities especially when learners drop out during their first year of study. For the case of the Bachelor of Education (Arts), the revenue implications to the University of Nairobi are summarized in Table 1.2, and it demonstrates the potential revenue loss due to attrition.

Table 1.2 Potential Revenue Implications Associated with Non-Registration and Retention Rates for B.Ed. (Arts) Students

Intake	Those admitted but did not Register	Potentially lost revenue (Kshs M)	Did not Complete Year I **(potentially lost revenue Kshs M)**	Did not Complete Year II **(potentially lost revenue Kshs M)**
Aug. 2009	872	271,422,208	36 **(3,522,816)**	56 **(5,459,776)**
April 2010	422	131,353,408	0 **(0)**	134 **(13,064,464)**
Aug. 2011	468	145,671,552	10 **(978,560)**	36 **(3,509,856)**
April 2012	206	64,120,384	37 **(3,620,672)**	75 **(7,312,200)**
Dec. 2012	58	18,053,312	16 **(1,565,696)**	36 **(3,509,856)**
Aug. 2013	278	86,531,392	12 **(1,174,272)**	47 **(4,581,043)**
Total	**2,304**	**717,152,256**	111**(10,862,016)**	384 **(37,438,464)**

The two key assumptions here are that one, those students who failed to register for that academic year were not part of those who registered in the next academic year and if they actually never report back then they are regarded as lost to the university. Two, those who progressed through year one and year two are of the same cohort. Based on these two assumptions table 1.2 simple demonstrates the potential revenue that the university losses each year from the program when applicants who have been admitted fail to turn up during that year or turn up but leave before they have registered and paid tuition fees. The statistics also show the potential revenue that is lost when learners fail to persist from their first and second years. The computations are done on the basis that a student who reports but does not register and never returns and was to have paid tuition and fee totaling Kshs 311,264 for the course.

This study would, therefore, would wish to establish how many applicants on average who don't join with their respective cohorts rejoin in the next academic year. Hence if a leaner never returns then the entire fee is lost. Similarly, if the learner fails to persist through the first year and second year the revenue lost is computed on the tuition due for the first year and second year. This for example, if a student drops out before the end of the first year but plans to rejoin later then the first year fee lost is Kshs 97,856 per learner. On the other hand, if the learner fails to persist through the second year then the fee lost per learner is Kshs 97,496. Similar statistics on the Enrolment and Progression/Retention Rates for B.ED (Arts) Students for the period 2009 to 2013 for Bachelor of Education (Science) are also available and presented in Table 1.3.

Table 1.3 Enrolment and Retention Rates for B.Ed. (Science)

Intake	Applied & Admitted	Learners who Registered/ (those that did not register)	Completed Year I/ (did not complete Year I)	Completed Year II/(did not complete Year II)
Aug. 2009	66	66 (0)	63 (3)	57 (9)
April 2010	92	92 (0)	73 (19)	73 (19)
Aug. 2011	65	65 (0)	65 (0)	61 (4)
April 2012	46	46 (0)	46 (0)	40 (6)
Aug. 2013	78	78 (0)	64 (14)	64 (14)

Source (ODeL Campus, Students Records Office, 2017)

The information in table 1.3 illustrates a different picture from that of the B.ED (Arts) program on one key aspect that is all the applicants who applied and were admitted for the period 2009 and 2013 actually registered for their first year. However, the key similarity is that in both programs there were learners who failed to progress either beyond the first year or second year of study. In 2009 for example for the first year, it can be observed that those who failed to persist into the second year were 4.5 percent as compared to 2013 when this was 18 percent. On the other hand, those who failed to persist through the second year the same two periods were 16 percent and 18 percent respectively.

1.2 Statement of the Problem

The retention of learners is regarded as one of the most important aspects of higher education. Whilst distance education has experienced tremendous growth over the years, it still suffers one fundamental weakness, the high drop-out rate experienced by its students as compared with the drop-out rate of students in conventional education. Many colleges and universities have attempted to make appropriate changes in their programs in order to increase retention. Though the scholarly work of the last three decades has produced a great deal of research related to retention, the problem still remains intractable. At the same time, the funding needed to help increase student resources has been decreasing over the years. In fact, the environment for higher education has adjusted from one that has tremendous resources to the one that has diminishing resources for student support and retention. (Kiser and Hammer, 2015).

Retention literature has also tended to overwhelmingly focus on the first years and omit the second year. For example studies such as those of Austin and Osegura, (2005; Mortensen, 2005 and Novel-Levitz, 2011) have observed that attrition rates drop by half for each year enrolled in college. In highly selective universities, this means that 8 percent of students leave after the first year and 4 percent after the second year and in less selective universities, these estimates are grater at 35 percent and 17 percent respectively. These numbers underscore the continued need for retention efforts in the second year. Indeed studies have shown that the retention needs of students in the second year are different from those of the first year (Ishitani, 2016). Low graduation rates consume immense institutional and individual resources with no return on those resources for society and family, while additionally failing to meet societal accountability expectations (Pullins, 2011). Institutions of higher learning also benefit from high retention rates as well. Tuition dependent institutions, for instance, cannot afford to lose

students whom they otherwise could keep. It costs too much to recruit to let students just slip away. Some researchers have even observed that the tuition money from even a few students can mean the difference between keeping an important program and retaining a quality faculty member (Huba, Schub and Shelley, 2006; Siegel, 2011). The importance of learner support services in overcoming this weakness cannot be overestimated. Several studies have demonstrated that learner support services can provide a vital resource for students experiencing difficulties, particularly in the first year and enhance their persistence (Boettcher, 2004; McCracken, 2004; Palloff and Pratt, 2003). These studies have pointed to the fact that there is a strong and positive correlation between learner support services and learner retention. On the other hand, learner retention is also influenced by other factors that a college or university may not have control over, such as learner characteristics and hidden costs.

At the University of Nairobi, the average attrition rate is about 15 percent for the Bachelor of Education (Arts) Bachelor of education (science) for distance learners in their first and second year. This average is lower than those usually reported in many of the studies that have investigated retention in higher education meaning that the university has put in place some measures that have resulted in better retention rates. ODL offers a number of advantages to learners and provides opportunities for effective learning. Nevertheless, the lack of day-to-day contact with the faculty as well as a peer group of classmates has to be compensated. Hence, the distance learning system needs an efficient, effective and organized Learner Support Service. Learner Support Service thus becomes the heart of the distance learning system.

Today's Learner Support Services vary considerably, and little is known about the efficiency and effectiveness of these Support Services on learner retention. Despite the fairly substantial amount of information concerning this topic, researchers have conducted a comparatively modest amount of research on this issue; particularly retention of distance learners in public universities in kenya. Apart from the studies linking learner support with academic success or recruitment (Bowa, 2008; Muchiri, 2012; Getuba, 2012; Gakuu, 2013) there has been relatively scant research specifically focused on how learner support affects student persistence within specific contexts, specifically at the University of Nairobi and also among the distance learning programs offered at the University. More importantly, there is scant

research on the aspect of how hidden costs affect retention in higher education with most studies focusing on primary and secondary education. This study, therefore, intended to fill this gap by investigating the influence of Learner Support Services on the retention of distance learners at the University. Specifically, the study intended to determine whether learner support services in the form of academic support, counseling support, administrative support and technological support and compounded by learner characteristics and hidden costs do assist distance learners' persistence.

1.3 Purpose of the Study

The purpose of this study was to determine the influence of Learner Support Services, Learner Characteristics and Hidden Costs on the Retention of Distance Learners focusing on two Bachelor of Education Programmes of the University of Nairobi.

1.4 Objectives of the Study

This study was guided by the following objectives:

i. To determine the influence of Academic Support Services on retention of distance learners at the University of Nairobi.
ii. To examine the influence of Administrative Support Services on retention of distance learners at the University of Nairobi.
iii. To establish the influence of Guidance and Counseling Support Services on retention of distance learners at the University of Nairobi.
iv. To assess the influence of Technological Support Services influence on retention of distance learners at the University of Nairobi.
v. To determine the influence of learner characteristics on retention of distance learners at the University of Nairobi.
vi. To determine the influence of Hidden Costs on retention of distance learners at the University of Nairobi.
vii. To examine the influence of the combined learner support services on retention of distance learners at the University of Nairobi.
viii. To establish the moderating influence of learner characteristics on the relationship between learner support services and retention of distance learners at the University of Nairobi.

ix. To examine the moderating influence of Hidden Costs on the relationship between learner support services and retention of distance learners at the University of Nairobi.

1.5 Research Questions

This study sought to answer the following nine research questions:

i. How does Academic support Services influence retention of distance learners at the University of Nairobi?
ii. How does Administrative Support Services influence retention of distance learners at the University of Nairobi?
iii. How does Guidance and Counseling Services support influence retention of distance learners at the University of Nairobi?
iv. How does Technological Support Services influence retention of distance learners at the University of Nairobi?
v. How does Learner Characteristics influence retention of distance learners at the University of Nairobi?
vi. How do Hidden Costs influence retention of distance learners at the University of Nairobi?
vii. To what extent does the combined Learner Support Services influence the retention of distance learners at the University of Nairobi?
viii. To what extent does learner characteristics moderate the relationship between Learner Support Services and retention of distance learners at the University of Nairobi?
ix. What is the moderating influence of Hidden Costs on the relationship between learner support services and retention of distance learners at the University of Nairobi?

1.6 Research Hypotheses

This study tested the following nine research hypotheses at the 95% significance level:

i. H_1: Academic Support Services significantly influence retention of distance learners at the University of Nairobi.
ii. H_2: Administrative Support Services significantly influences retention of distance learners at the University of Nairobi.
iii. H_3: Guidance and Counselling Support Services significantly influence retention of distance learners at the University of Nairobi.

iv. H_4: Technological Support Services significantly influences retention of distance learners at the University of Nairobi.

v. H_4: Learner Characteristics significantly influence retention of distance learners at the University of Nairobi.

vi. H_6: Hidden Costs significantly influence retention of distance learners at the University of Nairobi.

vii. H_7: The combined Learner Support Services significantly influence retention of distance learners at the University of Nairobi.

viii. H_8: Learner Characteristics have a moderating influence on Learner Support Services and significantly influence retention of distance learners at the University of Nairobi.

ix. H_9: Hidden costs significantly moderate the relationship between Learner Support Services and retention of distance learners at the University of Nairobi.

1.7 Significance of the Study

A review of the literature has highlighted the challenges that Open and Distance learning institutions face when it comes to learner persistence. Studies have shown that persistence a complex problem and no individual factor can be said to influence learner retention. Hopefully therefore this study, by its empirical examination of how learner support services, specifically academic, administrative, counselling and technological together with Learner Characteristics and hidden costs influence retention of distance learners may be of great importance to faculty, administrators, distance learning program managers, students, policymakers and other stakeholders who are concerned with issues of quality and accountability in colleges and universities. This study may contribute to the body of knowledge by empirically examining the joint effects of academic support, counseling support, administrative support, technological support, and learner personal characteristics on retention of students in their first two years of college. This is due to the fact that studies have shown learners are more vulnerable in their first two years of study.

This study may also be beneficial to adult learners. The findings can hopefully be used to help adult learners especially those in the ODL mode of delivery to persist by providing suggestions that will aid universities to provide specific learner support services to this group of students. To researchers and academics, the findings will contribute to existing knowledge in the field of distance learning. The study may provide empirical evidence showing how

learner support services contribute to the retention of distance learners. This study may also help ODL administrators gain information about the support needs of their distance learners and identify possible areas of improvement in existing Learner Support Services in order to achieve higher retention rates. While current research studies examine the unique institution-specific characteristics of the traditional student population, the findings from this study will likely prove applicable to other institutions with similar student populations and program offerings. Finally, this study may also offer an insight into how hidden costs affect learner persistence in higher education given that studies undertaken so far in Kenya tend to focus on primary and secondary schools. Further, the study will provide an opportunity for future researchers who might wish to explore the same field of research while incorporating other variables not covered in this research such as the role of government policy on distance education and also extend the research further to cover learners in their final year of study.

1.9 Delimitations of the Study

This study focused on distance learners at the University of Nairobi in two programs offered under the ODeL mode and specifically those who are in their first two years of college. These two programs are the Bachelor of Education (Arts) and the Bachelor of Education (Science) mainly focusing on those Learners who use printed materials as their key learning resource and attend residential sessions for limited face-to-face contact with their tutors. The study also focused on academic support, counseling support, administrative support, and technological support, as the key leaner support variables that influence the retention of undergraduate students. The study also examined the influence of learner characteristics and hidden costs on learner persistence. The results of this study would be a reflection of the responses of undergraduate students enrolled in the two education programs and those who are in the first and second years. These responses, therefore, may differ from those of students in other types of programs and also students who are in their third and fourth year of study at the University of Nairobi.

1.9 Limitations of the Study

This study had two limitations. First, the study was confined to students in two undergraduate degree programs at the University of Nairobi and hence results can only be generalized to cover undergraduate programs in other institutions of higher learning. Second, the study covered various regions of the country given that learners were located in various learning

centers spread across the country. To address this limitation, the researcher trained six research assistances who were based in those regions specifically Kisumu, Kisii, Eldoret, Kakamega, Meru, and Nairobi.

1.10 Assumptions of the study

This study was based on the three assumptions: first that all the four learner support services variables that are Academic Support Services, Administrative Support Services, Guidance and Counselling Support Services, and Technological Support Services together with Learner Characteristics and Hidden Costs do significantly influence the retention of distance learners at the University of Nairobi. Secondly, that Learner Characteristics and Hidden Costs would individually have a significant moderating influence between learner support services and retention of distance learners. Finally that the respondents would respond to the research question correctly and honestly and will willingly participate in the focus group discussions. Finally that responses received during the focus group sessions would be representative of others of the target population.

1.11 Definition of Significant Terms as used in the Study

In this section, the study outlines the operational definitions of the key terms used in this study.

Academic Support In this study Academic Support Services refers to all those interactions between the learners and faculty. It includes the availability of the study module and its relevance to the course, face to face interactions with tutors, feedback on assignments, academic advising, and access to resources for assignment, tutor evaluation, examination results among other interactions.

Administrative Support In this study Administrative Support Services refers to all those interactions between the learners and non-academic members of staff especially program administrators. These interactions are meant to ensure that learners have access to timely and accurate information, support with the dispatch of course material, fee payment, and registration, access to library

	facilities, access to medical facilities, and support from regional center staff and more importantly supportive staff.
Attrition	In the context of this study attrition is defined with reference to those learners who choose to drop out in their first year or second year with no intention of re-enrolling again with the same institution for any course.
Completion	In the context of this study, completion refers to the persistence of the learner till graduation. Therefore, a leaner who graduates is said to have completed their course and persisted.
Guidance and Counseling	Any kind of aimed support offered by the institution to assist learners to solve those academic and personal problems which could interfere with the studies. It is used to explore the student's problems, to facilitate the identification of needs of learners and to work towards a solution. This involves orientation briefings, counselling support and frequent meetings with university support staff.
Hidden Costs	Hidden Costs are any indirect costs that are related to the provision of a product or service and are not revealed or included in the final price of that product or service. In this study, hidden costs are seen as expenditures on education which are not covered under tuition fees yet students have to pay for them, for example, expenditure on transport, accommodation/meals, photocopying, stationery, books, and other opportunity costs.
Leaner Characteristics	In the context of this study learner characteristics include such elements as marital status, employment status, age, educational background, gender, family commitments and level of income. It is only by identifying these characteristics that DL institutions

can develop programs that can be supportive to these learners and ensure their success.

Learner Support Services In this study learner support services comprise four elements that include Academic Support Services, Administrative Support, Guidance and Counselling support, and Technological Support.

Learner Retention Review of literature reveals that learner retention has been viewed synonymously with terms such as progression, persistence, completion. Learner Retention is a positive way of viewing the process of student progression in the course of study. In this study, retention refers to the rate of students who continued into the second semester of the first year of study and also who reported for their second year in the academic year 2016/2017, and hence were retained in their respective programs. In this perspective, the retained students are regarded as persisters regardless of their academic progress over the first year of the study; so long they were allowed to register for the second year.

Technological Support In the context of this study involves the use of technology by the institution to enhance communication with the learners. It includes access to online resources, regional centers not only having computers, but these computers being connected to the internet, access digital materials from the library, communication by email, use social media, receive communication by SMS.

1.12 Organization of the study

This thesis is organized in five chapters. Chapter one, which is an introduction to the study covers background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, research hypotheses, significance of the study, delimitations of

the study, limitations of the study, assumptions of the study and definition of significant terms as used in the study. Chapter two, which is on literature review, covers aspects of both the dependent and independent variables, specifically on learner retention in distance education, the four elements of learner support services, learner characteristics, and hidden costs. It also presents the four theories of retention that form the theoretical foundation of this study, the conceptual framework, a summary of research gaps and concludes with a summary of the literature review. Chapter three outlines the research paradigm, research design, target population, sample size and sampling procedures, data collection methods, validity and reliability of research instruments, data analysis methods, ethical issues and concludes with the operational definition of variables. The focus of chapter four is on data analysis, presentation, interpretation, and discussion of the findings. Chapter five includes the summary of findings, conclusions and recommendations and suggestions for further research.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature related to the study based on the following thematic and sub-thematic areas; Retention of Distance Learners, Learner Support Services and Retention of Distance Learners, Academic Support Services and Retention of Distance Learners, Administrative Support Services and Retention of Distance Learners, Guidance and Counselling Support Services and Retention of Distance Learners, Technological Support Services and Retention of Distance Learners, Learner Characteristics and Retention of Distance Learners and Hidden Costs and Retention of Distance Learners.Various retention theories, specifically the Institutional Departure Model by Tinto, Student Attrition Model by Bean, the Input-Environment-Outcome Model by Alexander Astin and The Transactional Distance Theory have been presented that are relevant to retention. The study has also developed a conceptual framework showing the inter-relationship of the study variables from which the study hypotheses were formulated. A summary of the literature reviewed has also been done and knowledge gaps identified.

2.2 Retention of Distance Learners

Studies looking at the reasons why students withdraw tend to agree that there is no single reason why students decide not to complete their studies. In most cases, the picture is complex, and students leave as a result of a combination of inter-related factors. Pitt, Powis, Levett-Jones and Hunter (2012), identified factors that were frequently associated with student attrition in British universities especially among students in their first year of study. These factors included issues related to individual learner characteristics, such as their academic abilities, educational goals and preparation and readiness for higher education, dissatisfaction with college and lack of institutional integration and other commitments, financial and employment issues. A study was carried out in different European countries such as Finland, Ireland, Italy, Portugal, and Sweden also revealed that most withdrawals that occurred during the first year were attributed to factors that were beyond the direct control of institutions. More of importance however was that the study revealed that wrong choice of program was one of the most reported student attrition factors probably demonstrating lack of guidance or assistance in course selection by the institutions concerned (Lucas, Gonçalves and Kairamo, 2012)

When viewed from the learners' perspective, Nichols (2011) has noted that high dropout rates lead to depression among the students due to the fact the issue is not only about lost time and money in terms of tuition fees and other related expenses but the psychological feeling of failure. Bean (1990) opinions that a student's early departure from college before graduating symbolizes a personal failure on the part of the student to achieve his or her educational objectives. Additionally, when individuals do not achieve their full potentials, this represents wasted ability not only for the individuals but also for society as a whole, which did not gain from the benefit the individual's development would have brought (Brunsden, 2000).

Some researchers report that adult learners may take DL courses because they believe that the courses will be easier and will not require a lot of their efforts. This expectation could probably explain the attrition of first-time distance learners when they realize these classes require the same amount of work demanded by traditional courses (Kamau, 2012). The Retention Study Group, (2004) has noted that there is a connection between students' academic lives and undergraduate retention. It has been shown that positive faculty-student interactions and taking advantage of resources that promote academic success such as learning centers, tutorials among others have been demonstrated to positively influence retention (Wyckoff, 1998; Habley, 2004). Furthermore, when academic support services are linked to everyday learning in the classroom of credit-bearing courses, the more likely students are to engage the services and to succeed (Tinto, 2004).

The exact ways in which academic advising influences student persistence remain unclear despite the research that shows both direct and indirect effects of advising on student persistence decisions (Kot, 2014; Pascarella and Terenzini, 2005; Swecker, Fifolt, and Searby, 2013). Academic advising has also been associated with students' satisfaction, career aspirations, perceptions of a supportive environment, and campus navigation. However, research evidence has shown that students' frequent interaction with an academic advisor improves retention (Styron, 2010; Thompson, Orr, Thompson, and Grover, 2007 as cited in Vera, Wang'eri and Kigen 2017). Other studies such as Sean (2017) observed that advising issues that bubble up to the administration typically originate when a student perceives that the advisor has made a mistake regarding course selection (despite a policy that clearly states

students take responsibility for course selection). Because administrators get involved with advising only when complaints surface, the message that the purpose of advising primarily involves keeping students on track for graduation, retention, is reinforced. This reinforcing loop keeps the focus on retention over other important purposes. Similarly, to demonstrate the importance attached to academic advising (Kevin et al, 2017), observed that given the diversity and complexity of the U.S. higher education system necessitates that students receive advice from informed persons before and after matriculating into college.

A common criticism labeled against DL is the lack of personal contact and immediate instructor feedback that some students prefer. One of the most frequently stated reasons for dropout is the sense of isolation experienced by students studying off-campus. Terry (2007) found that more technical classes such as Business Statistics Finance courses had higher attrition in their distance versions, whereas other business courses had comparable attrition rates. Other studies confirm that dropout rates are also influenced by the number of students in the course, whether the course has a residential, intensive, or block course associated with it, and how long the course itself has been on offer (Woosley, 2003).

Studies such that as that of Svanum and Bigatti, (2009) have demonstrated that learners that are academically engaged are not only more likely to earn a degree but that they would do it and do it faster. Berger and Braxton (1998) on the other hand qualified the importance of social integration. Their study concluded that if certain organizational attributes were in place then they would help to account for social integration and subsequently institutional commitment and intent to persist. These organizational attributes include admissions, counselors, student affairs and other administrative services. In a similar study on social integration, (Fiorini, Shepard, Liu, and Ouimet, 2014) concluded that learners who were engaged with faculty on non-course work activities, had better relationships with other students and participated in other student activities were more satisfied with the university and hence more likely to be retained in the program.

Research on student progress at higher education level has turned attention to first-year students. There are basic reasons for this trend. First-year is essentially a transition period (Latham and Green, 1997; McFarlane, 2013; Howard, 2013), and thus it is during the first year that students build a sturdy foundation that will sustain them throughout the period of

study or otherwise fail them in their endeavor to realize their study goals. However, other studies have demonstrated that a student can withdraw from their course at any point in their study. Studies such as that by Perry, Boman, Care, Edwards, and Park (2008) in a study as to why nursing and health studies graduate students who are enrolled in online programs decide to withdraw at Athabasca Universities' Centre for Nursing and Health Studies, online graduate program did show that learners can drop out of college anywhere between two months and two years. They observed that the major reasons for leaving can be placed into two categories, personal reasons (often related to life or work commitments) and program reasons (usually related to learning style and fit with career). Willging and Johnson's (2009) study did, however, show that although students were less likely to leave after investing in several semesters, there was no dominant reason for dropping out. Most learners dropped out of a program due to many factors some of which were personal, others job-related, and other program-related reasons.

Learners are the major customers of universities, and hence universities have to develop strategies that would enable them not only to attract more learners but also to retain them. In this regard, customer relationship management (CRM) has become the main strategy to retain customers in the business world for companies regardless of their size. Several writers such as (Chaturvedi and Chaturvedi 2005; Mohammed, and Sagadevan, 2002; and Sindhu, n.d), have modified this concept of customer relationship management and applied it to distance learning as Learner Relationship Management (LRM). Developing and implementing LRM practices fosters a healthy learner-ODL relationship, resulting in a pleasant and positive learner experience, which acts as a facilitator in the academic endeavors of the learner. It also brings about greater learner loyalty and involvement with the ODL institution.

2.3 Learner Support Services and Retention of Distance Learners

Learner support services (LSS) play an important role in the success of DL and therefore it is plausible to assume that it would play a critical role in student persistence. The main reason for learner support in ODL system of education is to provide a warm, and supportive atmosphere for learners so as to enable them to develop self-confidence; thus assisting them to achieve personal success in their individual academic and life goals by making available to them a variety of resources, services and referrals (Ipaye, 2007). According to Tait, (2002),

LSS is important because of three key reasons. One because distance learners need support, two support is a crucial factor for controlling student drop-out and three because, in DL, LSS is embedded in the very nature of the teaching and learning process. Earlier distance learning models were concerned more with access and availability of learning opportunities than the individual experience of the learner (Peters, 1993). The reasoning was that if learners were given self-instructional materials, whether print-based or offered through other technologies, this would constitute a good learning experience and is mostly adults, they would study on their own without any challenges.

Evidence from the field did not, however, support this notion. Learners struggled to cope with the learning materials with little or no assistance from the institutions. As more and more institutions began to offer ODL programs, enrolments were high, but with so little support for learners, attrition rates were high as well, particularly for the first-time learners (Garrison, 1985). Concerns about attrition and academic credibility spurred efforts to find ways to promote persistence, mainly through the development of LSS. At first, these were mainly limited to contact with a tutor or faculty member over course content. However, other forms of support quickly followed (Brindley and Ross, 2004). O'Donnell and Daniel (1979) proposed one of the earliest models LSS in a DE setting, arguing that it could not be assumed that adult students have all the skills necessary to plan their lives, career and education, set realistic goals and study effectively. As a gradual response to such challenges, effective LSS in the form of academic advising and counseling, regional offices with a variety of administrative services, and group tutorials were developed by some institutions of higher learning.

Learner Retention is essentially the function of the LS construct. Jones, Edwards & Reid, (2009) observe that LS is the management of activities by staff which maximizes the chances of successful completion of the program. The link between SR and LS is, therefore, is quite apparent. Strengthening LS translates into increasing SR especially in ODL institutions. He continuous to observe that the university of London Lifelong Learning Institute has experienced a phenomenal growth rate of 30% in SR by augmenting its LS through strategies such as: a comprehensive communication plan with all students; standardization of correspondence; availability of course material; increased access to tutors; review of all course materials, and surveillance of passively withdrawn students. Chakuchichi (2011) also noted

that LS systems tended to enhance women's access and participation in ODL, and these included: the need for more tutorials and internet access; making relevant reading materials available; increasing reading materials in the Library and attending to students' complaints and rectifying their problems.

Several studies such as (Mwenje and Kasowe, 2013 McFarlane, 2013; Howard, 2013; Derek, 2015 & Othman, 2016) have all pointed to the fact that the challenge facing DL institutions is a high rate of student attrition. Relatively it is now acknowledged that DL has higher student non-completion rates that the traditional face to face modes. Studies on student progress, therefore, have suggested a range of institutional interventions to redress the situation. Factors for such high non-completion rates are many and tend to vary in different studies. They include the type of course of study and rate of communication with peers, problems of time management, lack of study skills, feelings of isolation, alienation and a range of personal issues such as family commitments. The studies have observed that some withdrawals resulted largely from personal factors affecting students and therefore outside the control of institution and these involve a combination of pull and push factors. A pull factor is one which draws the student away from the course, such as change of job and personal reasons among others, external to the institution and are therefore outside the control of the institution. On the other hand a push factor relates to matters internal to an institution such as their teaching practices and course materials, among others and which can be controlled and modified by the institution

Various models consisting of a complex interplay of factors and variables have been developed to demonstrate how LSS can help distance learners who face various challenges cope. Tinto (1975) presented a series of causal factors related to a longitudinal process to explain the complexity of student non-completion. On the other hand, Bean and Metzner (1985) developed a major model of student attrition in an attempt to approach student retention in a non-traditional setting like DL. They were of the opinion that previous theoretical models of student attrition relied heavily on socialization on campus. Since nontraditional students did not have the opportunity to become socially integrated into the institution they developed a model that recognizes the smaller role that social integration plays in attrition for those students. They considered the psychological outcomes to be important enough to cause a nontraditional student who even had poor academic outcomes to stay in college if the

psychological outcomes were positive. Conversely, in a situation where a student has very positive academic outcomes but negative psychological outcomes, that student is likely to drop out. Other researchers such as Boyle, Kwon, Ross, Simpson, (2010) identified three sets of variables related to withdrawal, these being learner‘s background, which include learner‘s personal circumstances and previous experience; environmental variables, such as family, social and work commitments and academic variables, which include the learner‘s previous background.

Several studies have linked the lack of LSS to learners’ withdrawal from college (Tait, 2003; UKpo, 2006; Blanchard, Southerland, Granger, 2009; and Kamau, 2012). Tait (2003) for example attributed the low success rates at the University of Southern Africa (UNISA) to lack of LSS. He argued that the continuing low pass rates at UNISA, which had over 200,000 learners and over 600 study centers were due to inadequate LSS, admission policies that were too open, inadequate course materials, and insufficient formative assessment and feedback processes. He also reported low success and poor completion rates in external programs of the University of London, which were attributed to a lack of LSS. UKpo (2006), in a study, carried out to determine the relevance of LSS at the National Teachers’ College in Nigeria, reported that students valued the administrative, academic and counseling support they received, although they considered the materials distribution and Library services poor. Blanchard et al, 2009) note that student engagement occupies a prominent place in the repertoire of SR and in many ways student academic integration is seemingly more important to social integration in Learner persistence in ODL. Kamau (2012) asserts that academic, advisory, administrative, counseling and infrastructural support, all elements of LSS, could be termed effective if they helped to sustain distance Learners in their studies, and improve retention and completion rates.

A number of colleges and universities offer students a wide variety of services and resources intended to promote persistence (Pascavella and Terenzini, 2005). Studies such as those by Dare, Zapata, Thomas, (2005) and Styron, (2010) content that if students are admitted to a college, then they should have expectations for that college to provide services that will help them succeed. Simpson (2008) noted that a number of UK Universities, such as Napier, London Metropolitan and Paisley developed high-profile retention projects often with responsibility at Pro-Vice-Chancellor Level. Bensimon (2007) pointed out that the retention

literature has drawn too narrowly on theories that link student departure to the characteristics and behaviours of students, thus obscuring the role of institutions to be pivotal in the retention of adult learners. In a study of the role of LS and retention, Promnitz and Germain (1996) point out that obtaining a direct empirical link between use of LS and retention or positive academic outcomes is difficult, given the many extraneous variables which impact on the lives of students, including, motivation, family and financial circumstances, and unforeseen events. Nonetheless, they propose that LS does assist students to deal with processes of social, emotional and academic adjustment. Subotzky and Prinsloo (2011) observed that compared to research in face-to-face contexts, there is less published research regarding LSS and retention in DE contexts. A range of authors (Kember, 1989; Kember, Lee, and Li 2001; Baynham & Prinsloo, 2009; Brindley, 2014; and Subotzky and Prinsloo, 2011) therefore point to some unique considerations with regard to conceptualizing student success in DE contexts and question the direct transferability of traditional models and theories to DE contexts.

LSS, especially student guidance and counselling, tutor support, and effective information and administrative systems all provide a range of activity that impacts not only in terms of teaching but also effectively, that is to say reinforcing the student sense of confidence, self-esteem, and progress. Further, intervention, when students have not contributed work on time, can make a timely and effective contribution to the reduction of drop-out. The extent to which student support creates a learning environment that is congenial, attractive and therefore supportive of learner persistence is always difficult to estimate, it has been demonstrated that institutional support plays a crucial role in persistence. This is supported by a study done at the Indira Gandhi National Open University has demonstrated that most cited reason for non-completion are institutional (Fozdar *et al,* 2006), although this was not the case in studies carried out in carried out from different European countries that revealed that participants reported only minimal impact of social, cultural and institutional factors (Rintala, Anderrsson, and Kairamo, 2011).

2.3.1 Academic Support Services and Retention of Distance Learners

In the distance education system, self-instructional print material also known as Self-learning Module is the main medium of communication and education. Self-learning Modules not only increase the level of achievement but also help in retaining the content for a longer time. It is because of the interaction of students with the Self-learning Module. Along with it, Self-

learning Modules increase self-confidence in the students because these provide immediate feedback to the students during the learning process. The process of self-evaluation helps the students to do revision again and again which is helpful in retaining the content for a longer time. Self-learning Modules undoubtedly make the students active, interactive and independent learners during the process of learning. Researchers conducted by Greager and Murray (1991), Dutt (1998), Aggabao (2002), Rastogi (2003), Puri (2009) and Dhamija (2014) highlighted that the Self-Learning Modules (SLM) is more effective as compared to the conventional mode of teaching. Not only this, the studies of Puri (2009) and Dhamija and Kanchan, (2014 (2014) showed that Self-learning Modules helped to increase the retention of students.

In a study investigating students' success or their failure at UNISA, Risenga (2010) found that factors contributing to students' success included the provision of academic advice through attending tutorials, since these offered distance learners an opportunity to interact with their tutors and their peers. According to Grantham, Robinson and Chapman, (2015), student-faculty exchanges can have a great result in keeping students enrolled in school. Relationships among students and faculty can improve student success. Successful students complete their college education and graduate. However, according to Hollis (2015), many colleges are deciding to use more adjunct faculty and less full-time faculty. This results in students having a more difficult time getting into contact with their instructors since they do not have office hours on campus. The lack of face to face contact made some students feel insignificant to the college.

The importance of academic support services to students' learning and involvement is well documented (Boettcher, 2004; Kretoviks, 2003; Ludwig-Hardman and Dunlap, 2003; McCracken, 2004; Palloff and Pratt, 2003). Furthermore, a strong correlation has been determined between the dynamic nature of learning, consistent academic achievement, and a corresponding need for support services to facilitate the development of intelligence and abilities (Chambers, Hylen, & Schreiber, 2006; Oliaro & Trotter, 2010; Hallett, 2010; Yalama and Aydin, 2004). According to Warren (2005), academically disadvantaged students can be just as successful in college like any other student population. Their study confirmed that if students are offered and inquire about advising services, they can be successful in college,

which supports Astin's theory of student involvement in addition to offering further support services to academically disadvantaged students.

A study by Osegura and Rhee (2009) established that learners' positive contact with faculty staff has a significant influence on retention. Kelly-hall (2010) study revealing evidence that supports Austin's student involvement theory and Tinto's student retention model also demonstrated the impact that LSS programs have on participant student involvement, student perceptions and academic experience. The study demonstrated LSS such in the form of academic support services strongly impacted learner involvement because it helped them to be more focused, were able to attain their academic goals and enhanced their willingness to stay on the campus. Some studies like that of Walsh (2013) have observed that AS especially academic advising becomes more critical for second-year students. His observation comes from the fact that make scholars have tended to focus on programs that are directed at students in the first year of college when attrition is highest, which is termed as the First-Year Experience (FYE). This focus on the FYE seemed to have produced results for many colleges in the beginnings of the early 1980s and through the 1990s (Burkholder, et al, 2013).

But this concentration on the first-year student may have simply moved the problem to the second year hence the critical role of the academic advisor. Second is regarded as the transition year where most learners are making a decision on their academic major which more or less informs their career choices. However, a study by Vera, Wang'eri and Kigen (2017), indicated that results from their study at the University of Cape Coast, Ghana, revealed that the majority of respondents rated academic advising negatively because they were unable to access the service. To support the findings of the quantitative analyses on why student respondents rated academic advising negatively, interviews were conducted with academic advisors and counsellors for an in-depth understanding of this phenomenon. All interviewees shared a common theme. They believed that student respondents have a negative perception of academic advising provided at the University of Cape Coast, Ghana because the service is not available for students to access.

Academic Support refers to the interaction between learners and tutors, where tutors enrich the learning experience through explanation and clarification of content. It also entails marking and grading assignments and helping learners with timely and constructive feedback.

It also invoves providing further information to supplement the pre-produced, self-paced instructional materials. Studies by Sedisa and Bogopa (2008) and Basaza, Milman, & Wright, (2010) observed that in some DL programs there was absenteeism at tutorials, frequent incidents of lost assignments and scripts, poor entry of marks, suggesting lack of accountability, and delayed feedback from tutors and institutional managers. The actions of the faculty, especially in the classroom, are key to institutional efforts to enhance student retention (Tinto, 2006). Contact with a significant person in an institution of higher education is a crucial factor in a student's decision to remain in college.

While faculty, administrators, and student affairs professionals serve as student advocates and play an integral part in student retention and attrition, advisors are typically in the best positions to assist students in making quality academic decisions (Tinto, 2006). The most important factor in predicting a student's eventual departure from college is the absence of sufficient contact with others. According to Habley (2000), few campuses have created one-stop success centers where students can receive integrated assistance from academic advisement and career development services. He also found one critical aspect of developing such training programs and resources is a clear delineation of the necessary content components essential to effective advisor training and development. Research confirms that LSS that connect the student to the institution, and faculty-student contact can have a significant effect on student, motivation, involvement, and retention. (Chickering and Gamson, 1987; Noel, Levitz, Saluri, and Associates, 1985; Frost, 1991; Pascarella and Terenzini, 1991; Tinto, 1993; Glennen, 1995; as cited in Pargett, 2011). Studies such as those of Yunjin and Lee, (2016) have suggested that the social presence of the instructor in the virtual environment, developed through interactions between students and instructor, increases student satisfaction with distance learning and may aid in student retention.

According to Svanum and Bigatti (2009) tutor encouragement of student, course engagement and programs designed to enhance course engagement would likely have broad and favorable consequences, including enhanced graduation rates and potentially increased retention rates as these are likely influenced by the degree of student success. Thus, student motivation that translates into more engagement can tangibly improve college success, encourage self-sufficiency, and allow students to exert greater control of their college destiny. Shurden, Santandreu, and Shurden (2016) noted that increasing interaction between faculty and students

while improving the quality of the faculty is the key to keeping students satisfied, which could help in retaining students. A study by Gaytan (2015) revealed that the second-highest factor affecting retention was the quality of faculty. To retain students, colleges and universities need to employ quality faculty. The instructors need to be knowledgeable about the subject, engage students, and communicate with the students. A study by Mueller, Mandernach, and Sanderson (2013) did, however, note that in order to save money, universities tend to employ adjunct instructors who are often overburdened with extensive commuting and limited resources, which have an impact on instruction.

As noted by Fodzar, Kumar, and Kannan (2006), Fouche (2006), Freeman (2004), Nonyongo & Tau, (2006) and Thorpe (1988), distance learners invest a great deal of effort and emotion in their studies. ODL institutions, therefore, have a moral duty to contact them and give them feedback on their performance, together with access to learning resources, is the backbone of interaction, since it helps distance learners develop error-detection skills on their own. It is a truth universally acknowledged that feedback is vital for any student (Bedford 2007). Providing quality feedback to distance-learning is particularly important because students have fewer opportunities to ask a tutor for clarification on his or her comments. Researchers have recognized for years the strength of its impact on learning and achievement (Vollmeyer and Rheinberg 2005; Biggs and Tang 2007). According to Bedford (2007), without quality feedback comments, distance education students may feel a bit disconnected and this may create a feeling of insecurity. Chetwynd and Dobbyn (2011) confirm that in the ODL context, effective feedback on student assessment plays a vital role in retaining students and developing self-regulating learners, particularly in the first year of study.

Several studies have pointed to the importance of not only quality positive feedback but also timely feedback. Segoe, (2013) established that at UNISA, learners commented that their tutors did not give them motivating feedback, that is, feedback that clearly explains where and why learners have made errors and where and how they have to improve. In most cases, according to the participants, the feedback they received did not enhance learning as it was not positive, did not respond to specific aspects of their work and did not provide specific and clear suggestions for improving their own work. This study also found out that feedback given after marking students' assignments was, in some cases, negative or undermined students.

Students indicated that tutors were not very sensitive or careful when commenting on certain mistakes. Most of the participants felt that the feedback they received with their marked assignments was insufficient. Participants emphasized that markers merely gave ticks and allocated a mark without the necessary feedback. The participants further commented that sometimes when they obtained a particularly high or low mark, there were no feedback remarks to justify such a mark.

Commenting on the importance of timely feedback, Holmberg (1985) maintains that distance learners seemed to benefit from feedback on assignments in the form of comments and corrections, if the feedback was given between 7 and 14 days, reflecting the need for frequent learner-tutor contact to enhance two-way communication. Providing students with an individual as well as group feedback is one of the more personal and tailored ways of communicating with students in an ODL environment. It is most often associated with feedback on assessment and group work. Lamer (2009) believes that providing timely feedback is the first critical strategy in reducing the feeling of isolation that leads to lower retention rates for online students. Cowan, (2002) noted that most DE institutions in the UK, use end-of-module questionnaires to gather feedback on learners' levels of satisfaction. This feedback from learners is equally as important and informative as the feedback that learners themselves receive, in that it helps tutors to improve their feedback strategies, which in turn enhances teaching and learning. The argument here is that two-way feedback and communication are vital, particularly in a DE setting. Where a two-way communication is implicit in a feedback strategy, the atmosphere of developing a supportive and relaxed approach and mutual respect will be created. Kasprzak (2005) argues that mutual feedback is an indispensable part of the process of teaching in any learning context, but it seems to be more acutely sought after by DE learners, compared to their face-to-face counterparts.

Feedback, as a constructivist learning activity in an ODL setting, supports the students' interactions with their course materials, the construction, and building of knowledge and the testing of this knowledge through interaction with other people such as peers and tutors. To this end, dialogue which comes in the form of feedback in socio-constructivist learning is at the heart of ODL (Gravert 2005). It means that in an ODL context, there is a need to plan for effective feedback strategies or a dialogic space within which students engage with the content of the subject matter and with the ideas of others (Mays 2010). Feedback comments have to

be reciprocal, that is, from student to tutor and from tutor to student. Through reciprocal feedback, there will be continuous interaction between students and the tutor which ensures that the learning process is productive and successful. Du Plessis, Marais, Van Schalkwyk and Weeks (2010) contend that socio-constructivists believe that learners are always confronted with complex educational situations, hence they need ample opportunities to engage in meaningful, problem-solving activities such as quality feedback comments.

It is a truth universally acknowledged that feedback is vital for any student (Bedford 2007). Providing quality feedback to distance-learning is particularly important because students have fewer opportunities to ask a tutor for clarification on his or her comments. Researchers have recognized for years the strength of its impact on learning and achievement (Vollmeyer and Rheinberg 2005; Biggs and Tang 2007). According to Bedford (2007), without quality feedback comments, distance education students may feel a bit disconnected and this may create a feeling of insecurity. Chetwynd and Dobbyn (2011) confirm that in the ODL context, effective feedback on student assessment plays a vital role in retaining students and developing self-regulating learners, particularly in the first year of study.

The relationship between feedback, engagement, and retention is also supported by Goleman (1995) who emphasizes that feedback should be specific and explicitly provided to ensure that the student understands how and why they did not do well in an assignment. He also notes that if the feedback is seen as criticism, the result could be precisely the opposite of what is normally expected: emotional backlash accompanied by resentment and a strong sense of distance. The literature further contends that improved performance in learning contexts will follow when distance learners engage in didactic, self-directed studies in groups, with or without a tutor (Holmberg, 1986; Moore and Kearsley, 1996). Hattie (2007) found that positive feedback focused on an assignment has a positive effect on learners in terms of their attitude and achievement. While it is difficult to figure out the best way to provide individual comments to students and return their written work with meaningful feedback, quality feedback to distance students is particularly important because they have fewer opportunities to ask the course instructors for clarification on assignments or instructors' comments on the students' assignments. Distance learners often feel a bit disconnected by the technology and are left wondering whether the instructor received their messages and assignments. By providing feedback, students are motivated to learn.

The concepts of involvement and engagement are closely related and can be used interchangeably in research on student development and learning. Astin's (1984) theory of involvement was drawn from a longitudinal study of persistence which indicated that the levels of students' involvement in the college experience significantly influenced their decision to persist. Astin (1984) defined involvement as the investment of physical and psychological energy that the student devotes to the academic experience. In this sense, Astin (1984) emphasized the behavioral aspects of involvement and suggested that the quantity and quality of involvement had direct effects on student learning and development in college. Milem and Berger (1997) found that various forms of involvement, such as involvement with peers through discussing course content or participating in organized study activity and/or interactions with faculty, influenced students' perception of institutional and peer support, which in turn impacted their commitment to the institution. Other researchers (Kuh, Schuh, Whitt, and Associates, 1991) provide examples of the involving colleges where supportive organizational and academic structures were established to promote active involvement on the part of students in campus life and learning, and where students are more likely to be satisfied with their education and feel a sense of loyalty to their institution.

Experience in higher education reveals a positive correlation between instructor-student interaction and academic achievement. In Turkish distance education system feedback is used to advise the learners to exert more effort and try more strategies in cases where the current efforts have failed (Usun, 2003). This helps to promote interaction, with a view of ensuring more effective learning. Whenever immediate feedback after an examination cannot be provided, effort should be made to score and return the test the soonest possible before the student embarks on subsequent lessons. Feedback given at the end of the course may be valuable in providing long term guidance but does not help the student's grade or the quality of the work in the current course (Kasprzak, 2005).

Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement (McCracken, 2004). The relationship building that occurs between faculty and students inadvertently helps students to overcome obstacles and provides encouragement. Astin (1993) found that student-student interaction and student-faculty interaction are the two most important sources of influence on growth and development in the undergraduate years. Group projects in the classroom, student-student interaction is a form of

collaborative learning that contributes to the list of academic support program's best practices. Working with others often increases involvement in learning (McCracken, 2004). Responding and collaborating with other students may develop thinking skills and broaden conceptualization skills.

2.3.2 Administrative Support Services and Retention of Distance Learners

College personnel contributing most to a student's social integration into a college setting have already been mentioned. Collectively, they are responsible for creating a campus atmosphere that allows students a sense of security and success (Berger and Braxton, 1998). When new students report for the first time in college there are certain activities that take that place, namely orientation activities. New student orientation programs can take many forms, from online versions, to on, traditional day events, or outdoor experiences. What new student orientations have in common are some desired outcomes. A successful orientation assists students in their transition to the university, generates a higher degree of learning both in and out of the classroom, aids in social integration, and helps students find their niche in the campus community (Robinson, 1996).

The orientation program's success has been linked to the positive feeling students have about their personal campus experience (Hodum, 2007). In general, the orientation experience is meant to allow students better gauge and adjust to more reasonable expectations. The importance has been underscored by various studies. Simpson (2004) refers to it as the assistance given to students to help them adjust to the new situation.' It focuses on the reinforcement of successful student behavior, effective learning strategies and awareness of academic and administrative policies, adjustment to ODL student life and needs assessment. This is mainly conducted at the beginning of the program. Howard (2013) found a significant difference in the retention rates of institutions that have Preterm Orientation and the retention rates of institutions that do not have Preterm Orientation. The literature to date is conclusive that orientation programs have a positive impact on student success.

The provision of the academic calendar, study time table, teaching and learning the unit-by-unit guide and the provision of course models at the beginning of the semester facilitate students' preparedness for effective course work in the semester. It also embeds discipline and orderliness in the conduct of students towards successful learning and teaching. A student

portal is an effective tool for communicating and diffusing innovative interventions from administration to students and all stakeholders. The provisions of semester online registration, fee status confirmation, appraisal of supervisors and course tutors, viewing and printing of end-of-semester exams results, online application to patronize institutional products and services including re-sit examination registrations reduces the melanoma of isolation in distance education. Student loan and scholarship facilities are needful in enhancing financial support for distance education students. In Ghana, the Student Loan Trust Fund is available to Ghanaian students in accredited tertiary institutions. A comprehensive student support plan should include conditions necessary to qualify distance education institutions to be enrolled in established loan and scholarship facilities (Harry, Akosua, and Owusu, 2018).

Various studies have underscored the importance of institutional administrators in higher education. Raisman (2013), in his review of multiple institutions and thousands of students in the United States, found that those who had dropped out of college overwhelmingly gave institutional reasons for doing so. Specifically, 84% of the attrition rate observed could be attributed to unsatisfactory institutional support. The top two reasons for dropout were one perceived lack of concern for the student and two poor services. Raisman argues that institutions that are failing to help students progress and graduate are not holding up their end of the deal and therefore, need to take charge of improving outcomes or risk losing federal funding. Simonson, & Crawford, (2006), observed that administrative support in ODL requires coordination of tutorial and assessment functions to ensure effective service delivery and accountability.

Some studies have given emphasis on the importance of the decentralization of LSS. Melton (2002) underscores this point by arguing that LSS needs to be as close as possible to where distance learners live and work. Considering that distance learners in all DL programs of the University of Nairobi are scattered all over Kenya, there is a need to investigate the nature of the decentralized support they received and how it can contribute to their progress and program completion. The importance of regional centers (Kember and Dekker, 1987; Leach, 1996) has been conceptualized in a notion of the provision of a local human interface of DL. Regional centers have the potential for providing tutorials by faculty members, study group meetings and resources such as the library and ICTs (Cutting, 1989). Similarly, Harry, Akosua, and Owusu (2018) observed that Face-to-face meetings organized regularly at

regional and study centers and the use of regional supervisors enhance accessibility and flexibility in distance education. The fluency of face-to-face meetings promotes learning and teaching in purely distance education institutions. The frustration of students and stress is normalized through proper counselling and career guidance enabled through such media.

Through regional centers, learners could address the feeling of isolation (Lowe, 1997), not virtually but physically, as new DL students are usually desperate for human contact, not just for information from others (Biggs, Simpson & Walker, 2006). Kurasha (2003) noted that distance learners at Zimbabwe Open University, though motivated to learn, showed signs of wanting teachers to stand in front of them, probably as a hang-over from the conventional face-to-face system, and advised ODL providers to inculcate appropriate study skills to enable distance learners to help learners judge their own progress. At the Open University of Tanzania, Mmari (1998) acknowledged the role of stakeholders in the provision of decentralized learner support services in twenty-two regional centers, situated in major towns in Tanzania, reaching out to students who lived in remote rural areas with limited infrastructure. Komba & Nkumbi, (2008) noted that each study center in Tanzania required a minimum of forty enrolled learners in order to make it economically viable.

Universities are always trying to put in place strategies that are targeted towards the first year of college given that it is the period that learners are considered to be most venerable. Successful intervention strategies implemented during the first year of college can have the biggest impact on student grades and retention (Pan, Kwok & Yang, 2008).). Institutions continue to look at ways to reach out to students earlier in their academic year. One such strategy is the early alert warning system that was implemented at Dakota State University. Using a web-based system for referrals, the system allows academic advisors to collect alerts and concerns via a web portal. The information is then used to target specific learners who may be experiencing challenges especially early on in their studies. Hudson, (2006) examined the effectiveness of an intervention based on absenteeism and discovered that 15 percent of the students at Florida university dropped the courses for which they had been reported for missing. Students were engaged by the process of being contacted and related they were not aware their attendance was being watched so carefully and were pleasantly surprised by the guidance they received.

2.3.3 Guidance and Counselling Support Services and Retention of Distance Learners

One key component of LSS is guidance and counselling of the learners. The dictionary meaning of counselling is the provision of professional assistance and guidance in resolving personal or psychological problems. Counselling is the process of assisting and guiding clients, especially by a trained person on a professional basis, to resolve especially personal, social, or psychological problems and difficulties. It is the process that occurs when a client and counsellor set aside time in order to explore difficulties which may include the stressful or emotional feelings of the client. Effective counselling reduces confusion, allowing the client to make effective decisions leading to positive changes in their attitude and/or behaviour. Effective counselling is not advice-giving and is not acting on someone else's behalf (these are more than the roles of a life coach). The ultimate aim of counselling is to enable the client to make their own choices, reach their own decisions and to act upon them accordingly. Counselling is a very important aspect of the teaching-learning process of the distance education system. Students counselling begins with the pre-admission period, continues through the duration of the programme and it is helpful even after the programme is completed.

Counselling is a learning process in which individuals learn about themselves, their interpersonal relationship and behavior that advance their personal development. Guidance is giving advice or suggesting directions or instruction to people who have problems. It involves personal assistance (Bowa, 2011). Specifically, there are two forms of counselling that relate, academic counseling or psychological counseling (Sharkin, 2004). As their names imply, academic counselling focuses on time management, study skills, and test-taking skills to improve academic performance, while psychological counselling targets emotional distress and social difficulties, which may relate indirectly to retention (Sharkin, 2004). In general, Sharkin (2004) noted that college counseling centers aim to provide counseling for personal problems that may impact students' academic functioning. Counselling support is necessary for ODL because distance learners study on their own for most of the time, and problems of anxiety and lack of confidence, coupled with a lack of proper study skills, can interfere with their progress and program completion (Simpson, 2002). Morrison, Brand and Cilliers (2006), supported by Thorpe (1988), posit that before enrolment, learners should be given information on course prerequisites, on how to interact with the learning materials, how to cope with the

pressure of work and review their own learning progress, as well as career advice and opportunities for further qualifications.

Apart from orientation, academic advisors have been shown to play an important role in orientation programs and in student success, especially for first years. A study by Swanson (2006) for example demonstrated that having extra time with a professional staff member trained on academic advising and learning about the student's strengths on a personal basis resulted in a higher rate of persistence amongst those students. The most effective orientation programs are those aimed at increasing retention based on both student and university needs and interests, delivered in an appropriate format, and able to target specific student populations. Neither the real nor the perceived outcomes are any different for a DL orientation aimed at DL students or an on-campus orientation involving personal interaction. The objectives are the same, given that both should promote and enhance retention. They should also develop a sense of belonging and connection with the institution and one's peers, and facilitate interaction and get students involved in their own educational experience (Scagnoli, 2001; Brown, 2008).

In accordance with Tinto's theory (1993), many university administrators and staff have implemented interventions such as new student orientations and first-year seminars with the intention of facilitating first-year students' transition to college. Orientation programs are brief and tend to focus on university-specific rules, policies, safety and security, and academic requirements (Mayhew et al., 2010). Orientation programs geared specifically to underprepared students are often called summer bridge programs (SBPs). These programs are longer than typical orientations, lasting 3 to 6 weeks, and are aimed to bridge the transition from high school to college and acclimate the students to the college or university's "campus, curricula, and culture" (Colyar and Stich, 2011).

Several studies have pointed out that loneliness can be related to poorer physical health (Arkar, Sari, and Fidaner, 2004) and depression in college students. Nipcon et al. (2006) found that both loneliness and lack of social support were significantly associated with dropping out, in their sample of freshmen. Specifically, they found that loneliness and social support predicted academic persistence decisions. This aligned with Tinto's theory which asserts that students may be more likely to stay in college if they feel like they fit (Nipcon et al., 2006). Similarly,

DL students are mature adults who are mostly married and have to combine study with their work and family. Distance learning students have little free time to pay attention to the details of assignments. Therefore, instructors should provide them with a clear and detailed syllabus. Instructors should understand that their students may be busy with work and family and sometimes have no time for assignments. Therefore any attempts to provide counseling services should note the limited geographic reach and limited time that ODL students have (Kangai, 2010).

The physio-psychological, social, and economic changes, and challenges ODL students face at different stages of life makes the need for counseling services apparent in ODL. Salih (2004) notes that in order to provide counseling services that meet the needs of ODL students, apart from identifying students' characteristics ODL centers should also consider the socio-cultural context of its students. Thus socio-cultural factors may impede the access and utilization of counseling services in ODL. As Adult education develop and educational experiences of students transform, the need to provide adult students with counseling services increases. Ghazi, Malik, and Safdar (2013) have pointed out functions of guidance and counseling including; guidance and counseling enable a student to face and work through personal difficulties, provision of accurate and appropriate information. In the provision of guidance and counseling services, there are challenges like poor quality of some counseling sessions (Krishna, 2012). Mwangi (2012), observed that new students did not seek their tutors for guidance and counseling services but would rather go to their parents/ guardians, and this was because they were not familiar with their tutors or counselors.

Several studies have highlighted the misconceptions that distance learners have about ODL programs. One of them has about the workload and their perception that the program is much simpler than the face to face program due to its flexibility. Venezia, Kirst, and Antonio (2003) established that one of the major problems in DL is the lack of a clear understanding of learning expectations that makes college preparation difficult and discouraging. This problem is compounded by the fact that many high school students, especially the most academically disadvantaged, receive inadequate counseling and opportunities for college preparation. Students with unrealistic expectations lose interest in their studies in the face of a higher-than-expected workload. Lacking adequate preparation and dedication makes students regard their studies as challenging. Orehovec (2015) observed that learners who come to college already

knowing what course they wanted to pursue prior to enrollment returned at a significantly higher rate than those who enrolled undecided, meaning the latter group needed counselling support in to help them in their choice. The amount of time and effort expended in a study program is influential in a student's persistence. Studying is an investment, and the more time students have invested, the less likely it is that they will withdraw.

Although many writers have pointed out the importance of academic advising, the literature on the significance of academic advising in influencing retention has been mixed. While there is general agreement surrounding the importance of academic advising for the efficient functioning of the institution and the effective functioning of the student, there is little agreement regarding the nature of academic advising and who should perform the function. White and Schulenberg (2012) state that academic advising is the human art of building relationships with students and helping them connect their strengths and interests with academic life goals. This includes issues such as: how to study, time management, how to make informed choices on career and how to make the best use of the many academic and social services availed to them (O'Banion, 2012; Van, Said, Rameli, Karim, Tajuddinl, and Chai, 2015). Nilsen (2009) found effective advising systems meet the needs of the college's constituencies and further the goals of the institution.

The improvement of academic advising may promote students' satisfaction with the college experience and encourage them to remain in college long enough to fulfill their educational goals. Andrepont-Warren (2005) also observed that the literature acknowledges that advising has a measurable impact on students and must be recognized by institutions as important. Hagahmed (2014) while conducting a study on the impact of academic advising on retention of first-year students at a Gulf Arab University established that those students who were advised earned more points in their first semester Grade Point Average (GPA) than those who did not. And in a single-institution study that looked specifically at advising satisfaction and degree completion time, Guillén (2010) found a statistically significant relationship between time to degree and student satisfaction specifically with advising. These research findings suggest that student satisfaction with advising may be an important factor in the advising/retention relationship.

However other studies have established that academic advising services did not statistically improve students' retention. Pietras (2010) while conducting a study on the impact of academic advising on GPA and retention at the South-Central Pennsylvania Community College in the United States, established that the relationship between students' perceptions of academic advising and retention was not supported when subjective measures were used. Thus, advising service did not statistically improve students' retention. Similarly, Arhin, Wang'eri and Kigen (2017), in their study investigating the impact of academic advising on student retention in distance learning at the University of Cape Coast, Ghana established that academic advising was not a significant predictor of student retention in distance learning.

Student involvement theory indicates that the more a student has in-depth interactions and connections with faculty, staff, and peers, the more successful they will have in their social and academic endeavors. According to Orehovec (2015), if an institution commits itself to achieve maximum student involvement, counselors and other student personnel workers will probably resume a more important role in institutional operations. Because student personnel workers frequently operate on a one-to-one basis with students, they are in a unique position to monitor the involvement of their clients in the academic process and to work with individual clients in an attempt to increase that involvement. The stronger the commitment that students make to their higher education experience and to their established goals that lead toward graduation, the more determined they will be to following through on their own expectations for college completion (Braxton, Vesper, and Hossler, 1995; Noel and Levitz, 1989).

Tinto's (1987, 1993) research indicates that student retention is based upon a commitment to the educational process and the social and academic connection to the classroom environment and classroom culture. Bean (1985) describes academic integration as having an impact on institutional fit and connectedness. His suggestion is that effective academic integration is due to developing good study habits, gaining confidence as a student, and thinking along the same lines as the faculty teaching their courses. In study that gave similar results Kassel and Provencher, (2017) noted that students who participated in High- Impact Practices (HIPs) programs such as enhanced advising, mentoring, academic support programming initiatives, early warning systems among others during the first and second year were more likely to be integrated into college life hence retained. Corso and Devine (2013), noted that Student mentors can have an impact on college student retention, resulting in comparatively higher

retention and graduation rates. Siegel (2011) suggested pairing a faculty member and upper-level students with an entering first-year student in order to provide support both socially and academically for the new student. The mentor can also assist the student with a sense of belonging and fitting in at the institution. This sense of belonging is evident in students who are satisfied with the overall college experience and are able to talk to a mentor about issues of concern.

Outside support, especially from family, friends, and employers, has been shown to positively influence a learner's decision to stay in college. Bird and Morgan (2003) indicate that employers, workmates, friends, and family members are useful sources of emotional support in ODL. Dearnley (2003) while investigating the impact of academic, professional and domestic networks in ODL, establishing that students who had support from their professional colleagues, supervisors, tutors, and mentors were more motivated to continue with their studies than those who did not participate in similar networks. This study also identified peer group discussions, support from spouses, family, children, and friends, including institutional support as among the motivating factors which helped distance learners persist in their studies. These findings are corroborated by Bertram (2003), who reported that distance learners at the University of Natal in South Africa found learning and doing self-test activities in groups useful. Learners gave each other emotional support by encouraging each other to persist in their studies and achieved good marks in their assessments. Similar findings were reported by Snowball and Sayish (2007), who emphasized the need for a peer tutorial and assessment system to enhance didactic interaction among distance learners.

Several studies have demonstrated that guidance and counselling do play an important role in enhancing learning. Nyaga (2011), in a comparative study on the effectiveness of guidance and counseling on the development of academic, social and personal competencies among students in Kenyan public and private universities noted that fewer student disturbances and anti-social behaviour have been reported more in public than in private universities. This, she asserts, might be attributed to the effectiveness of guidance and counseling services offered at the private universities and that there are significant differences in the effectiveness of guidance and counseling on the development of academic, social and personal competencies between students in public and those in private universities. Mwenje and Kasowe (2013) in their study also revealed that the majority of students receive financial advisory services on

fees payment, examination techniques, and time management. Turner and Berry (2000) found that during the 6 years of their study, an average of 70% of clients indicated that their personal problems were impacting their academics, and nearly half of the clients indicated that counseling helped them in deciding to continue enrollment. This was supported by objective measures which indicated a significant difference in enrollment rates between students receiving counseling and those who did not. It is important to note that no significant difference was found in retention rates among college freshmen.

A similar study by Illovsky (1997) examined the relationship between receiving counseling and retention, focusing primarily on psychological counseling yet also including career and academic counseling. Of those who received counseling, 75% returned to school as compared with 68% of the general population. Wilson, Mason, and Ewing's (1997) study yielded similar results in those students who received counseling had higher retention rates than those who were on the waiting list or did not show. Their study found higher two-year retention rates among students who received counseling services (79% persistence) than those who requested but did not receive counseling (for example, they were waitlisted and then opted not to receive services or did not show up for their first appointment; 65% persistence). These authors also examined the impact of a number of counseling sessions on the likelihood that students will persist in college, finding that having more sessions improved the likelihood of retention, with the greatest gains occurring after 2-4 sessions. After about six sessions, additional counseling appointments seemed to have little impact on retention.

Using archival data from more than 10,000 freshmen and transfer students over two years, Lee, Olson, Locke, Michelson, and Odes (2009) found that counseling experience was a significant predictor of persistence to the third semester, even after controlling for high school academic performance (for example, GPA and SAT scores). It was not known whether distance learners in the bachelor of education programs at the University of Nairobi received support from their employers, families, and friends and if they did what effect this support had on their learning progress and program completion. In the contexts of this study, there seemed to be a gap regarding the type of counseling support the learners received, giving rise to questions about how this support affected their progress and program completion in all the DL programs. The present study addressed this gap.

2.3.4 Technological Support Services and Retention of Distance Learners

The mode of delivery for most ODL programs is by-and-large print (modules), in conjunction with face-to-face tutorials, telephone contacts, emails and one-on-one contact with tutors as and when needed. DuBois, Holloway, Valentine & Cooper, (2002) report that before the advent of Internet technologies, DE was mainly delivered via radio and television in addition to sending audiotapes and by sending lessons through the mail. The Open University UK, which has led the way and perhaps set the standards for ODL, offers its content in both print and electronic forms. According to Gourley and Lane (2009), apart from making its published materials public for students and the public to buy, the Open University UK had a powerful partnership with the British Broadcasting Corporation for several decades where lectures were broadcast to the public across the world. The technology used in online learning and distance education has profound effects on the learning experience. Thoms and Eryilmaz (2014) established that different software used to deliver instruction and manage interaction had an impact on satisfaction, student-student interaction, and the learning community, implying an effect on student-student transactional distance. Howard, Ma, and Yang (2016) found that computer self-efficacy was one of two main factors related to positive and negative engagement with digital technologies.

In most countries, DE has been updated into technology-enabled learning environments, where e-Learning scenarios, ubiquitous technologies, Cloud Computing, simulation, gaming, and personal learning environments have become the mainstream (Morley, 2012; Moller, Robison and Huett, 2012). However, in this new and complex circumstance, advanced ICT itself cannot naturally bring about a quality learning process or directly lead to the good achievement of students learning. For students to have a quality learning process and good achievement, ICT has to be well integrated into various learning procedures (e.g. course instruction, learner support, and assessment). Further, the learner experiences with robust interactions between learners and content in the design of the learning process should be carefully designed in technology-enabled learning environments.

The introduction of the internet has revolutionized the way institutions, especially universities, deliver credit and non-credit distance courses to students. Bower and Hardy (2004) and Kudryavtseva (2014) demonstrate that the internet, through its ability to offer both asynchronous as well as synchronous activities, has become an excellent platform for

conducting DE through chat sessions and online discussions which can be used to engage learners in student-to-student, as well as, student-to-instructor interactions. This is perhaps the reason Kudryavtseva (2014) identifies the internet as one of the facilities necessary for the effective delivery of lessons in ODL programs. Likewise, Ekwunife-Orakwue and Teng (2014) argue that modalities of DL that leverage interaction, and allow seamless experiences with technologies will continue to thrive and proliferate.

In the last decade trends in technological advancement and learning by distance have favored more flexible learning in which advanced computers and internet connections are engaged in the provision of student services. With the aforementioned provisions, effective two-way communication has been aided through simple tools such as text messaging, direct voice calls, memos and letters to and from centers. In terms of effective communication and centre supervision, studies have demonstrated that the student portal, website, study centres, coordination, supervision, memos and correspondence, direct voice calls, bulk text messaging, television and radio publicity, students' representative council are interventions in distance education to eradicate the issue of isolation whilst encouraging effective communication and learning (Eastmond, 1998, UNESCO, 2002, and UNESCO, 2007).

The use of various types of technologies by adult learners was evident in some ODL programs in Southern Africa. This is the case where short messaging (SMS) mobile phone technology was used to support distance learners, supplementing the print and face-to-face contact (Aluko, 2009; Beukes, 2009; Fresen and Hendrikz, 2009). In Uganda, Kajumbula (2006) found that, with mobile phone software, Makerere University was able to give administrative support to distance learners such as on new dates for submitting assignments. Using one lecturer experience of using texting with her students, Horstmanshof (2004) has shown how SMS can effectively be used to support and encourage students to persist in a program. The informal nature of SMS, according to Horstmanshof (2004), it is necessary as it fosters the sense of belonging and student integration in the university community, faculty support, peer support, and classroom comfort. With a similar objective in student support, the University of Wolverhampton invested in a large-scale scheme that uses bulk SMS texting to enhance student support, inclusion, and retention (Riordan and Traxler, 2005). Harry, Akosua, and Owusu (2018) also noted that text messaging and direct voice calls, though basic, are effective tools for communication in distance education institutions. In the case of direct voice calls,

distance education students are provided with the opportunity to call back and seek for further enquires.

Unlike the developed nations, the developing nations are in a unique situation with regards to the use of technology in teaching and learning across all levels of education. While the telecommunication infrastructure has made mobile phone utility possible in many remote parts of Africa, its use in scaling up the success rate of ODL learners is yet to be tested. Recent findings indicate that learners' support by mobile phones is possible primarily on administrative and consultation matters. However, the small storage capacity and screen of the mobile phones that are affordable make them ineffective for serious academic work. The larger screen smartphones are as good as laptops but they are expensive for low-income distance learners. (Maritim and Mushi, 2011).

Due to the high penetration of mobile phones that have been made in Africa and the fact that many learners in collages own them it is upon institutions to take advantage of this to enhance teaching and learning. This is more relevant to distance education students who often have problems in terms of a lack of personal contact with the institution, a sense of isolation, a lack of pre-course orientation and of tutor support counselling sessions. Mobility allows teaching and learning to extend beyond the traditional classroom and support learning experiences that are collaborative, accessible and integrated with the world beyond the classroom. According to Hendrikz and Aluko (2011), the inability of institutions to use a form of technology to students' advantage that is available to them to enhance teaching and learning could be said to amount to an injustice.

It has been observed that in some cases the use of the mobile phone has made significant contributions and impact on learner participation in DE. In a study carried out at the University of Pretoria Hendrikz and Aluko (2012) demonstrated that it was possible to use SMS technology to support students academically in a limited way, bearing in mind some variables, which include the commitment of the students, family support, their attendance at contact sessions and their personal circumstances. Furthermore, the study also showed that students who received SMS messages were academically more active than those who did not. In addition, students were sent SMSs before each tutorial session regarding the chapters to be discussed during the session. This was done to give guidance to students on what to prepare

for before the discussion and evidence showed these learners were motivated to attend and contribute to the discussions during the sessions. Thus, it is possible for students to receive some form of academic support through the use of mobile technology.

Similarly, studies such that that of (Brown, 2003 and Hendrikz, 2008), established that when the University of Pretoria, South Africa, started experimenting on sending bulk SMS to teacher trainees on administrative, contact sessions, notification of study materials distribution, assignments, and examination matters, Teacher-student contacts through mobile phone enhanced the learners' feeling of the sense of belongingness to the University. When a learner receives a call or SMS from the tutor to remind him or her for example about delayed assignments he/she feels he/she belongs to the University. Examination registration rose from 40% to 58%; 95% of the students attended contact sessions, and the student responded in mass and almost immediately on information provided in SMS-messages. The cost of sending bulk SMSs was calculated to be 20 times less than using print and postal services to distribute information to students. Similar utilization of mobile phones in distance learning has been carried out in Philippine by the University of Philippines Open University (Librero, Ramos, Ranga, Trinona and Lambert, 2007).

Mobile learning has also been used in ODL institutions to enhance retention. Fozdar and Kumar (2007) and Cook (2006) established that mobile learning was related to improved student retention. The biggest advantage of this technology is that it can be used anywhere, anytime. Moreover, as mobile phone usage expands, it offers DL institutions easy access to a larger number of learners (Fozdar and Kumar, 2007). Butale, 2008; Kamau, 2004, 2010; Wright 2008 demonstrated that distance learners had either limited or no access to computer laboratories and equipment. This reported lack of access to resources seems contrary to Bates' ACTIONS model (Bates, 1992), in which the author argues that at the program implementation stage, providers should evaluate learners' technological needs in terms of accessibility, costs, teaching appropriateness, organizational changes required, novelty and speed.

Studies such as those of Ng'umbi, (2009); and Mnyanyi, et al. (2010) reported that students of Open University of Tanzania have been using mobile phones to facilitate communication among them and regional centers staffs. They were also using their phones to read online

materials despite the hidden cost to students and small capacity of their phones to read some documents like PDF files. However, Nihuka, (2011) found that despite that mobile phones are owned by a majority of students and instructors, both instructors and students confirmed that those mobile phones are not used for delivery of courses and communication. This gives the impression that mobile phones facilitate communication among students themselves and regional centers, by means of administrative staff and not their instructors. Emails have been used in China to facilitate communication among students themselves and their instructors, to submit assignments to their teachers and to post e-learning materials for students to read (Lee, 2004; Guo and Cai, 2006).

The provision of quality library services to those who learn at a distance is undoubtedly one of the most exciting and challenging developments that have occurred in contemporary librarianship. DE has led to the development of specialized library and information services that can appropriately be called distance librarianship. The genesis of distance librarianship is grounded in the creation of the large-scale spread of distance education to satisfy personal and national educational goals. DE has impacted not only the discipline of education, but it has also fundamentally affected services and professions that support distance learning and distance education. (Prajapati, 2008). Library services for distance learners include Services which include inter-library rule, Ask-a-librarian; Subject specialists and course reserves. Library tools include LibGuides, subject Guides, Library Catalogue; Database extreme search, e-book collections, Google scholar and Refworks. Distance learners also require technical help which includes problems report, online course help, help desk, networking and computer support. E-learning student tutorial, mybama help, UV VPN (for students outside the USA).

The importance of regional centers (Kember and Dekker, 1987; Leach, 1996) has been conceptualized in a notion of the provision of a local human interface of DL. Regional centers have the potential for providing tutorials by faculty members, study group meetings and resources such as the library and ICTs (Cutting, 1989). Through regional centers, learners could address the feeling of isolation (Lowe, 1997), not virtually but physically, as new DL students are usually desperate for human contact, not just for information from others (Walker, 2002). Study Centres therefore, support students in independent learning by various means of educational technologies and human support (NOUN, 2011). In a nutshell, a study center is where the academic courses and programmes are delivered to the students either in occasional

face-to-face interaction which is not compulsory but necessary or didactic communication through technologically mediated media. A study center is a miniature of the university, mirrors the existence of the university in the community far away from the university headquarter. The academic services such as tutoring, coaching, facilitation, and hand-on practical laboratory work in sciences and technology are carried out at the center

2.4 Learner Characteristics and Retention of Distance Learners

Distance learning students are usually older comparing with typical students engaged in on campus-based programs. Hence they encounter more psycho-social problems that might affect their academic progress necessitating the need for counseling in order for them to pursue their studies unhindered. Burt (1996) observed that if institutions do not understand the dynamics of the demographics and understand that student performance drives the need for a change in educational provision, then institutions will be losing out on a vast and expanding distant population. Most distance learning students have full-time jobs. The reason why people use ODL as a means of study is that they want a chance to advance in their careers while they earn an income. The attempt to combine careers and academic study whilst isolated from the tutor and fellow students place huge psychological stress and strain on the distance students.

Ohene, & Essuman, (2014) noted that since distance learning is student-centered, knowing the characteristics and demographics of the distance learners helps us to understand the potential barriers to learning. Although students' characteristics and needs may not guarantee success in a distance education course or program, it is easy to defend these factors as contributors to success. Additionally, knowledge about students' characteristics and motivators helps us to understand who is likely to participate in distance education and conversely, why others choose not to participate. Khan (2005) observed that the more information from learner-characteristics categories is available, the better the managers of distance learning programs will understand their target population and hence design courses that will be suitable for them.

Knowledge of learners' characteristics is important when deciding on the type of media by which the content will be delivered and the structure of distance courses in which diverse students will be accommodated (Khan, 2005; Laulliard, 2001). Their findings are similar to the results of a study by Awe (2013) which indicated that sex, age, marital status, and

employment status had a significant influence on learners' preference for distance learning. The study also showed that among the three categories of age groups under consideration, learners from ages 45 years and above exhibited the greatest preference for distance learning. In addition, the study revealed that among the three categories of underemployment status, learners on full-time employment showed the highest preference for distance learning. Their findings are similar to those by Bean and Metzner (1985) who built a model for mature and part-time students based on Tinto's and other psychological models. They argued that older students have less interaction with each other, and usually seek support from family and friends. Their model had four groups of variables, namely: academic variables, such as learning habits, advising and programme fit; background variables, such as age, goals and prior academic performance; environmental variables, including financial situation, employment and family responsibilities; and academic outcomes, such as GPA and psychological outcomes (stress, satisfaction, goal and institutional commitments).

For older learners, the decision to attend university is often more than the desire to increase skills or learning but maybe the realization of a long-term ambition or goal. Dubious (2003) observed that DL encourages older people to seek higher education. Park (2007) indicated that most distance education students are adults between the ages of 25 and 50. Osei (2012) indicated that distance learning is most patronized by an older (> 30 years) and married student population. Dutton, Dutton, and Perry (2002) observed that distance learners are typically 22-50years of age and are unable to enroll in traditional undergraduate programs due to other responsibilities. They added further that they have a job, could have childcare responsibilities, commute more than 10 miles to campus and have computer experience. Boston, Ice, and Brooks & Gibson, (2012) indicated that older undergraduates and those with a dependant, a spouse, or full-time employment participated in both distance education classes and degree programs relatively more often than their younger counterparts. The problems are often coupled with family and work responsibilities for those who have family and are in employment.

As most distance learning students are adults and in employment, study time often interferes with family commitments and personal and employment responsibilities (The Commonwealth of Learning, 2010). A study by Pierrakeas, Xenos, Panagiotakopoulos, and Vergidis (2004) found that family and personal matters, study and employment responsibilities, lack of support

and lack of prerequisite knowledge were challenges that students faced, which in turn led them to withdraw from the program of study. A similar study by Rakes, Dunn, and Rakes (2013) found that distractions caused by family and employment responsibilities prevent students from studying.

Successful ODL students are characterized as those who are able to manage their time well, have good learning habits, and study regularly (Holder, 2007). However, poor time management was also reported to cause students to withdrawal from ODL (Aragon and Johnson, 2008; Doherty, 2006). As ODL students usually are workers, they need more time and greater commitment to complete their studies (Doherty, 2006; Fozdar, et al, 2006). Students who are unable to manage their study time and tend to procrastinate their learning activities (Doherty, 2006) are likely to be unsuccessful in their studies. Since ODL students often have to study alone, they themselves may have to determine how many hours a day need to be reserved for studying (McGiveney, 2004). According to McGivney, not attending classes regularly can cause ODL students not to study regularly. Without a routine or fixed study schedule, they tend to attend to other tasks such as office-related jobs, socializing or completing other chores. Postponing studying and completing assignments may cause students to start studying only when examinations are approaching (as cited in Puspitasari and Oetoyo, 2018). Tladi (2013) also cited work responsibilities as being a hindrance. He observed that students who are employed and have family responsibilities have greater attrition and less commitment to study independently. They made little use of available support even when they needed it.

People study with ODL because they want to achieve an enhancement in their careers. On the other hand, according to Ference and Vockell (1994), students' characteristics can be described under two categories: psychological factors and sociological factors. A combination of the two types of factors makes up the psychosocial characteristics of the student. Guy (1991) adds a third category- the socio-cultural context of the student. Psychological factors refer to the internal characteristics or elements of the distance student such as independent, self-directing, skill seeking among others. On the other hand, sociological factors are those that exist within the external environment such as family background, work setting, peer group influence, school setting, and societal expectations. The interaction between these two groups

of factors necessitates the DL institutions to develop appropriate counseling services that ODL students might require and in the manner in which these may be delivered to them.

A student's pre-existing attributes and characteristics are found to be significant indicators of his/her chances of graduating from college. (Astin, 1993; 2001; Tinto, 1993; Terenzini, Lorang, and Pascarella, 1991). Variables such as high school grades, gender, ethnicity, parental control, education level, standardized test scores, and even age were consistently found to be the strongest predictors of degree attainment for undergraduates (Astin and Oseguera, 2003; Titus, 2003). Many college officials believe that high schools are principally responsible for a student's academic lack of preparation for college (Orfield, Losen, Wald, and Swanson, 2004). Breland et al. (2002) determined that among others, a high school student's GPA, SAT, ACT, and level of coursework were essential predictors of how well they would perform during their first year of college. Given that seventy-five percent of students usually drop out of college during their first two years, and 57 percent of students leave their first college without graduating (Tinto, 1993), it is not alarming that the attributes and characteristics students bring with them to college greatly determine their first-year grades. First-year grades of freshmen students are significantly linked with retention (Gifford, Briceno-Perriott, and Mianzo, 2006; Reason, 2003).

Learner characteristics have also been found to have a significant influence on the academic performance of distance learners. Bowa (2010) noted that learner characteristics consisting of age, family size, entry academic qualification, and business income have an impact on grades of learners, in various ways. Older students tend to perform poorly in examinations because they also tend to have large families with heavy financial and time commitments. However, older students with higher entry qualifications to the university tend to perform better in examinations than their younger counterparts, even when they have large families. As was observed by (Harris and Gibson, 2006), where high success rate in ODL has been reported, it has been attributed among many other factors to the age of the learner; learner's experience and receptivity to computer use; and the learner's seniority in employment. In these contexts, it has been shown that younger learners perform poorer in ODL mode of study than adult learners; that prior experience with computers and internet and receptivity are positively related to acceptance of an online course; and that those in senior management positions do not want to be seen by the employees as either failures or dropouts. The study recommended

that students, especially those who are admitted with 12 years of pre-university education, be exposed to key core courses in the early part of their studies. These findings are similar to those by Howard, (2013) who established that most common programs put in place by colleges were effective in increasing retention among first-year students.

The study by Bowa (2008), also noted that supplementary income from small-scale business activities had an adverse influence on academic performance. The activities included commercial farming, fishing, grocery, flour milling, transportation, hairdressing, auto repair, dry cleaning, bar and restaurant trade, tailoring and metal crafts. It was observed that students who engaged in these activities to supplement the income from their primary occupations had limited time for their studies and, therefore perform poorly in examinations. The study, therefore, recommended that distance learners be given easy access to education support funds. The government, through the Higher Education Loans Board (HELB) and other stakeholders, should prioritize needy external degree students for disbursement of loans for fees payment (Bowa, 2010). DesJardin (2002) had also observed that students who are at risk for drop-out often face a steep battle financially, sometimes too steep to overcome. Having access to enough financial support either through work-study or scholarships, therefore, tends to improve a student's chance of completing his degree program. However, a study by Hawkins at al (2005) had concluded that employed students did not demonstrate a lower level of academic performance relative to unemployed students but instead experienced a higher relative dropout rate as well as longer times needed for degree completion.

Several studies have explored the relation of financial aid to persistence (Avery and Turner, 2012; Braunstein, et al., 2008; Dowd and Coury, 2006; Dynarski, 2003; Ku, et al., 2011; McDaniel, et al., 2012). Although the conclusions about the impact of financial aid on student persistence vary within the existing literature, the overall feeling is that at least in a small way, the receipt of any financial assistance is associated with a greater likelihood of persistence, and that as other variables are included, like academic performance, social integration, and intentions to continue, persistence also increases.

Parents with higher levels of education and income can, directly and indirectly, affect students' decision to drop out of college (Astin, 1993; Astin and Osequera, 2003; Mow and Nettles, 1990; Oseguera, 2004). Horn et al., (2010) reported that parents who have not

attended college were less likely to discuss college with their children. Additionally, many children from lower socio-economic backgrounds lack resources, networks, and access to information that might familiarize them with the social and educational benefits of college (Gandara, 2001). A study by Rambo and Odundo (2010) also revealed similar findings by noting that although distance learners were financing their education from personal sources, these were grossly inadequate and unstainable. This was undermined by the fact that most of the learners had low incomes given that most were primary school teachers. Hence it was their view that about a third of these learners were at the risk of dropping out of the DL program each year, raising the need for more reliable financing schemes targeted at this group. In general, a parent's level of education has been shown to influence a child's chance to attend college, and ultimately, his/her graduating from college.

2.5 Hidden Costs and Retention of Distance Learners

A cost is said to be hidden when it does not explicitly appear on the company information system, such as the budget, financial accounting, and cost accounting, or in the usual ledgers and logbooks. Hidden costs are when the full cost of ownership is not included in the purchase price, because of additional expenses, opportunity costs, unseen problems or unintended consequences. Hidden costs can make products appear lower-priced, easy to obtain or a good value. However, the visible costs are those that can be successfully detected in these systems. Visible costs usually have three fundamental properties: one they have precise, normalized and known labels; two are measured based on precise and known rules, and three are regularly monitored with the purpose of checking their evolution based on a certain fixed objective. Savall and Zardet (2008) claim that any element of the cost that lacks one of the three properties mentioned above is, by definition, a hidden cost. Other authors consider that the character of the hidden costs is the fact that these are engaged outside any official procedure, reaching considerable levels (Larsen & Pedersen, 2014; Ietto-Gillies, 2012).

Hidden Costs in education do have a significant impact on the retention in various levels of education in Kenya all the way from primary school to university. It has been established that hidden costs such as school levies that include examination fee, activity fee, PTA fund, lunch expenses, opportunity costs, transport expenses and expenditure on school uniforms in primary schools have forced many children to miss classes or drop out of school because they have to stay at home and help their parents to raise the money (Njoroge, 2013). In a similar

study Abdi, (2013) found that on average, the cost of school uniform met by parents, opportunity costs, cost of textbooks met by parents and payment of salaries to PTA/BOM teachers by parents greatly affected access to primary school education in Garissa County.

On the other hand in secondary schools costs such as boarding fee, development fee, school uniforms, activity fee, extra tuition, Board of Management Teachers' salary, supplementary textbooks, exercise books for remedial work among others are key hidden costs that have affected the effective implementation of Free Secondary Education (FSE) Programme especially completion rates in Kisii County hence contributing to educational wastage (Areba, Ayodo and Chemwei, 2016). With reduced government spending on schools, as part of the cost-sharing strategy in education, the current government policy on how schools should raise funds gives a lot of leeway to secondary school head-teachers to decide on the type of educational levies to impose on parents (Wambugu, 2013 as cited in Ndulu, 2015). These levies which come in terms of development fees, PTA fees, transportation fees, activity fees, boarding and meals, personnel emoluments are always hidden and never consistant. Schools then to charge them arbitrarily and they vary from school to school and this this leads to an increase in the school fees and it denies the needy students a chance to perform well in the national exams.

A review of literature could not explicitly trace studies that have captured the impact that hidden costs have on the retention of distance learners in higher education. A study by Chong et al, (2010) did establish apart from transfer credits and ethnicity residency was also significantly tied to retention. The researchers observed that students who are not residents pay higher tuition. This consequently drains their financial resources that could have been used to support their studies. The study observed that non-resident students especially those from different States spent spend more time traveling and this costs them in terms of time and travel expenses and it had a direct impact on their academic performance and retention. They did clarify that one should not go too far as to interpret the findings that retention is affected by proximity to university location.

Mobile learning has also been used in ODL institutions to enhance retention. Fozdar and Kumar (2007) and Cook, et al., (2006) established that mobile learning was related to improved student retention. Ngumbi, (2009); and Mnyanyi, et al. (2010) reported that students

of Open University of Tanzania have been using mobile phones to facilitate communication among them and regional centers staffs and to read online materials despite the hidden cost to students and small capacity of their phones to read some documents like PDF files. However, Nihuka and Voogt, (2011) found that despite that mobile phones are owned by a majority of students and instructors, both instructors and students confirmed that those mobile phones are not used for delivery of courses and communication. This gives the impression that mobile phones facilitate communication among students themselves and regional centers, by means of administrative staff and not their instructors.

2.6 Theoretical Framework

The literature on student retention and attrition describes an extensive collection of theories and models that could be used (alone or in combination) to explain why students leave educational institutions. The theoretical models reviewed in this study are the most cited student retention theoretical models. These theoretical models are the Institutional Departure Model by Tinto, Student Attrition Model by Bean, the Input-Environment-Outcome Model by Alexander Astin and The Transactional Distance Theory.

2.6.1 Institutional Departure Model

This is the first and perhaps the most cited theory of student retention. The interactive model developed by Tinto in 1975 (and updated in the year 2000 and in more recent papers) seeks to explain the student withdrawal process. The model emphasizes two main variables, goal commitment, and institutional commitment. These, in turn, are conditioned by academic integration and social integration. Both academic and social integration depend on input variables of the student (pre-entry attributes), the family environment and the institutional experiences. Tinto stated that as integration increases (both academic and social), the students' commitment to their personal educational goals and participation within the institution also increases. When students are more connected with the institution's goal and academic framework their commitment to the institution and intent to graduate is that much more intense. Tinto does note that each type of integration can be overshadowed by the other, and thus lead to the student dropping out of college. For example, it is possible that a student could better integrate into the institution's social environment, and integrate less into its academic environment. In this scenario, excessive social integration (or vice versa), can create a time management problem for the student, and contribute to the student's decision to drop out.

He/she may devote less time to their studies (academically integrated), and devote more time to extra-curricular activities such as football, cheerleading, or fraternity involvement.

As noted by McFarlane, (2013), Tinto identifies four interaction challenges students have with the institution that he posits impacts their decision to stay or depart. The first interaction challenge a student faces is living independently, away from the familiar world of family and friends. Some students find this adjustment difficult and as a result depart the institution. The second interaction challenge a student faces is the inability to meet the academic demands of the institution. This may manifest based on incomplete high school preparation, increased demand in academic workload, or just being unprepared in general for the academic demands of college. The third interaction challenge refers to a mismatch of student and institution. The student does not feel a sense of belonging with the institutional community. This may relate to incongruence between a student's values and interests and that of other students at the institution. The final interaction challenge can essentially be termed isolation. Students fail to make meaningful relationships with other students, faculty, and staff resulting in a departure from the institution. Finally, Tinto describes external factors that may influence a student's departure (Tinto, 1993). The influence of external factors may relate to multiple roles a student has, as well as competing obligations for employment, family or community demands, and other factors that are outside the control of the institution. He also posits that students in non-residential colleges are at higher risk from external factors due to more frequent outside demands.

Academic scholars have noted many positives to Tinto's interactionalist theory and have found it useful in understanding student retention. According to the majority of academic scholars, the strengths of Tinto's theory lie in his belief that the variables of a student's background are significant indicators of his/her intent to graduate (Leppel, 2001; Montmarquette, Mahseredjian, and Houle, 2001; Kerkvliet and Nowell, 2005). Others observe that in addition to the classroom experience, a student's external environment can influence his/her decision to depart (Bean and Eaton, 2000). Also the type of student he/she is can cause him/her to depart (Bean, 1985; Nora, 1987; Leppel, 2001), and the institution's framework (Pascarella, Duby, and Iverson, 1983; Yasmin, 2013; O'rourke, 2013) can directly, or indirectly, influence his/her decision to leave college. Nora (1987) observed that a student's initial commitment to an institution was considerably more important than academic and

social integration among college students. Leppel, (2001) felt that consideration of the student's gender and background characteristics were essential to his/her abilities to successfully integrate into the college environment.

As a result of the above criticism, Tinto (1993) expanded his interactionalist theory to include the more diverse variables of the student's external environment, classroom experience, and the type of student and institution he/she attended to determine the student's level of academic and social integration (or goal and institutional commitment). Others elaborated upon Tinto's model differently. Langbein and Snider (1999), for example, studied students attending American University to illustrate how course evaluations, when used as a variable to investigate retention, were accurate measurements of the classroom experience and were relative to student retention. Information(s) compiled from course evaluations determined the quality of instruction, class size, and institutional commitment, factors that could influence the level of a student's academic and social integration. All the four learner support variables identified in this study, Academic Support, Administrative Support, Guidance and Counselling, and Technological Support are considered to be critical in ensuring that are fully integrated into college life. In essence, the distance learning experience would not be complete without the learner's support.

2.6.2 Psychological Model of Student Attrition

Also contributing to foundational retention theory and research, Bean and Eaton (2000) created the psychological model of student retention. This model was influenced by the attitude-behavior theory of Ajzen and Fishbein (2000), as well as the approach-avoidance theory, self-efficacy theory, and attribution (locus of control) theory. Bean's model (1980) suggests that four sets of variables influence student retention. The first set includes academic variables as measured by grade point average. The second set of variables concerns the student's intention to leave, which is expected to be influenced by psychological outcomes (institutional quality, satisfaction, goal commitment, and stress) and academic variables. The third set of variables are background and defining variables (high school performance and educational goals). The final set of variables are environmental variables (finances, hours of employment, family responsibilities and opportunity to transfer), which have a direct effect on students' decision to retain or leave.

This model is applicable to this study due to the fact that its results supported the presumed role that organizational, personal, and environmental variables play in forming attitudes and intents; in the case of our study, how LSS is structured in a way to ensure that learner needs are carted for so that the uncertainty and feeling of isolation is removed. This theory also applicable as far as learner characteristics are concerned because the theory suggests the importance that non-cognitive variables such as family approval and the college environment play in a student's decision to drop out or persist. This model has also identified learner characteristics and external factors that would influence learner's persistence and in this study, hidden costs have been identified playing an important role especially with regard to additional expenses that a learner may have to incur which they might not have been aware of when they joined college.

2.6.3 Input-Environment-Outcome Model

The earliest version of Astin's model to explain the effects of the impact of college on students, Astin's input-environment-output model was a precursor to his widely known model of student involvement (Astin, 1993). The basic idea of this model is that college impacts are based on three components. The personal pre-college characteristics that the student brings to the college are considered the inputs. Inputs include such characteristics as family background, academic experiences and social experiences. The collection of experiences that a student encounters while in the college comprise the environment. The environment would include people, programs, culture, attitudes, among others, which the student encounters on or off-campus. The set of post-college student characteristics, such as skills, knowledge, beliefs, attitudes, and behavior that exist after college are considered the outcomes. Inputs impact outcomes in both a direct and indirect manner, by virtue of the way that input characteristics may shape how the student interacts with the environment.

Astin developed his theory in order to organize the existing literature into what was easy to understand the model that explained much of the knowledge related to influences on student development. According to Astin, student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience. (Astin, 1984). A student who studies, interacts with faculty and other students, spends time on campus and participates in student organizations would be considered an involved student. The converse of this would describe a student who is not involved. However, Astin points out, not all passive

students are uninvolved with their academic work, nor are they necessarily experiencing academic difficulties. But passivity is an important warning sign that may reflect a lack of involvement.

Astin's student involvement model is rooted in his earlier (Astin, 1975), longitudinal study of college dropouts, in which he concludes that every positive factor was likely to increase student involvement in the undergraduate experience, whereas every negative factor was likely to reduce involvement. Astin likens involvement to the concept of motivation but claims that involvement is more of a behavioral dimension, and is therefore subject to more direct observation and measurement. Astin's involvement model has five basic postulates which include, involvement refers to the investment of physical and psychological energy in various activities; involvement occurs along a continuum; involvement has both quantitative and a qualitative features; the amount of student learning and personal development that occurs is directly proportional to the quality and quantity of student involvement and educational effectiveness of any policy or practice is related to its ability to generate student involvement.

Astin proposed that those students who devoted significant energy to academics, spend time on campus, participated actively in student organizations and activities, and interact with faculty were more involved and hence likely to persist. On the other hand, uninvolved students neglect their studies, spend little time on campus, and abstain from extracurricular activities, and rarely initiate contact with faculty or other students. As described, the most persuasive types of involvement are academic involvement, involvement with faculty, and involvement with student peer groups. This theory is applicable to this study in that the learner support services such as Guidance and Counselling, Administrative Support and Academic Support are geared towards ensuring that learners are both academically and socially involved in college life. Once the learners are involved in various college activities then the feeling of isolation is removed allowing the students to feel more comfortable with their college life, and this enhances persistence.

2.6.4 Transactional Distance Theory

The analysis of this study was also informed by Moore (1983, 2013) Transactional Distance Theory. The Transactional Distance Theory assumes that there is 'a psychological and communication gap between the student and the instructor that can lead to misunderstandings and feelings of isolation (Moore, 2013). It is this distance in the relationship between the two partners that Moore referred to as transactional distance. According to Moore (2013), there are three factors and three variables that determine transactional distance. The factors include the instructor, student, and method of communication. According to Moore, with one factor missing, there can be no educational transaction. The variables identified by Moore (1983) include dialogue, structure, and autonomy. Moore describes dialogue as the extent to which in any educational program, learners and educators are able to respond to each other. This is determined by the "content or subject matter which is studied; by environmental factors and by the personalities of the educator and learner" (Moore, 1983). The most important being the medium of communication. Moore (2013) sees the success of distance learning to be based on the content of the dialogue between the teacher and the learner and also on the effectiveness of the communication system in the educational process.

The structure measures educational program responsiveness to assess an individual learner's needs. It also expresses the extent to which educational objectives, teaching strategies are flexible to the learner's needs. Autonomy is "the extent to which learners decide on certain factors such as what to learn, how to learn and when to learn" (Moore, 2013). According to Moore, high autonomy incorporates structure. Autonomy to some extent is associated with student-instructor dialogue and satisfaction. Thus effective manipulation of dialogue and structure is paramount to minimizing transactional distance. This theory is applicable to this study in that the learner support services are geared towards decreasing the transactional distance between learners and their tutors and counselors, learners and their institution, learners and other learners as well as learners and the course materials. Once the distance is reduced no doubt the students can persist and consequently retention of students in distance education programs will greatly improve. The use of integrated communications systems, well designed instructional materials, properly designed guidance, and counseling systems can permit a greater variety of transactions to occur thus improving dialogue to minimize the transactional distance

2.7 Conceptual framework

From the foregoing theoretical discussions, the inter-relationship among variables in this study are conceptualized as illustrated in figure 1.

This study was carried out to establish the influence of LSS in enhancing the retention of undergraduates in ODL in two distance learning programs of the University of Nairobi.

This framework illustrates that the LSS construct is described by four key variables. That is academics support services, administrative support services, technological support services, and guidance and counselling support services. Based on the various sources of literature reviewed by this study it was my view that all these four constructs would positively influence learner retention. However, this study also desired to establish the mediated influences of learner characteristics and hidden costs on learner retention at the University of Nairobi.

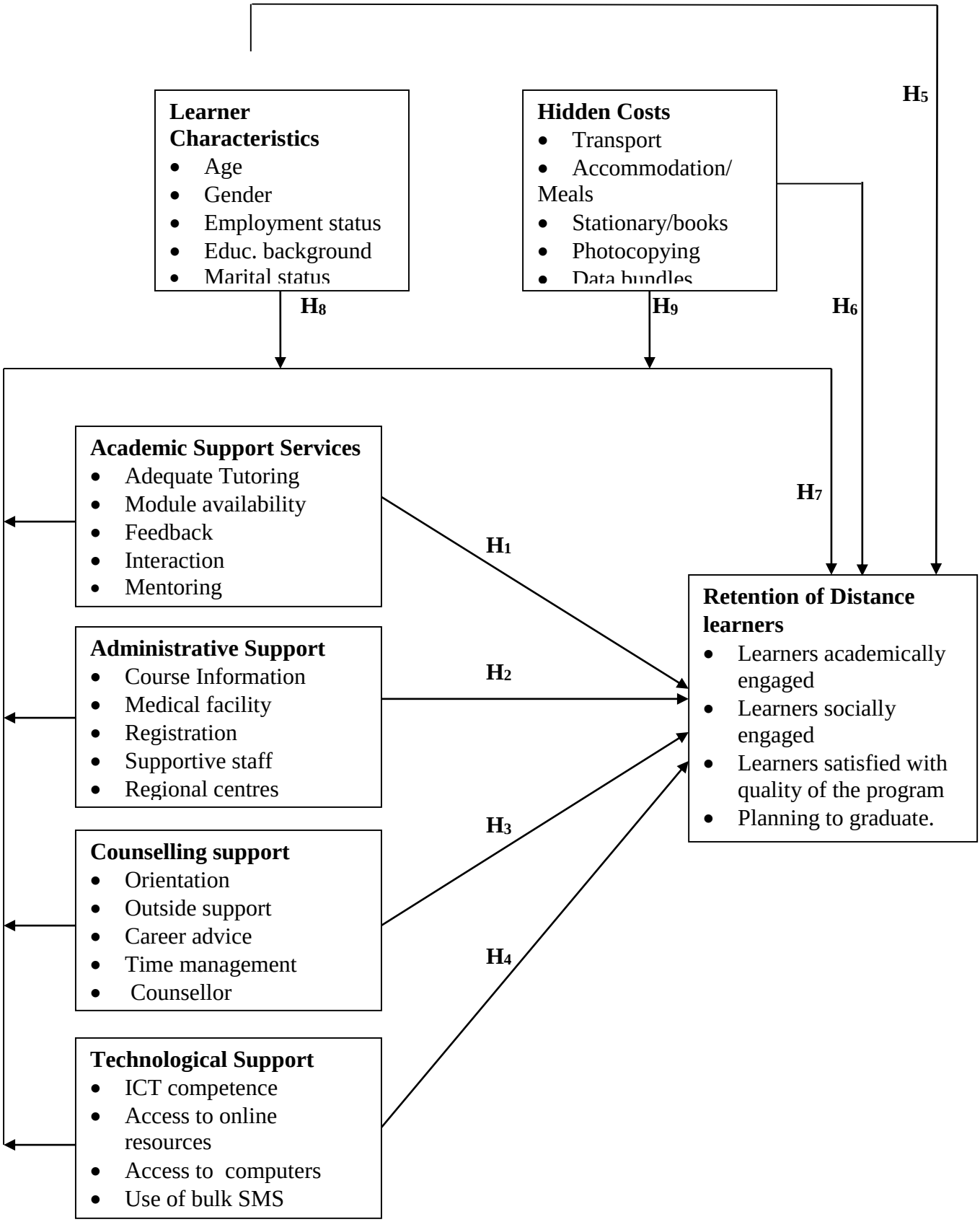

Figure 1: Conceptual framework

2.8 Knowledge gaps

To conclude with the literature review a summary of the research gaps and the focus of the current study is provided in table 2.2

Table 2.1 Summary of Knowledge Gap Established in Literature

Study Variable	Author (Year)	Title of the study	Methodology Used	Findings and Conclusions	Knowledge gap	The focus of the current study
Retention of Distance learners	Howard S J (2013)	Retention and First-Year Programs: A Comparison of Students in Liberal Arts Colleges in the Mountain South	Quantitative Method using the Postpositive Approach	Pre-entry programs put in place to aid new students such as preterm orientation were effective in determining retention.	Different universities use different programs each influencing retention in a different manner, especially orientation programs. The focus will be to identify the kind of programs at UON.	Determine how effective the orientation programs are at the UON, and whether learners do benefit from them.
Retention of Distance learners	Bigatti, M and Svanum, S(2009)	Academic Course Engagement during on Semester Forecasts College Success	Survey method	Academically engaged students were indeed more likely to attain a degree, but also demonstrated enhanced efficiency in degree attainment	Only focused one aspect of LSS that is academic support. This study is much broader and focuses on four elements of LSS	Focus on four learner support services aspects, academic, administrative, counselling and technological support as moderated by learner characteristics and hidden costs.
Academic Support	McFarlance, B (2013)	Academic advising structures that support the First year student success and retention	Non-Experimental Quantitative research design Student	First-year students were more satisfied when advising was provided by professional advisors against faculty or peer advisors.	The study was narrow only focusing on one indicator of academic support. This study will look at a broader aspect of Academic support and for first and second-year students.	Apart from advising, this study also focused on Module availability, Adequate Tutoring, Mentoring, and Feedback and established that they were significant determinants of retention of distance learners at UON.

Academic Support	Oseguera, L, and Rhee, S (2009)	The Influence of Institutional Retention Climate on Student persistence to Degree Completion: A multi-level Approach	Quantitative Survey Approach	Institutional retention climate especially the interaction with faculty have a major impact on retention.	Only focused one aspect of LSS that is administrative support	Focus on four learner support services aspects, academic, administrative, counselling and technological support as moderated by learner characteristics and hidden costs and empirically established they significantly influence learner retention.
Academic Support	Kelly- hall (2010)	The role of Student Support Services in Encouraging Student Involvement and its impact on student perception and academic experiences.	Focus group research design	LSS programs, especially in the form of academic support and administrative support, had a positive impact on retention.	Purely qualitative that was focused on finding evidence that supports Austin's and Tinto's, models	This study used a mixed approach method and both quantitatively and qualitatively established the four learner support variables academic, administrative, counselling and technological support had a positive impact on retention.
Administrative Support	Fiorini,S et.al, (2014)	Using NSSE to understand student success: A Multi-year Analysis	Quantitative Survey Approach	Positive interaction between the learners and faculty enhances retention	Only focused on one aspect of LSS that is faculty support	The focus of this study was much broader by looking at four learner support variables, academic, administrative, counselling and technological support.
Administrative Support	Berger B and Braxton J (1998)	Revising Tinto's Theory of Student Departure Through Theory Elaboration	Longitudinal Survey using Path analysis	Student affairs, admissions, counsellors, and other administrators play an important role in learner integration and success	Only helps to account for Social integration	This study was able to account for both social and academic integration of the learner, by focusing on four learner support services variables, academic, administrative, counselling and technological support

Counselling Support	Orehovec E (2015)	The Influence of Academic and Social Self-Concept on College Withdrawal	Quantitative Survey Approach- using Binary Logistic Regression	Those students who reported to college undecided on the major they wanted to pursue needed counselling to assist them to make an important career choice	The study was for traditional campus-based students whose circumstances are different from ODL students	The focus of this study was the influence of learner support services, learner characteristic and hidden costs on the retention of distance learners.
Counselling Support	Provencher A and Kassel R (2017)	High-Impact Practices and Sophomore Retention: Examining the Effects of Selection Bias	Quasi-Experimental Design Study	Those students who participated in a HIP initiative in their first or second year are more likely to be retained	Different universities use different programs each influencing retention in a different manner. The focus will be to identify the kind of programs at UON	The focus of this study was to assess how aspects of orientation briefing, career advice, time management skills, were applied by the UON to support distance learners and how this enhances retention.
Technological Support	Aderinoye, et al (2007)	Integrating Mobile Learning into Nomadic Education Programme in Nigeria	Survey Approach Design	Mobile learning systems, to a great extent, are capable of delivering educational content anytime and anywhere learners need it through the sheer cost of procuring enough mobile phones may be seen by some as too costly an endeavor to undertake.	The study does demonstrate the possibilities that mobile learning has if the phones are provided by the State. This study will, however, determine how the ownership of the phone by learners will facilitate easier communication with the university and aid their studies.	The focus of this study was to demonstrate how mobile ownership facilitated easier communication between the learners and the college. Importantly the study demonstrated that ownership of a smartphone was important given that important information about course administration, notes, past papers could be shared through social media.

Technological Support	Aluko and Hendrikz (2012)	The Use of SMS Technology in an ODL Programme: The Journey over the Past Decade	Qualitative research design	It is possible for students to receive some form of academic support through the use of mobile technology.	The focus of the study was how mobile technology through the use of SMS could be used to enhance academic support. The current study goes farther to link this to satisfaction and retention.	The study established that SMS communication was one of the fastest and key modes of communication between the learners and the administration. Learners were satisfied with this service and were one of the significant indicators of Technological Support services variable.
Learner Characteristics	Bowa (2010)	The impact of Learner Support Services on the achievement of Bachelor of Education (Arts) Students in the external degree program of the University of Nairobi	Cross-sectional survey research design	Learner characteristics consisting of age, family size, entry academic qualification, and business income have an impact on grades of learners, in various ways and this affected their academic performance	The study was on the impact of Learner Support Services on academic performance and not retention	The focus of this study was to establish the empirical link between Learner Characteristics and retention. The current study did establish that Learner Characteristics have a significant influence on the retention of distance learners.
Learner Characteristics	McGhie, (2017)	Entering university studies: identifying enabling factors for a successful transition from school to university	Content analysis	Lacking adequate preparation and dedication makes students regard their studies as challenging and hence their persistence, especially among black students.	The focus of this study was to determine which factors enable new students' successful adjustment to the university environment.	The focus of the study was on various aspects of Learner support services, Learner Characteristics and hidden cost on retention and this was to establish an empirical relationship.

Hidden Costs	Yu et. al, (2010)	Data Mining Approach for Identifying Predictors of Student Retention for Sophomore Junior year.	Exploratory design using three data mining procedures	Retention was significantly influenced by residency. Non-residents were less likely to persist due to extra expenses incurred on commuting and housing.	The study was for traditional campus-based students whose circumstances are different from ODL students	The focus of this study was on distance learners and apart from commuting and housing costs this study also empirically established that meals and accommodation and data were a significant cost to the learners. Hidden costs were empirically established to influence retention.
Hidden Costs	Abdi (2015)	Influence of Direct and Hidden Costs of Education on Access and Retention of Learners in Primary Schools in Garissa County, Kenya	Descriptive survey design	Existence of direct and hidden costs of Free Primary Education has affected the access and retention of learners in primary schools leading to wastage	The study only focused on hidden costs and the effect on the retention of secondary school children. The current study is much broader and targets adults in college	The focus of this study was how hidden costs moderated the relationship between learner support services and learner retention and it was established hidden costs moderating influence was significant.
Hidden Costs	Ndulu (2015)	Influence of Cost-sharing on students' academic performance in secondary schools in Kenya: A case of Kitui County	Descriptive survey design	Hidden costs had a negative effect on student's academic performance in secondary schools in Kenya	The study only focused on the effects of cost-sharing on students' performance in secondary schools in Kenya. The current study is much broader and targets adults in college effects of hidden costs on retention	The focus of this study was how hidden costs moderated the relationship between learner support services and learner retention and it was established hidden costs moderating influence was significant.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This section of the study presents the research paradigm as well as outline the overall research methodology. The questionnaire was the main tool for collecting data supported by the focus group discussion schedule and observation schedule. This section, therefore, provides a detailed description of the research design, target population, sample size and sampling procedure, data collection methods, validity and reliability of data collection instruments, data analysis techniques, ethical issues and concludes with the operationalization of variables.

3.2 Research Paradigm

The study adopted a pragmatic research paradigm as the main philosophical underpinning as opposed to the two prominent research paradigms, such as positivism, and constructivism. Positivism proposes that a single reality exists and proposes that it should be studied using scientific method involving systematic observations and description of a phenomena contextualized within a model or theory, the presentation of hypotheses, the execution of a tightly controlled experimental study, the use of inferential statistics to test the hypothesis and the interpretation of statistical results in the light of the original theory. On the other hand constructivism as a methodology tends to rely upon the views of the participants on the situation being studied (Ponterotto, 2005). Hence this methodology tends to provide the primary foundation for qualitative research.

Hence this study adopted a pragmatic research paradigm as the main philosophical underpinning. This is an assumption that knowledge arises from actions, situations, and consequences rather than antecedent conditions (Creswell, 2012). The concern is with applications of what works and solutions to problems. Instead of methods being important, the problem is most important, and researchers use all approaches to understand the problem. This philosophical underpinning allows a mixed-methods approach by giving the researchers the freedom to choose the methods, techniques, and procedures of research that best meet their needs and purpose. Since this study aims at deriving benefits from combining different knowledge systems (Olsson, Folke, and Berkes, 2004), a pragmatic paradigm will help understand how the relationship between Learner Support Services and the Retention of

Undergraduate Open and Distance Learners at the University of Nairobi is mediated by Learner characteristics and Hidden costs. It is an approach to inquiry that combines the two prominent research paradigms, positivism, and constructivism. It involves philosophical assumptions that allow the use of qualitative and quantitative approaches, and the mixing of both approaches in a study.

3.2.1 Research Design

Given that a research design is an overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process (Polit and Beck, 2004), this study employed triangulation involving a cross-sectional survey design. Hanson et al. (2005) observe that mixed-methods approaches involve the collection, analysis, and integration of quantitative and qualitative data in a single or multiphase study. Data will be collected concurrently whereby the researcher will converge or merge quantitative data in order to provide a good platform for a comprehensive analysis of the research problem. In this case, the study will collect both forms of data at the same time and then integrate the information in the interpretation of the overall results. While the quantitative component involved the collection of data by the use of questionnaires, data collection for the qualitative component was undertaken through focus group discussions and observations.

The purpose of this study was to determine the influence of learner support services on the retention of distance learners at the University of Nairobi. Being a descriptive cross-sectional research design, the ontological orientation of the study is that of the realist assumption. In a descriptive cross-sectional research design information is recorded as it is present in the population and the researcher does not manipulate variables (Oso, 2014). It is possible to determine the way things are and, often, discover the cause-effect relations behind social reality and find meaningful indicators of what is really happening. Hence, triangulation of method referring both to mixing qualitative and quantitative approaches of research and to the use of multiple data sources in a study was employed in this study.

3.3 Target Population

The target population was made up of 1521 undergraduate students from two different programs from the academic years 2015/2016 and 2016/2017 who were the first year and second years. These two programs are the Bachelor of Education (Arts) and Bachelor of

Education (Science). Their distribution is in terms of the program in which they are enrolled and the year of study and gender are given in Table 3.1.

Table 3.1 Target Population

Program	No. of Students/Gender						
	First Year			Second Year			
	Male	Female	Total	Male	Female	Total	Grand Total
B.Ed. Arts							
Nairobi	215	126	**341**	76	67	**143**	**484**
Kisumu	24	34	**58**	34	32	**66**	**124**
Kisii	39	25	**64**	41	32	**73**	**137**
Eldoret	27	32	**59**	22	21	**43**	**102**
Kakamega	45	35	**80**	19	30	**49**	**129**
Meru	16	15	**31**	21	19	**40**	**71**
B.Ed. (Science) Nairobi	138	58	**196**	187	91	**278**	**474**
Total	**504**	**325**	**829**	**400**	**292**	**692**	**1521**

Source (Records Office, SODL, ODeL Campus, U.O.N, 2017)

3.4 Sample size and Sampling Procedure

This is the process of getting the respondents who were used in the study as representatives of the target population. From these would be possible to make generalization of the findings to be applicable to the entire population.

3.4.1 Sample Size

Using the Krejcie and Morgan (1970) formula, the sample size was computed as follows;

$$\boldsymbol{s = \frac{x^2\,NP\,(1-P)}{d^2\,(N-1) + x^2P(1-P)}}$$

Where; s = required sample size.

N = the population size (1521)

P = the population proportion (assumed to be .50 since this would provide the maximum sample size)

d = the degree of accuracy expressed as a proportion (.05)

$$\mathbf{s} = \frac{(\mathbf{3.84})(\mathbf{1521})(\mathbf{0.5})(\mathbf{1}-\mathbf{0.5})}{(\mathbf{0.0025})(\mathbf{1521}-\mathbf{1}) + (\mathbf{3.84})(\mathbf{0.5})(\mathbf{1}-\mathbf{0.5})}$$

$$n = \frac{1460.16}{3.8 + 0.96};$$

n = 308.7563025~**309**

With the sample size determined, proportional allocations were adopted to distribute the respondents among the students' categories aiming to have at least 20 percent representation from each stratum as shown in Table 3.2.

$$\text{Thus } \frac{309}{1521} \text{ X } 100 = 20.184 = 20\%$$

The total sample size selected was therefore 309.

Table 3.2 Sample Size

Program	No. of Students/Gender						
	First Year			**Second Year**			
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Grand Total**
B.Ed. Arts							
Nairobi	43	25	**68**	15	14	**29**	**97**
Kisumu	5	7	**12**	7	7	**14**	**26**
Kisii	8	5	**13**	8	7	**15**	**28**
Eldoret	6	7	**13**	5	4	**9**	**22**
Kakamega	9	7	**16**	4	6	**10**	**26**
Meru	3	3	**6**	4	4	**8**	**14**
B.Ed. (Science) Nairobi	28	12	**40**	38	18	**56**	**96**
Total	**102**	**66**	**168**	**81**	**60**	**141**	**309**

Source (Records Office, SODL, ODeL Campus, U.O.N, 2017)

3.4.2 Sampling Procedure

Given that there were seven strata, in order to have proportional representation from each stratum, a sample was drawn independently in the same ration as it appears in the population so as to have a similar percentage of each total. Random sampling was used to ensure that elements in each stratum have an equal probability of being selected for the study (Campbell, 1989). Based on the class register for each stratum respondents were assigned numbers randomly but in proportion to their number in each stratum.

3.5 Research Instruments

Based on the purpose of this study multiple methods were used to collect data, both primary and secondary data were collected using self-administered questionnaires; observation schedule, and guide for focus group discussion.

3.5.1 Distance learning students' response questionnaire (DLSRQ)

The questionnaire was the main tool for collecting data. Relevant data were therefore collected through a structured questionnaire (see Appendix II) that had seven sections to capture each of the variables of the study. Section A elicited general background information while the remaining six sections covered the key aspects of the LSS Construct as per the objectives of this study. Each of the seven sections had a set of Likert- scale types of questions that allowed statistical analysis to validate the responses given and to test the hypothesis.

3.5.2 Focus Group Discussion(s) - FGDs

Various studies such as (Race, Hotch, & Packer, 1994; Lane, McKenna, Ryan, & Fleming, 2001; Palomba and Banta, 1999; and Lewis, 2000), have emphasized the utility of FGDs to collect more information from the respondents concerning their feelings and attitudes. Focus groups normally are a collection of individuals who have common characteristics who are brought together by a moderator. FGDs were therefore conducted to provide information about learners' perceptions, feelings, and attitudes towards their academic experiences as distance learners. Based on this strength, FGDs were conducted consisting of between six and eight participants from groups of students based in Nairobi, Kakamega, and Kisii. FGD was administered by the researcher assisted by two research assistants being the moderator, note-taker, and observer. The discussions were kept short between 60 to 90 minutes deliberately to

ensure a high level of participation and to clarify all the issues and information given by the respondents. To maximize the capture of responses, it was deemed prudent to also use recorders with the consent of the respondents as a way of backing up information to be reviewed later after the session.

3.5.3 Pilot Test of Research Instruments

In order to determine the reliability of the instruments, a pilot study was undertaken. The draft of the questionnaire was tested with six students from each of the two programs who are based in Mombasa, for examining its length, time for completion, question-wording, and also for content validity, by ensuring that all indicators were captured by the questionnaire elements. This allowed for some of the questions to be clarified and in some cases, the number of questions reduced since they represented the same indicator. The questionnaire was also peer-reviewed before the production of the final copies

3.5.4 Validity of Research Instruments

Studies such as that of Kothari, Edwards, Hamel & Judd, (2009) have demonstrated the importance of validity in research. Validity is regarded to be the most critical criterion of sound measurement and indicates the degree of which an instrument measures what it purports to determine. Evidence of validity is provided by several sources. The main instrument for this study, the DLSRQ, was evaluated for content, face and construct validity. The content validity of the DLSRQ was determined by the literature review to identify the key indicators as well as by the judgments of my supervisors. The face validity of the instrument was determined through examination of the DLSRQ by research experts from the University of Nairobi, especially those who have conducted research in DL and again with guidance from the researcher's supervisors, both of whom who are experts in the field of distance learning. According to Mugenda (2011), construct validity is concerned with the extent to which a particular measure relates to other measures in a way that is consistent with the theoretically derived hypotheses concerning the concept. The estimation of construct validity requires a researcher to establish a theoretically derived hypothesis involving the concept under consideration. This has been ensured in this study since the hypotheses that have been developed for testing have been derived for the key indicators of the independent variables based on the study objectives which have been developed from the literature review and are also related to the respective questionnaire items.

3.5.5 Reliability of Research Instruments

Cronbach's Alpha is the most commonly used coefficient of measuring the internal consistency of research instruments. The choice of this technique was informed by the fact that the technique does not require either splitting of a scale or the subjects re-taking the test for the given construct. Studies such as those by (Munyoki, 2007; Mulwa, 2011) also used the same tool successfully to assess the reliability of their research instruments. The scale gives positive results ranging from zero to one. The closer the coefficient is to one the greater the internal consistency of the items in the Likert scale and describes the extent to which all the items in the instrument measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the instrument. A test score of 0.7 is prescribed as a cut-off or benchmark for items to be included in the study (Cronbach & Shavelson, 2004). The results of Cronbach's Alpha reliability coefficient is presented in Table 3.3.

Table 3.3 Reliability Coefficient

Section of Questionnaire	Variable	Number of Items	Cronbach's Alpha	Remarks
Section B	Learner's Retention	15	0.872	Reliable
Section C	Academic Support Services	15	0.925	Reliable
Section D	Administrative Support Services	15	0.822	Reliable
Section E	Guidance and Counseling Support Services	15	0.743	Reliable
Section F	Technological Support Services	15	0.817	Reliable
Section G	Learner Characteristics	10	0.804	Reliable
Section H	Hidden Costs	10	0.726	Reliable
The Composite Cronbach's Alpha Reliability Coefficient = 0. 806				

Results from Table 3.3 indicate that the Cronbach's Alpha reliability coefficient for the variables under study varied from 0.704 to .0.925 with a Composite Cronbach's Alpha

reliability coefficient of 0.806. The highest reliability was observed in Academic support services at 0.925 followed while the lowest alpha was observed in hidden costs which were 0.726. This implies that all the instruments were reliable in carrying out the study.

3.6 Data Collection Procedures

Data collection for this study was a procedural process to ensure the success of the process. A research clearance letter was obtained from the University of Nairobi and later obtained a research permit from the National Commission for Science, Technology, and Innovation. Seven research assistants were identified, recruited and trained for two days on the aspects of handling respondents and the ethical conduct of research. They were also taken through each item on the questionnaire so that they would be able to handle any concerns that may arise from the respondents and also on how to conduct FGDs. A follow-up time schedule for questionnaires was also agreed on with the research assistants to increase the questionnaire return rate. Qualitative data was collected from the seven regions through FGDs administered by the researcher himself. Each FGD was composed of between six and eight students picked randomly. These discussions run for between 60 to 90 minutes. Additional qualitative data was also gathered by the researcher through the observation schedule while conducting the FGDs and also upon a visit to some of the learning centers. Research assistants helped in collecting information from the other learning centers of the UON.

3.7 Data Analysis Techniques

Fisher & King, (2010) refer to data analysis as the systematic organization and synthesis of research data, and the testing of a research hypothesis using those data. This research study collected both quantitative and qualitative data and employed both descriptive and inferential data analysis methods in conformity with the pragmatism paradigm. Data clean up involved editing, coding, and tabulation in order to detect any anomalies in the responses and assign specific numerical values to the responses for further analysis. All the data was keyed into the statistical package for social sciences (SPSS) version 24.0 specification. For descriptive statistics, means and standard deviations were computed for each variable. In addition, nine separate Analyses of Variance (one-way ANOVA) was conducted to answer the research questions.

3.7.1 Analysis of Quantitative Data

For quantitative analysis, the study used both descriptive and inferential statistics. The study used regression analysis to achieve the nine objectives of the study.

1. To determine the influence of Academic Support Services on the retention of distance learners at the University of Nairobi.

The null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Module availability

X_2 = Adequate Tutoring

X_3 = Mentoring

X_4= Feedback

X_5 = Interaction with instructors

u = random error

2. To examine the influence of Administrative Support Services on the retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Course Information

X_2 = Medical facility

X_3 = Course Registration & Fee Payment

X_4 = Supportive Staff

X_5 = Regional Centres and Distance

u = random error

3. To establish the influence of Guidance and Counseling Support Services on the retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Orientation briefing

X_2 = Career Advice

X_3 = Time Management

X_4 = Counsellor

X_5 = Outside Support

u = random error

4. To assess the influence of Technological Support Services influence on the retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 =ICT Competence

X_2 = Access to online resources

X_3 = Access to library

X_4 = Communication by SMS

X_5 = Call Centre

u = random error

5. To determine the influence of learner characteristics on the retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Age

X_2 = Gender

X_3 = Employment Status

X_4 = Edu Background

X_5 = Marital Status

u = random error

6. To determine the influence of Hidden Costs on the retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Transport

X_2 = Accommodation/ meals

X_3 = Stationary/books

X_4 = Photocopying

X_5 = Data Bundles

u = random error

7. To examine the influence of the combined learner support services on the retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Academic Support

X_2 = Administrative Support

X_3 = Counselling Support

X_4 = Technological Support

u = random error

8. To establish the moderating influence of learner characteristics on the relationship between learner support services and retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Academic Support

X_2 = Administrative Support

X_3 = Counselling Support

X_4 = Technological Support

X_5 = Learner Characteristics

u = random error

9. To examine the moderating influence of Hidden Costs on the relationship between learner support services and retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Academic Support

X_2 = Administrative Support

X_3 = Counselling Support

X_4 = Technological Support

X_5 = Hidden costs

u = random error

3.7.2 Hypothesis Testing

This study used analyses of variance to test the nine hypotheses. ANOVA was most preferred because of its ability to compare multiple groups and thus able to examine differences in the influences on retention of distance learners. ANOVA generated F statistic which was used in testing the significance of the entire regression models with respect to the dependent variable. If F is large then the model explains much more of the variation in Y than it leaves unexplained, which is evidence that the model is appropriate, i.e., a large F supports the linearity assumption of the model. On the other hand, a small F indicates that the model is

inappropriate. To test for the significance of the predictor variable the t-test statistic and *P*-value for the test were used to determine the importance of the variable in explaining the variation in Y after accounting for the effects of the other variables in the model. A t-value of greater than 1.96 with a *P*-value of less than .05 will mean that the independent variable is a significant predictor of the dependent variable and thus the null hypothesis will be rejected. The greater the t- statistics, the greater the relative individual influence of the predictor variable on the dependent variable.

The study also relied on the value of R-square and adjusted R-squared. R-square simply tells the percentage of variance independent variable that can be explained by the independent variable. As noted by Sarstedt and Mooi (2014) the values of R^2 vary from one research area to another. They observe that it is possible for example to get a value of 0.90 in longitudinal studies but in cross-sectional designs, values of around 0.30 are common while for exploratory research, using cross-sectional data, values of 0.10 are typical. As a rule of thumb, therefore, in market research R^2 values of 0.75, 0.50, or 0.25 can be respectively described as substantial, moderate, or weak. Not all research seeks to provide a comprehensive examination of variation in a dependent variable. One might be looking to explore more nuanced explanations of a dependent variable (for example, moderating effects, change in explanatory power, mediating effects, among others, rather than an overall model. Henseler, Ringle, and Sinkovics, (2009) have noted that some fields of study especially those studies that try to explain human behavior generally have R^2 values less than 50% since people are just harder to predict than things like physical processes. The opinion that even with low R-squared value but the independent variables are statistically significant, you can still draw important conclusions about the relationships between the variables. Statistically, significant coefficients continue to represent the mean change in the dependent variable given a one-unit shift in the independent variable.

3.7.3 Analysis of Qualitative Data

Qualitative data was collected through FGDs and the purpose was to provide an in-depth understanding of retention of distance learners guided by the study objectives. The qualitative data gathered was analyzed in an interpretive and objective manner. This analysis involved using thematic analysis which was then presented in narrative statements to conform to the hypothesis already stated in the study. Triangulation was done so as to strengthen the validity

and reliability of the data collected. As a way of backing up FGDs, the observation schedule was also used especially to confirm whether certain facilities such as the presence of clinic, library, computer lab, internet connectivity among others, based on the prepared observation schedule in appendix iv.

3.8 Ethical Issues

This study strictly adhered to ethics that are demanded in any research undertaking. All participants were requested to voluntarily participate in the study and were briefed about the objectives of the study and why it was important that their input was being sought. All participants were requested to fill in informed consent forms to confirm that they willingly participated in the study without any coercion or undue influence. Although the researcher anticipated that a fear of victimization might result in reluctance, on the part of the learners, to honestly respond to some items, which relate to teaching and learning, and assessment and evaluation, this fear never materialized, in fact, the learners were eager to provide the necessary information after being sensitized on the purpose of the study. To also abide by regulatory requirements governing the conduct of research, permission was sought from the relevant body of the Ministry of Education that is the National Commission for Science, Technology, and Innovation (NACOSTI), and the relevant research permit granted.

3.9 Operationalization of the Variables

Table 3.4 summarizes the operationalization of variables, which includes the respective indicators, measurements, measuring scale and tools of analysis.

Table 3.4 Operationalization of Variables

Objective	Variable	Indicators	Measurements	Measuring Scale	Tools of Analysis
(1) Learner retention in the distance learning program	Retention of Distance Learners	• Social engagement • academic engagement • low attrition • Program quality	-Level of participation in campus activities -Level of satisfaction with the course -level of student commitment to earn a degree -Level of satisfaction with the program	Ordinal Ordinal Ratio Ordinal	-Pearson's correlation -Regression analysis - Arithmetic mean and std. deviation
(2) To examine the extent to which Academic Support influences retention of distance learners at the University of Nairobi.	Academic Support Services	• Module availability • Adequate Tutoring • Mentoring • Feedback • Interaction with instructors	-No. of hours taught -Tutors available to offer guidance -Time is taken to receive feedback on assignments - level of peer support groups - Level of involvement in groups discussions	Ratio Ordinal Ratio Ordinal Ordinal	-Pearson's correlation -Regression analysis-Logistic - Arithmetic mean and std. deviation
(3) To examine the extent to which Administrative Support influences retention of distance learners at the University of Nairobi	Administrative Support Services	• Course Information • Medical facility • Course Registration & Fee Payment • Regional centers • Supportive staff	-availability of information on courses - Course materials received on time - satisfied with the Process - Accessible and well equipped - satisfied with the level of customer care given	Interval Ratio Ordinal Ordinal Ordinal	Pearson's correlation -Regression analysis-Logistic - Arithmetic mean and std. deviation

(4) To establish the extent to which Guidance and Counseling Support influences retention of distance learners at the University of Nairobi.	Guidance and Counseling Support Services	• Orientation briefing • Outside support • Career Advice • Counselor available • Time management	-elaborate and informative -Level of family support - availability of an academic advisor - Availability of counselor - learned skills on time management	Ordinal Ordinal Ordinal Ordinal Ordinal	Pearson's correlation -Regression analysis-Logistic
(5) To determine the extent to which Technological Support influences retention of distance learners at the University of Nairobi.	Technological Support Services	• ICT Competence • Access to online resources • Access to library • Communication by SMS • Call Centre	-available of internet - available of computers - access to digital library -level of computer skills - phone ownership and type	Interval Interval Interval Ordinal Interval	Pearson's correlation -Regression analysis-Logistic
(6) To establish the extent to which learner characteristics influence retention of distance learners at the University of Nairobi.	Learner Characteristics	• Age • Gender • Employment status • Educational background • Marital status	-age group -Male/female -level of job demands -Level of education -size of family	Interval Interval Interval Interval Interval	Pearson's correlation -Regression analysis-Logistic - Arithmetic mean and std. deviation
(7) To determine the extent to which Hidden Costs influence retention of distance learners at the University of Nairobi.	Hidden Costs	• Transport • Accommodation/meals • Stationary/books • Photocopying • Data bundles	- cost of transport -cost of meals and accommodation -cost of stationary/books -cost of photocopying -cost of data bundles	Ratio Ratio Ratio Ratio Ratio	Pearson's correlation -Regression analysis-Logistic Arithmetic mean and std. deviation

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION, AND DISCUSSION

4.1 Introduction

In this chapter, we present analysis and interpretation based on the research design. The chapter describes the questionnaire return rate, profile of the respondents, tests of assumptions, descriptive analysis of Likert scale data using means and standard deviation. This is followed by inferential statistics using Pearson's Product Correlation and multiple regression.

4.2 Questionnaire Return Rate

The target population for the study was 309 students from the first years and second years of both Bachelor of Education Arts and Science from different program locations as indicated in Table 4.1. Out of 309 questionnaires administered, 249 questionnaires were filled and returned which represented a response rate of 81 percent. Failure to achieve an adequate response rate can limit the usefulness of the results. Saunders et al. (2003) posited that above 50% response rate is reasonable for statistical generalization, but Fowler (2009) noted that there is no agreed-upon standard for a minimum acceptable response rate even though all agree that a return rate of over 80% is generally good. Hence the response rate of this study of 81% was deemed adequate to make valid conclusions. The response rate from different locations was as shown in table 4.1. The highest percentage was recorded form B.Ed. Arts Eldoret with 100 percent, followed by B.Ed. (Arts) Nairobi with 94 percent. The lowest response rate was recorded from B. Ed (Arts) Kisii with 43 percent. The low response rate in some of the locations was attributable to the respondents collecting the questionnaires and not returning them at all. This, however, did not affect the overall validity of the study because low returns in one location were more than compensated by a high return rate in other regions, and more importantly, this was only observed in two locations Meru and Kisii.

Table 4.1 Response rate and distribution of respondents

Program Location	Sample size	No of Respondents	Percentage
B.Ed. Arts Nairobi	97	91	94%
B.Ed. Arts Kisumu	26	20	77%
B.Ed. Arts Kisii	28	12	43%
B.Ed. Arts Eldoret	22	22	100%
B.Ed. Arts Kakamega	26	18	69%
B.Ed. Arts Meru	14	7	50%
B.Ed. Science	96	79	82%
Total	**309**	**249**	**81%**

4.3 Demographic Information and Respondents Profiles

The presentation under this section outlines the distribution of respondents by gender, age group, level of education, marital status, occupation and hours spent reading the study unit per week. Demographic information and respondents' profiles were one of the two moderating variables of this study.

4.3.1 Distribution of the Respondents by Gender

Findings presented in table 4.2 shows the gender distribution of the respondents.

Table 4. 2 Gender distribution of Respondents

Gender	Frequency	Percentage
Male	135	54.2
Female	114	45.8
Total	**249**	**100**

The research findings in Table 4.2 indicate that 54.2% of the respondents were male while 45.8% of the respondents were female. For this study representation of the views of both genders was important given that it has been identified by various studies as one of the key demographic characteristics that influence learner retention in distance learning (Bowa, 2010; Mokoe, 2011; Howard, 2013).

4.3.2 Distribution of the Respondents by Age

The findings presented in Table 4.3 show the distribution of the respondents by age.

Table 4.3 Distribution of Respondents by Age

Age bracket	Frequency	Percentage	Cumulative Percentage
Below 25 years	52	20.9	20.9
25-29 years	62	24.9	45.8
30-34 years	86	34.5	80.3
35-39 years	32	12.9	93.2
40-44 years	11	4.4	97.6
45-49 years	6	2.4	100.0
50 and above	0	0	100.0
Total	**249**	**100**	**100.0**

Findings in Table 4.3 indicate that 20.9% of the respondents were below 25 years, 24.9% were between 25-29 years, 34.5% were between 30-34 years, 12.9% were between 35-39 years, 4.4% were between 40–44 years and 2.4% were between 45-49 years. There were no respondents who were 51 years and

above. These findings show that the majority of the respondents are youth below the age of 35 years with a cumulative percentage of 80.3. Age distribution of the respondents has also been identified by various studies such as Dillon and Blanchard (1991), Titus (2003), Austin and Oseguera (2003) as having a significant influence on the retention of distance learners. Studies such as that of Porter (2004) did observe that with the advance in technologies used in distance learning younger people are enrolling for distance learning courses especially those in the age category of 21-30 years.

4.3.3 Distribution of the Respondents by Level of Education

Findings presented in table 4.4 shows the distribution of the respondents by age.

Table 4.4 Distribution of respondents by the level of education

Level of Education	Frequency	Percentage
O Level	30	12.0
A level	12	4.8
Diploma	62	24.9
P1 Diploma	118	47.4
Bachelor's Degree	27	10.8
Total	**162**	**100.0**

Finding in Table 4.4 indicate that 12.0% of the respondents had O level qualifications, 4.8% had A level, 24.9% had Diploma qualification other than the P1, and this included diploma in human resource management, diploma in business management, diploma in education, among others that had been acquired from recognized institutions of higher learning. From the findings, 47.4% of the respondents had a P1 Diploma certificate, while 10.8% of Bachelor's Degrees. The findings showed that the majority of the respondents were P1 diploma holders and most teachers who were employed in primary schools and were interested in advancing their education.

4.3.4 Distribution of the Respondents by Employment Status

Findings presented in table 4.5 shows the distribution of the respondents by Employment Status. The data indicates that the majority of the respondents were employed either in a full time, part-time employment or self-employed. Full-time formal employment recorded the highest percentage of 51.8% followed by the unemployed category with 27.7%.

Table 4.5 Current employment status of Respondents

	Current Employment Status	Frequency	Percent
Valid	Unemployed	69	27.7
	Full-time formal employment	129	51.8
	Part-time employment	37	14.9
	Self-employed on fulltime basis	6	2.4
	Self-employed on part-time basis	8	3.2
Total		**249**	**100.0**

4.3.5 Distribution of the Respondents' as Per Hours of Study per Week

Findings presented in table 4.6 shows the distribution of the respondents as Per Hours of Study per Week. The data indicates that the largest number of respondents representing 46.6 % of the sampled respondents spent less than 5 hours per week reading the study. The introduction of ODL has therefore allowed many women from all works of life to seize the opportunity in order to improve their standards of living. However, despite the benefits accrued to the ODL, working, and studying is demanding for both men and women in the ODL program. The findings are supported by the findings by Leonorah (2014) who noted that many women under the ODL mode of the study cited lack of study time after working hours due to family commitments, especially those from the banking sector who reported that they sometimes work late and find no time to study after work.

Table 4.6 Distribution of Respondents' as Per Hours of Study per Week

		Frequency	Percent
Valid	Less than 5 hours	116	46.6
	6-10 hours	96	38.6
	11-15 hours	24	9.6
	16-20 hours	10	4.0
	above 20 hours	3	1.2
	Total	248	99.6
Total		**249**	**100.0**

4.3.6 Distribution of the Respondents by Marital Status

Findings presented in table 4.7 shows the distribution of the respondents as per their marital status. These results reveal that 50 percent of the respondents were married, and this was significant given that studies have recognized marital status as a significant factor that influences retention in distance learning. Distance learning students are mature adults who are mostly married and have to combine study with their work and family.

Table 4.7 Distribution of Respondents by Marital Status

Marital Status	Frequency	Percent
Single	116	46.6
Married	125	50.2
Divorced	2	0.8
Separated	6	2.4
Total	**249**	**100.0**

4.3.7 Distribution of the Respondents by Year of Study

Findings presented in table 4.8 show the distribution of the respondents by Year of Study. The data reveal that 48.2 percent of the respondents were in their first year of study and 51.8 percent in the second year. Distribution of respondents by year of study was meant to ensure that students who were in their first and second years of study were equally represented in the study. Several studies such as Noel-Levitz (2008), McFarlane (2013), Simpson (2004), Allen, Smith, and Muehleck (2012), have all noted that distance learners are most vulnerable and more likely to drop out college during the first two years of study.

Table 4.8 Distribution of the Respondents by Year of Study

Year of Study	Frequency	Percentage
First Year	120	48.2
Second Year	129	51.8
Total	**249**	**100**

4.3.8 Distribution of Respondents by Ownership of Computer, Tablet and Mobile Phone

Given that distance learning entails the separation of teacher and learner throughout the length of the learning process. This separation necessitates the use of technical media such as print, audio, video or computer in order to unite teacher and learner. This study, therefore, desired to determine whether the respondents had access to a computer, ownership of tablet and phone and the findings are presented in table 4.9.

Table 4.9 Distribution of Respondents by Ownership of Computer, Tablet and Mobile phone

Ownership of a Computer	**Frequency**	**Percent**
No	198	79.5
Yes	51	20.5
Total	**249**	**100.0**
Ownership of a Tablet	**Frequency**	**Percent**
No	222	89.2
Yes	27	10.8
Total	**249**	**100.0**
Ownership of Phone	**Frequency**	**Percent**
No	5	2.0
Yes	244	98.0
Total	**249**	**100.0**
Whether it's a smartphone	**Frequency**	**Percent**
No	21	8.4
Yes	228	91.6
Total	**249**	**100.00**
Receive text message from University	**Frequency**	**Percent**
No	38	15.3
Yes	211	84.7
Total	**249**	**100.0**

The results from Table 4.9 indicate that 79.5 percent of the respondents owned a computer, 89.2 percent owned a tablet, and 98 percent owned a phone, and of those who owned a phone, 91.6 percent said it was a smartphone. Owning a smartphone was important since the learners could use it to access their email or to download content from the internet that was relevant to their course. Normally the university sends the learners' text messages to inform them when they need to report for residential sessions, to remind them to pay their tuition fee and register for the semester, dates for the continuous assessment tests, etc. This information would also be posted on the college website. Smartphones are also important

since they allow students to register for their course units and also have access to their results online. The majority of the respondents 84.7 percent acknowledged receiving text messages from the university. Those who did not receive the messages did acknowledge that it was an inconvenience when such information did not reach them, but their colleagues would pass the information to them. They also reported that the failure for them to receive communication was that the university at that time did not have the correct mobile phone number and hopefully given that they had given the right information that they will be receiving communication from the university through Sms.

4.4 Tests for Assumptions and Analysis of Likert Type of Data

In any study, it is normally important to test for the assumption of normality and multicollinearity for the variables and also explain how Likert data will be analyzed. This is presented in this section.

4.4.1 Test for Normality

It is conventional in statistics to assume that observations are normal. As noted by Keya and Imon, 2016) the entire statistical framework is grounded on this assumption and if it violated the inference breaks down. Statistical methods include diagnostic hypothesis tests for normality and a rule of thumb that says a variable is reasonably close to normal if its skewness and kurtosis have values between –1.0 and +1.0. The test of normality was conducted using Kolmogorov-Smirnov test statistics (KS-test) and the Shapiro-Wilk test (SW-test). It is important to note that if the Sig. value of the Shapiro-Wilk Test is greater than 0.05, the data is normal. If it is below 0.05, the data significantly deviate from a normal distribution. The results of the KS- test, and SW-test are shown in Table 4.10. Findings presented in Table 4.10 show that all the variables under investigation p are greater than 0.05 which results in the rejection of the null hypothesis and the conclusion that the sample under investigation was selected from a normal population. Similarly, results of the SW- test statistics for the study variables were between 0.843 and 0.947 further confirming the normal distribution of the population.

Table 4.10 Results of Kolmogorov-Smirnov and Shapiro-Wilk tests

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
a) Academic SS	0.283	249	0.122	0.894	249	0.384
b) Administrative SS	0.247	249	0.121	0.843	249	0.365
c) Guidance and Counselling SS	0.216	249	0.122	0.873	249	0.370
d) Technological SS	0.210	249	0.123	0.980	249	0.320
e) Learner Characteristics	0.236	249	0.121	0.826	249	0.371
f) Hidden Costs	0.218	249	0.121	0.924	249	0.360
g) Learner Retention	0.294	249	0.122	0.947	249	0.363

4.4.2 Test for Multi-collinearity and Singularity

Multicollinearity is a phenomenon can cause unstable estimates and inaccurate variances which affects confidence intervals and hypothesis tests. Its existence tends to inflate the variances of the parameter estimates and result in incorrect inferences about the relationships between the dependent and independent variables. In statistics, there are two ways of checking for multicollinearity in SPSS and that is through Tolerance and VIF (Variance Inflation Factor). If the VIF value lies between 1-10, then there is no multicollinearity. Findings presented in table 4.11 show the values of Variance Inflation Factor ranged from 1.154 to 2.640 which are within the criteria set by Meyers (1990), who suggest that VIF should be less than 10. The tolerance value was between 0.379 and 0.866 which was within Menard's (1995) criteria, who suggested that tolerance value of less than 0.1 can infer multicollinearity.

Table 4.11 Test for Multi-Collinearity

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.235	0.246		9.078	0.000		
Academic SS	0.127	0.038	0.227	3.304	0.001	0.583	1.714
Admin SS	0.169	0.074	0.197	2.305	0.001	0.379	2.640
Guid & Coun SS	0.038	0.064	0.141	0.590	0.001	0.563	1.776
Techno SS	0.071	0.054	0.096	1.316	0.002	0.515	1.944
Learner Char	0.186	0.052	0.230	3.575	0.000	0.667	1.499
H Costs	0.056	0.046	0.069	1.218	0.003	0.866	1.154

a. Dependent Variable: Learner RT Mean

The results in Table 4.11 revealed that there was no problem with multi-collinearity. Tolerance levels for all variables were greater than the recommended minimum of 0.1 and the VIF for the independent variables were all below three demonstrating that the variables were not highly correlated.

4.4.3 Analysis of Likert – Type Data

Self-administered questionnaires for this study had seven sections each with between 10 and fifteen statements based on the five scales Likert-type, where 5= Strongly Agree (SA), 4= Agree (A), 3= Neither Agree nor Disagree (N), 2= Disagree (D) and 1= Strongly Disagree (SD). A principle basic to Likert scale measurement methodology is that scores yielded by a Likert scale are composite (summated) scores derived from an individual's responses to the multiple items on the scale. Likert scale data are analyzed at the interval measurement scale. Likert scale items are created by calculating a composite score (sum or mean) from four or more type Likert-type items; therefore, the composite score for Likert scales should be analyzed at the interval measurement scale. Descriptive statistics recommended for interval scale items include the mean for central tendency and standard deviations for variability. Researchers such as (Carifio and Racco, 2007; Lantz, 2013 and Warmbrod, 2014) have indicated that when using a five-point Likert scale the following should be the scoring ; To a very great extent (VGE) 4.2<VGE<5.0; To a great extent (GE) 3.4<GE<4.2; To a moderate extent (ME) 2.6<ME<3.4; To a little extent (LE) 1.8<LE<2.6 and To a very little extent (VLE) 1.0<VLE<1.8. The scale gives an equidistant of 0.8. This study used this weighting criterion in data analysis of the Likert-type of data. Also in the analysis of the Likert-type of data the study used the standard deviation which is the most common way to express variability and therefore, it is a measure of the 'fit' (for example., how well the mean represents the data). Small standard deviations (relative to the value of the mean itself) indicate that data points are close to the mean. A large standard deviation (relative to the mean) indicates that the data points are distant from the mean (i.e. the mean is not an accurate representation of the data).

4.5 Retention of Distance Learners

Learner Retention was identified in this study as the dependent variable. As informed by existing literature and related theories, the following indicators were considered to measure learner retention; Learners academically engaged, Learners socially engaged, Learners satisfied with the quality of the program, Learners Planning to graduate. Respondents were given 11 items rated on a five-point Likert scale ranging from: Strongly Disagree (SD); Disagree (D); Neither Agree nor Disagree (N); Agree (A) and Strongly Agree (SA) from which to choose. The following scoring was used: (SA: 4.2<SA<5.0);

(A: 3.4<A<4.2); (N: 2.6 N <3.4); (D: 1.8<D<2.6) and (SD: 1.0<SD<1.8). Focus group discussions and observations were also analyzed and result triangulated with the results from the self-administered questionnaires. The findings from the self-administered questionnaires are presented in Table 4.12 and Table 4.13.

Table 4.12 Descriptive analysis of Learner's Retention

	Statement	SA	A	N	D	SD
		F %	F %	F %	F %	F %
12a	Overall I am satisfied with the course I have chosen	167 (67.1)	73 (29.3)	8 (3.2)	1 (0.4)	- -
12b	It is important for me to graduate from college	205 (82.3)	42 (16.9)	2 (0.8)	- -	- -
12c	I am confident that I made the right decision in choosing to attend UoN	212 (85.1)	31 (12.4)	3 (1.2)	1 (0.4)	2 (0.8)
12d	I plan to re-enroll for the next semester	167 (67.1)	63 (25.3)	12 (4.8)	5 (2)	2 (0.8)
12e	Overall I am satisfied with the academic advising I have received.	125 (50.2)	94 (37.8)	25 (10)	3 (1.2)	2 (0.8)
12f	I know who to consult in case I have a question about the course.	111 (44.6)	102 (41)	19 (7.6)	8 (3.2)	9 (3.6)
12g	I plan to graduate from the UoN within the shortest time allowed.	196 (78.7)	41 (16.5)	8 (3.2)	4 (1.6)	- -
12h	Group activities during class give me a chance to interact with my classmates	137 (55.0)	84 (33.7)	20 (8.0)	7 (2.8)	1 (0.4)
12i	I have sufficient resources to cater to all my needs during the next residential session.	76 (30.5)	77 (30.9)	42 (16.9)	34 (13.7)	20 (8.0)
12j	I feel connected to my classmates.	135 (54.2)	84 (33.7)	24 (9.6)	5 (2.0)	1 (0.4)
12k	Overall I am satisfied with my educational experience at UoN.	141 (56.6)	77 (30.9)	18 (7.2)	9 (3.6)	4 (1.6)
12l	I would recommend this university to my friends.	159 (63.9)	66 (26.5)	17 (6.8)	3 (1.2)	4 (1.6)

Findings presented in table 4.12 show that 67.1% of the respondents indicated they strongly agreed that they were satisfied with the course they had chosen, 82.3% strongly agreed it was important for them to graduate from college, supported by the fact that 78.7% strongly agreed that they plan to graduate

from the UoN within the shortest time allowed, that is four years, 85.1% strongly agreed they were confident that they made the right decision in choosing to attend UoN. When asked if they would enroll for the next semester, 67.1% strongly agreed that they would do so. When it came to academic advising 50.2% strongly agreed that they were satisfied with the level of academic advising. These research findings show that learners in both programs were academically and socially engaged and are in agreement with Bean and Metzner (1985), whose model of student attrition noted that students who were both socially and academic integrated were more likely to persist.

Table 4.13 Means and Standard Deviations of Learner's Retention

Statement	**N**	**Mean**	**SD**
12a. Overall I am satisfied with the course I have chosen	249	4.631	0.5680
12b. It is important for me to graduate from college	249	4.815	0.4091
12c. I am confident that I made the right decision in choosing to attend UoN	249	4.807	0.5490
12d. I plan to re-enroll for the next semester	249	4.558	0.7497
12e. Overall I am satisfied with the academic advising I have received.	249	4.353	0.7749
12f. I know who to consult in case I have a question about the course.	249	4.197	0.9700
12g. I plan to graduate from the UoN with the shortest time allowed.	249	4.723	0.6020
12h. Group activities during class give me a chance to interact with my classmates	249	4.402	0.7876
12i. I have sufficient resources to cater to all my needs during the next residential session.	249	3.622	1.2676
12j. I feel connected to my classmates.	249	4.394	0.7762
12k. Overall I am satisfied with my educational experience at UoN.	249	4.373	0.8896
12l. I would recommend this university to my friends.	249	4.498	0.8088
Composite mean and Standard deviation		**4.402**	**0.7758**

Findings presented in Table 4.13 show that the mean score, standard deviation, and coefficient of variation for the eleven statements used to measure learner retention. The overall composite mean is 4.402 and the standard deviation is 0.7758. The Cronbach Alpha Coefficient for the 11 items that were used to measure was learner retention was 0.875. This level of reliability is an indicator that the item had a high internal consistency. The implication of this result is that at mean = 4.402 and standard

deviation = 0.7758, respondents strongly agreed that they intended to persist and complete their degree program.

Results from FGDs support these findings with reference to the various statements that were made. Item 12a sought to establish the extent to which the learners were satisfied with the course they had chosen. The majority of the learners 167 (67.1%) strongly agreed and 73 (29.3%) agreed with the statement. Further analysis shows a mean score of 4.631 and a standard deviation of 0.5680 indicating that learners were overall satisfied with the course they have chosen. This result was confirmed through FGDs where one of the respondent, a first-year male student had this to share:

"*When I enrolled for the course I already knew what l wanted to peruse and that was Biology and Chemistry and I am very satisfied with my choice."*

Another respondent, a second-year female student said:

"*I am very satisfied with the English and Literature subjects that I selected since it has always been my aspiration to teach languages in secondary school."*

The findings agree with those of Lucas, Gonçalves, and Kairamo (2012), whose study revealed that the wrong choice, of course, was one of the most reported student attrition factors probably demonstrating a lack of guidance or assistance in course selection by the institutions concerned.

Item 12b sought to establish the importance of a learner attached to graduation form College. Results indicate that 205 (82.3%) strongly agreed while 42 (16.9%) agreed with the statement that it was important for them to graduate and hence the need for them to persist until graduation. Further analysis shows a mean score of 4.815 and a standard deviation of 0.4091 and a coefficient of variation of 0.085. It is important to note that this result yielded the highest mean 4.815 of all the statements on learner retention and the smallest standard deviation and coefficient of variation. This result was confirmed by the fact that 196 (78.7%) expressed their plan to graduate from their program within the shortest period allowed, and that would be within four years instead of the maximum allowed is eight years and sometimes students even stay in the program for more than eight years. The mean and standard deviation for item 12g was 4.723 and 0.6020 respectively. This result supports the findings of Nichols (2011), who observed that high dropout rates can lead to depressing of students in terms of lost tuition fees and emotional distress for non-completion. Bean (1990) also observed that a student's early departure from college before graduating symbolizes a personal failure on the part of the student to achieve his or her educational objectives. Reflecting on her first semester of attendance a second-year female respondent had this to share:

"*I came in very scared and very nervous since this was the first time anyone from my family was attending college. At first, it was all confusing and difficult especially when one is expected to be independent and discover things as the semester progresses. But once I settled in and started attending class, getting involved in campus activities like study group discussions, attending lessons, etc., I felt more comfortable and at ease. I am very determined to complete my course within the shortest time possible since I want to move from teaching at the primary level so that I can teach at the secondary level and more importantly so that I can be promoted to a higher grade. My colleagues who completed the same program sometimes back are not only teaching at a secondary school but have also been promoted by TSC"*

Item 12c meant to capture the fact the learners felt that they made the right decision in choosing to attend UoN. The majority of the learners 212 (85.1%) strongly agreed while 31 (12.4%) agreed with the statement and this is confirmed by the mean and standard deviation which is 4.807 and 0.5490 respectively. From the FGDs one respondent, a second-year male student said:
"I am very happy to have come to this university, it has always been my dream to study at UoN. Honestly, who would not want to be associated with the best university in Kenya? I come here because the university already has an excellent brand name and many of my friends have been to this institution and I usually feel very proud when telling my colleagues at work that I am a student at this university. Even though I have experienced a few challenges, like missing some of my first-year results, failing one unit in mathematics, some of our lecturers failing to attend the tutorial sessions,……, I am still very proud to have chosen the University of Nairobi."

Item 12d sought to establish whether the learners planned to re-enroll for the next semester. The majority of the learners 167 (67.1%) strongly agreed, 63 (25.3%) agreed 12 (4.8%) neither agreed or disagreed with the statement that they planned to come back and register for the next semester. The mean and standard deviation were 4.558 and 0.7497 respectively, demonstrating a willing of the learners to continue with their studies despite the fact that only about 76 (30.5%) strongly agreed and 77 (30.9%) agreed 42 (16.9%) neither agreed nor disagreed, 34 (13.7%) disagreed while 20 (8.0%) strongly disagreed with the statement indicating that the respondents had sufficient resources to cater for all their needs during the next residential session as per item 12i. The mean and standard deviation for this item was 3.622 and 1.2676 respectively. Interestingly this item had the lowest mean and largest standard deviation indicating that even though the learners desired to enroll for the next semester, most

were not sure whether they would have the finances to do so, especially to carter for their tuition fee and residential expenses. One respondent, a second male student had this to share:

"*I presumed I would wish to complete the programme on time and yes I would wish to enroll for the next semester. I have already applied for a loan with my cooperative society but might not get the money immediately since I have yet to complete repaying the previous loan to pay for my first year and part of my second year. So I am waiting to see if I will get a top-up loan. If the loan does not come in time and I do not get money from any other source, then I will skip this semester but come back the following semester.* "

Another respondent, a first-year female shared this:

"Yes, I will definitely come back next semester since I had planned for this course and I had saved some money to carter for my tuition and other expenses, such as transport, meals, and accommodation."

Another respondent, a first-year female student also said that she would be enrolling for the next semester, she said:

"I applied and received funding from the Higher Education Loans Board (HELB) and hence I have no problem with my tuition fee. I have saved some money for my travel and accommodation expenses and yes I will enroll for the next semester."

In item, 12e respondents were requested to indicate whether they were satisfied with the academic advising they had so far received. Results indicate that a majority of the learners 125 (50.2 %) strongly agreed, 94 (37.8%) agreed, 25 (10.0%) neither agreed nor disagreed, 3 (1.2%) disagreed, while 2 (0.8%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.353 and 0.7749 respectively. This result implies that learners agreed that they were satisfied with the academic advising they had so far received.

In item, 12f respondents were requested to indicate whether they knew who to consult in case they had a question about the course. Results indicate that a majority of the learners 111 (44.6 %) strongly agreed, 102 (41.0%) agreed, 19 (7.6%) neither agreed nor disagreed, 8 (3.2%) disagreed, while 9 (3.6%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.197 and 0.9700 respectively. This result implies that learners agreed that they knew who to consult in case they had a question about the course.

Items 12e and 12f were meant to capture the importance of academic advising given that it plays an important role in student success by facilitating students' transition to college and ensuring that they are

well acquainted with course offerings, degree requirements, support services, and special opportunities. The study findings were confirmed through FGDs, where one of the respondents, a second-year female student very vocally spoke about the high quality of advising she received.

"My advisor was very helpful in a number of ways, including understanding my own strengths by asking me the grades I scored in my O levels and then suggesting the subject combinations that really helped me enhance my education, given that I was not sure about my subject combinations. I don't think I've asked a question that he didn't have a good answer to and he was able to find the answer or give me the right direction on my academic goals."

Another respondent, a first-year male student studying at one of the regional learning centers shared:

"When I come to make inquiries about the course at the center, I was directed to the Regional Coordinators office who advised me on several issues, including the mode of study, subject combination requirements, disciplined required in time management, and this has proved to be very helpful. All the students at the regional center normally consult him for guidance on both academic and administrative issues concerning the course."

These findings agree with several studies that have found academic advising to play a significant role in student persistence decisions (Kot, 2014; Pascarella and Terenzini, 2005; Kamau, 2012; Swecker, Fifolt, and Searby, 2013; Sean 2017; White and Schulenberg, 2012). Advising issues that come up to the administration typically originate when a student perceives that the advisor has made a mistake regarding course selection (despite a policy that clearly states students take responsibility for course selection). Because administrators get involved with advising only when complaints surface, the message that the purpose of advising primarily involves keeping students on track for graduation, retention, is reinforced. These findings demonstrate that if students receive the correct advice, they can be successful in college, which supports Astin's theory of student involvement. Similarly, Swanson (2006) demonstrated that having extra time with a professional staff member trained on academic advising and learning about the student's strengths on a personal basis resulted in a higher rate of persistence amongst first-year students. However, the study findings were inconsistent with studies by Pietras (2010) and Vera, Wang'eri and Kigen (2017), which established that academic advising does not support students' retention. Vera, Wang'eri and Kigen's (2017) study findings revealed that the majority of respondents rated academic advising negatively because they were unable to access the service. Although the service is available, its accessibility is a problem for students.

In item, 12h respondents were requested to indicate whether group activities during class give them a chance to interact with their classmates. Study findings indicate that a majority of the learners 137 (55 %) strongly agreed, 84 (33.7%) agreed, 20 (8.0%) neither agreed nor disagreed, 7 (2.8%) disagreed, while 1 (0.4%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.402 and 0.7876 respectively. This result implies that learners strongly agreed that the group activities during class give them a chance to interact with their classmates.

In item, 12j respondents were requested to indicate whether they felt connected to their classmates. Study findings indicate that a majority of the learners 135 (54.2 %) strongly agreed, 84 (33.7%) agreed, 24 (9.6%) neither agreed nor disagreed, 5 (2.0%) disagreed, while 1 (0.4%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.394 and 0.7762 respectively. This result implies that learners agreed that they do feel connected to their classmates.

Items 12h and 12j desired to capture the extent to which the learners had integrated into campus life both academically and socially. The findings of this study agree with those of other studies such as (McCracken, 2004; Astin, 1993; Milem and Berger, 1997; Tinto, 2006; Svanum and Bigatti, 2009), and the conclusion from these studies is that group projects in the classroom, student-student interaction is a form of collaborative learning and working with others often increases involvement in learning. Responding and collaborating with other students may develop thinking skills and broaden conceptualization skills. More importantly, these studies concluded that involvement with peers through discussing course content or participating in organized study activity influenced students' perception of institutional and peer support, which in turn impacted their commitment to the institution.

In item, 12k respondents were requested to indicate whether they overall were satisfied with their educational experience at UoN. Study findings indicate that a majority of the learners 141 (56.6 %) strongly agreed, 77 (30.9%) agreed, 18 (7.2%) neither agreed nor disagreed, 9 (3.4%) disagreed, while 4 (1.6%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.373 and 0.8896 respectively. This result implies that learners agreed that they overall were satisfied with their educational experience at UoN.

In item, 12l respondents were requested to indicate whether they would recommend the University of Nairobi to their friends. Study findings indicate that a majority of the learners 159 (63.9 %) strongly agreed, 66 (26.5%) agreed, 17 (6.8%) neither agreed nor disagreed, 3 (1.2%) disagreed, while 4 (1.6%)

strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.498 and 0.8088 respectively. This result implies that learners strongly agreed that would recommend the university to their friends.

Items 12k and 12l desired to establish the extent to which learners felt connected to their institution and if they would recommend it to their friends. Study findings demonstrate that the learners have a very positive view of the university and its programmes and that they would recommend the university to their friends. These findings agree with those of (Chaturvedi and Chaturvedi 2005; Mohammed, and Sagadevan, 2002; and Sindhu, n.d) who observed that positive learner experience and learner loyalty gets translated into positive word-of-mouth and sharing of experiences by learners with his social environment (comprising of family/ friends/ co-workers, etc.). Ideally, if the learner has experienced high levels of learner satisfaction, he may even turn into active and vocal advocates of the ODL system (and the ODL institution in particular). Thus, the very learners (both existing and passed out) would serve as promoters of the ODL institution programmes.

4.6 Academic Support Services on the Retention of Distance Learners

This study sought to determine the influence of Academic Support Services on the retention of distance learners at the University of Nairobi. In this section, the study presents descriptive and inferential analysis to establish the extent to which Academic Support Services influence the Retention of Distance Learners.

4.6.1 Descriptive analysis of the influence of Academic Support Services on the Retention of Distance Learners

Review of literature pointed towards a relationship between Academic Support Services and the Retention of Distance Learners. Fifteen items were developed in the self-administered and respondents were requested to indicate the extent to which they agree with the statement and the results are presented in Table 4.14. The means and standard deviations were also computed and are presented in Table 4.15.

Table 4.14 Frequencies and Percentages for Academic Support Services

Statement	SA F %	A F %	N F %	D F %	SD F %
13a. Course instructor gave out an assignment on time	105 (42.2)	123 (49.4)	18 (7.2)	1 (0.4)	2 (0.8)
13b. I receive prompt feedback from my course instructor on my assignment.	58 (23.3)	92 (36.9)	56 (22.5)	34 (13.7)	9 (3.6)
13c. The course instructor provided me with positive feedback on my assignment.	56 (22.5)	110 (44.2)	44 (17.7)	37 (14.9)	2 (0.8)
13d. I regard comments on my returned assignments as a dialogue rather than a directive from the course tutor.	53 (21.3)	146 (58.6)	34 (13.7)	11 (4.4)	5 (2.0)
13e. I had easy access to resources to complete my assignments.	47 (18.9)	104 (41.8)	45 (18.1)	38 (15.3)	15 (6.0)
13f. Students are allowed to evaluate their instructors at the end of the course.	74 (29.7)	104 (41.8)	43 (17.3)	17 (6.8)	11 (4.4)
13g. I am able to know my results at the end of each academic year.	64 (25.7)	78 (31.3)	49 (19.7)	26 (10.4)	32 (12.9)
13h. I always get all my results for the units examined.	53 (21.3)	61 (24.5)	37 (14.9)	61 (24.5)	37 (14.9)
13i.Examination results are always received on time.	45 (18.1)	64 (25.7)	43 (17.3)	54 (21.7)	43 (17.3)
13j.Face-to-face tutorials were adequate	58 (23.3)	98 (39.4)	44 (17.7)	29 (11.6)	20 (8.0)
13k. The content and teaching approach support learners in achieving the objectives	75 (30.1)	126 (50.6)	23 (9.2)	17 (6.8)	8 (3.2)
13l. The module is up to date and relevant to the course.	89 (35.7)	109 (43.8)	18 (7.2)	22 (8.8)	11 (4.4)
13m. All the modules necessary for the degree program are available.	56 (22.5)	89 (35.7)	24 (9.6)	46 (18.5)	34 (13.7)
13n. Students are able to freely interact with course instructors.	75 (30.1)	111 (44.6)	37 (14.9)	13 (5.2)	13 (5.2)
13o.My course instructor is always available for consultations	67 (26.9)	92 (36.9)	46 (18.5)	27 (10.8)	17 (6.8)

In item, 13a respondents were requested to indicate if course instructors gave out an assignment on time. Study findings indicate that a majority of the learners 123 (49.4%) agreed while 105 (42.2%) strongly agreed with the statement. The mean score and the standard deviation for this item were 4.317 and 0.6954 respectively. This result implies that learners did strongly agreed that they were given their assignments on time and these assignments were mostly given during the residential sessions especially when the learners were being introduced to the course unit.

In item, 13b respondents were requested to indicate if they received prompt feedback on their assignment from their course instructor on time. Study findings indicate that a majority of the learners 92 (36.9%) agreed while 58 (23.3%) strongly agreed with the statement. However, about 56 (22.5%) of the learners neither agreed nor disagreed with the statement and about 34 (13.7%) disagreed with the statement. The mean score and the standard deviation for this item were 3.627 and 1.0934 respectively. Even though this result does imply that learners agreed that they did receive prompt feedback on their assignments from their instructors, the results from the FGDs varied among the respondents. One respondent who was in her second year in the Arts program said that:

"*I have submitted several assignments on time in all my units but always get my assignments after the semester has ended and hence these assignments never help me in my revision for the final examination. She said that she felt helpless in some cases when some of the questions given in the assignment were also part of the questions included in the final examination. In one part she said she probably would have scored a better grade than the grade C she scored had she obtained prompt feedback on her assignment since two of the assignment questions were included in the final examination. In some cases, I never even get my assignments back since most of the instructors do not bring the marked assignments to class, though I do eventually get my assignments back after the semester has ended from my regional center.* "

However, this was not the case with another second-year male student who was in the science programme who said that:

"*So far I have received all my assignments and these assignments were indeed returned on time by the instructors. He felt unlike her Arts counterpart probably it was the smallness of the class that allowed the instructor to quickly mark and return their assignments, given that the science program had fewer students than the Arts program.*"

The sentiments from the FGDs were that since they had taken time to write these assignments, it was only fair that they receive some feedback on their assignments. They were of the opinion that prompt feedback on their assignments would enable them to correct some of the mistakes they had made and hence help in their revision. The study findings compare well with those of other studies such as (Freeman, 2004; Fodzar, Kumar and Kannan, 2006; Fouche, 2006 and Tau, 2006) who agreed that since distance learners have put in a lot effort in their assignments, instructors had a moral duty to give them feedback on their performance. Lamer (2009) believes that providing timely feedback is the first critical strategy in reducing the feeling of isolation that leads to lower retention rates for online students.

In items, 13c and 13d respondents were requested to indicate if the course instructor provided the respondents with positive feedback on their assignment and if they regard the comments on their returned assignments as a dialogue rather than a directive from the course instructor. Study findings on the two items indicate that a majority of the learners 110 (44.2%) agreed while 56 (22.5%) strongly agreed with the statement that instructors did provide positive feedback on their assignments. The mean score and the standard deviation for this item were 3.727 and 0.9988 respectively. This result shows that the respondents did agree that they received positive feedback from their assignments. On item 13d 146 (58.6%) agreed while 53 (21.3) strongly agreed that they regard comments on their returned assignments as a dialogue rather than a directive from the course tutor. The mean score and the standard deviation for this item were 3.928 and 0.8393 respectively, indicating that the respondents were in agreement with the statement. These findings agree with those of Goleman (1995), who emphasizes that feedback should be specific and explicitly provided to ensure that the student understands how and why they did not do well in an assignment.

These findings were also confirmed by the FGDs, where one of the respondents who was in their first year said;

"*I received my assignment but the instructor had not put any comments yet the grade on my assignment was seven out of fifteen. I tried to compare my answer to that of my colleagues but all seemed to have the same predicament, marks awarded but no comments given. I had discussed my answer among the members of my study group and all of us had more or less presented our assignments with the same points. Unfortunately, all my group members got different marks ranging from 5/15 to 12/15 and hence we did not know what to do and felt confused and discouraged since we thought we had done some good research on our assignment. When we approached our course instructor for guidance, she was dismissive and told us that it was not possible to put a comment for every student especially given the*

fact that she would have to do that for more than 200 students. Hence, we were all left confused and did not get to know whose answer we should adopt as the correct one if the same question were to appear in the final examination. I also receive most of my term papers after the examinations, therefore, even if the instructor had made any comments…… which by the way I have never seen, then it does not help in my examination preparations."

This result is in agreement with that of Kasprzak (2005), who observed that whenever immediate feedback after an examination cannot be provided, effort should be made to score and return the test the soonest possible before the student embarks on subsequent lessons. Feedback given at the end of the course may be valuable in providing long term guidance but does not help the student's grade or the quality of the work in the current course.

In item 13e the respondents were asked they had easy access to resources to complete their assignments. Majority 104 (41.8%) agreed while 47 (18.9%) strongly agreed with the statement. The mean score and the standard deviation for this item were 3.522 and 1.1397 respectively. FGDs' sentiments supported this result. One of the respondents who was in the second year said:
"*I attend my residential sessions in Nairobi and my regional center is Machakos. At the main campus, the library has most of the reference materials that our instructors recommend and we also have access to online resources, hence I have no challenge in accessing reference materials.*"

In item, 13f respondents were requested to indicate if they were allowed to evaluate their instructors at the end of the course. Study findings indicate that a majority of the learners 104 (41.8%) agreed while 74 (29.7%) strongly agreed with the statement. However, about 43 (17.3%) of the learners neither agreed nor disagreed with the statement and about 17 (6.8%) disagreed with the statement. The mean score and the standard deviation for this item were 3.855 and 1.0603 respectively. This result does indicate that learners do get an opportunity to evaluate their instructors at the end of the course and this allows them to give feedback on how they felt about the course and the instructor. From the FGDs however, respondents gave strong opinions as to the value of these evaluations, especially for those learners who were in their second year of study: One respondent whose opinion majority agreed with had this to say; *"In the first year we had lectures who missed lessons and were rude when asked questions in class. We would report to the administration but no action would be taken, and we would be advised to capture our sentiments in the lecturer evaluation forms. We thought this was our opportunity to express how we truly felt about those lectures who students disproved. Despite rating*

some of the lectures poorly, we would still see them lecturing us and those who are behind us, and eventually, some of us stopped filling in the evaluations since no one seemed to be acting on them. "

In item, 13g respondents were requested to indicate if they were able to know their results at the end of each academic year. Study findings indicate that a majority of the learners 78 (31.3%) agreed while 64 (25.7%) strongly agreed with the statement. However, about 49 (17.9%) of the learners neither agreed nor disagreed with the statement and about 26 (10.4%) disagreed with the statement. The mean score and the standard deviation for this item were 3.466 and 1.3228 respectively. This result does indicate that learners were in agreement that they do get their results at the end of the academic year. This item is closely linked with items 13h and 13i. Item 13h requested the respondents to indicate if they have received results for all their units, for which they have sat for examinations. Results indicate that 61 (24.5%) agreed but then a similar number 61 (24.5%) disagreed with the statement, 53 (21.3%) strongly agreed while 37 (14.9%) respondents neither agreed nor disagreed with the statement and about 37 (14.9%) strongly disagreed with the statement. These diverse opinions can be confirmed by the mean and standard deviation which was 3.129 and 1.3882, indicating that respondents generally neither agreed nor disagreed with the statement.

Item 13i requested the respondents to indicate whether examination results are always received on time. Study findings indicate that 64 (25.7%) agreed but then a similar number 54 (21.7%) disagreed with the statement, 45 (18.1%) strongly agreed while 43 (17.3%) respondents neither agreed nor disagreed with the statement and about 43 (17.3%) strongly disagreed with the statement. Again these diverse opinions can be confirmed by the mean and standard deviation which was 3.056 and 1.3755, indicating that respondents generally neither agreed nor disagreed with the statement. More importantly, the two items 13h and 13i had the two smallest and also largest STD of all the items captured under Academic support services. From the FGDs one of the respondents, a female student respondent in her second said:

"*I have done all my examination, cats and term papers but more than half of first year's results have not reflected in my student porthole. Every time I make a follower up I am told that the instructors have yet to submit the marks to the examination office. Whenever I inquire from the instructor, I am told that s/he marked and surrender the marks to the examination office. I honestly find this frustrating since I have been told to write a letter so that the issue can be resolved but nothing has been resolved. I am worried since I have heard from our colleagues in the third and fourth year how frustrating the whole*

process of searching for missing marks can be. I don't understand why I am told to call my lecturer so that s/he can submit my marks, and even when you call them the first answer your phone, promise to do something about the missing mark. However, the problem remains unresolved and when you try calling them again they normally stop answering your phone or text messages"

Another respondent, however, had a different opinion, a second-year male student said that:
"*I know that I have a few missing marks, but it is due to the fact that I had to take a break for one semester and hence when I reported back I had to join a different cohort from the one I joined with. Therefore, along the line, I have done examinations with a different cohort, the reason that I have been given for my missing marks. However, I do feel that it has taken too long for them to reconcile my marks since it has been more than six months since I sat for my part two examinations. I also feel that some of our instructors are not very helpful when it comes to tracing missing marks. When you call them, some are very rude, some do not a response to phone calls or SMS and this is very frustrating.*"

These findings agreed with those of Osegura and Rhee (2009) who established that learners' positive contact with faculty staff has a significant influence on retention. Similar findings were established by Kelly-hall (2010) whose revealed evidence that supports Austin's student involvement theory and Tintos student retention model. The study demonstrated that LSS such in the form of academic support strongly impacted learner involvement because it helped them to be more focused, were able to attain their academic goals and enhanced their willingness to stay on the campus.

Item 13j requested the respondents to indicate if they felt that the Face-to-face tutorials they received were adequate. Study findings indicate that majority 98 (39.4%) agreed while 58 (23.3%) strongly agreed with the statement. Results from the mean and standard deviation were 3.582 and 1.1957 respectively, indicating that respondents generally agreed that the face to face tutorial they received was adequate. Item 13k requested the respondents to indicate if the content and teaching approach support learners in achieving the objectives of the course unit. Results indicate that the majority of 126 (50.6%) agreed while 75 (30.1%) strongly agreed with the statement. Results from the mean and standard deviation were 3.976 and 0.9793 respectively, indicating that respondents generally agreed with the statement. However, the quality of teaching was a theme that developed during the interviews. A few of the students mentioned that some of their teachers were not very good in terms of content presentation and at times they seemed to be in a hurry to complete the session and leave. One second-year male student in a regional learning center stated;

"I sometimes get the feeling that some of our lecturers' don't understand very well the content they are delivering. They never give us good answers when we ask questions and sometimes we have to read on our own since they do not show up or when they do, they never cover the required hours."
Based on the responses of the students interviewed it appeared that learners were concerned about the quality of some of their lecturers.

Item 13l requested the respondents to indicate if they felt that their study module was up to date and relevant to the course. Study findings indicate that majority 126 (50.6%) agreed while 75 (30.1%) strongly agreed with the statement. Results from the mean and standard deviation were 3.976 and 0.9793 respectively, indicating that respondents generally agreed with the statement. This item was important given the fact that the study module is regarded to be central to the ODL mode of delivery. It is supposed to be the key source of study material for the learner, especially during their home study. More importantly, it meant that the two programs were providing the learners with quality study materials that the learners could rely on during their home study.

Item 13m requested the respondents to indicate if they were provided with all study modules necessary for the degree program. Study findings indicate that majority 89 (35.7%) agreed while 56 (22.5%) strongly agreed with the statement, but at the same time, 46 (18.5%) disagreed that study modules were available for all their courses and 34 (13.7%) strongly disagreed with the statement. Results from the mean and standard deviation were 3.349 and 1.3687 respectively, indicating that respondents generally agreed with the statement that the university has so far availed them with all the study modules for the courses they have registered for. However, those who disagreed or strongly disagreed with the statement were about 80 (32.2%), and various reasons were given during FGDs.
One respondent a second-year female student had this to share:
"I do admit that I did receive all my study modules when I was I first year since I had paid all the required fees and registered for the units but I have only received two in my second year. I have not yet paid for their entire semester fee and hence I have yet to be issued with all my study modules. During the home study period, I will rely on my friends who have paid and being issued with all the study modules. The university only gives the modules to those who have paid fees for that semester and since I have only paid for two units, I have only been given the two modules and I plan to complete my fee before the next residential session so that I can secure all my modules."

Another respondent in Meru, a second-year female student shared:

"*I have paid all my tuition fee but I have only received five of the eight modules. I have was told that the others were not available since they were out of stock and are being printed. I am frustrated since the administration had promised that all our study modules would be availed if we paid our tuition fee. If I had known, I would only have paid for the five units available. My fear is that I am missing two units in History and one in Kiswahili and even some of our colleagues who are in the third year say they never got the history modules despite being promised they would receive them.* "

Items 13n and 13o had to do with the interactions of the learners with their instructors. Item 13n requested the respondents to indicate if students were able to freely interact with course instructors. Study findings indicate that majority 111 (44.6%) agreed while 75 (30.1%) strongly agreed with the statement. Results from the mean and standard deviation were 3.892 and 1.0589 respectively, indicating that respondents generally agreed with the statement that students were able to freely interact with course instructors. From the FGDs opinion was divided on the nature of this interaction. One of the respondents, a female student respondent in her second said:

"We frequently interact with our lecturers and most of them guide us on how to go about reading the module, how to answer questions…… they also provide us with additional notes either in soft or hardcopy, and this is very helpful. However, some of our lectures rarely come for lessons, and eventually, when they show have been in such a hurry that we hardly get an opportunity to interact with them."

However, one female student also in her second year said;

"We have lectures who never show up for lessons until the revision week, and when they come they only summaries the study module and don't have time to answer questions or even interact we the students, hence we have had to read on our own in some of the units, and since we have not received results, we don't know how we performed. We have complained but no action has been taken against the lecturer"

These findings agreed with many studies that confirm that LSS that connects the student to the institution, and faculty-student contact can have a significant effect on student, motivation, involvement, and retention. (Chickering and Gamson, 1987; Noel, Levitz, Saluri, and Associates, 1985; Frost, 1991; Pascarella and Terenzini, 1991; Tinto, 1993; Glennen, 1995; as cited in Pargett, 2011 and Yunjin and Lee, 2016).

Item 13o, on the other hand, wanted to establish if course instructors were always available for consultations when the students required some assistance with a problem they had encountered in their course or an area in the module that needed some clarification. Results indicate that the majority 92 (36.9%) agreed while 67 (29.9%) strongly agreed with 46 (18.5%) either agreed or disagreed with the statement. Results from the mean and standard deviation were 3.663 and 1.1806 respectively, indicating that respondents generally agreed with the statement that course instructors were readily available for consultations. The finding agrees with that of Svanum and Bigatti (2009) who observed that tutor encouragement of student, course engagement and programs designed to enhance course engagement would likely have broad and favorable consequences, including enhanced graduation rates and potentially increased retention rates as these are likely influenced by the degree of student success.

Table 4.15 Means and Standard Deviations of Academic Support Services

Statement	N	Mean	SD
13a. Course instructor gave out an assignment on time	249	4.317	0.6954
13b. I receive prompt feedback from my course instructor on my assignment.	249	3.627	1.0930
13c. The course instructor provided me with positive feedback on my assignment.	249	3.727	0.9988
13d. I regard comments on my returned assignments as a dialogue rather than a directive from the course tutor.	249	3.928	0.8393
13e. I had easy access to resources to complete my assignments.	249	3.522	1.1397
13f. Students are allowed to evaluate their instructors at the end of the course.	249	3.855	1.0603
13g. I am able to know my results at the end of each academic year.	249	3.466	1.3228
13h. I always get all my results for the units examined.	249	3.129	1.3882
13i.Examination results are always received on time.	249	3.056	1.3755
13j.Face-to-face tutorials were adequate	249	3.582	1.1957
13k. The content and teaching approach support learners in achieving the objectives	249	3.976	0.9793
13l. The module is up to date and relevant to the course.	249	3.976	1.0885
13m. All the modules necessary for the degree program are available.	249	3.349	1.3687
13n. Students are able to freely interact with course instructors.	249	3.892	1.0589
13o.My course instructor is always available for consultations	249	3.663	1.1806
Composite mean and Standard deviation		**3.671**	**1.0396**

Table 4.15 provides a summary of Means and Standard Deviations of Academic Support Services and the Composite mean 3.671 and Standard deviation 1.0396. The implication of this result is that the respondents generally agreed that Academic Support Services were important to the learners and as was observed by Walsh (2013) Academic support services especially academic advising becomes more critical for second-year students. Second-year is regarded as the transition year where most learners are making a decision on their academic major which more or less informs their career choices.

4.6.2 Relationship between Academic Support Services and Retention of Distance Learners

Correlation analysis using Pearson's product-moment technique was carried out to determine the relationship between Academic Support Services and Retention of Distance Learners. The results of the correlation are presented in Table 4.16.

Table 4.16 Correlation between Academic Support Services and Retention

		Learner RT	Academic Support
Learner RT	Pearson Correlation	1	.636**
	Sig. (2- tailed)		.000
	N	249	249
Academic SS	Pearson Correlation	.636**	1
	Sig. (2- tailed)	.000	
	N	249	249
** Correlation is significant at the 0.01 level of significance (2-tailed)			

Results from table 4.16 reveal that there is a significant positive relationship between Academic Support Services and Retention of Distance Learners (r= 0.636, p-value = 0.000). This implies that there is a strong and positive association between Academic Support Services and Retention of Distance Learners which is significant.

4.6.3 Inferential analysis of Academic Support Services and Retention of Distance Learners

The first objective of the study was to determine the influence of Academic Support Services on the retention of distance learners at the University of Nairobi. Having established the correlation between Academic Support Services and retention of distance, the researcher sought to analyze the contribution of Academic Support Services to learner retention at the University of Nairobi through regression analysis. The following hypothesis was tested using multiple regression analysis in order to satisfy the first objective.

Hypothesis One

H_0: Academic Support Services has no significant influence on retention of distance learners at the University of Nairobi.

H_1: Academic Support Services has a significant influence on retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Module availability

X_2 = Adequate Tutoring

X_3 = Mentoring

X_4= Feedback

X_5 = Interaction with instructors

u = random error

Results in Table 4.17 show that r = 0.636, implying a positive and strong correlation between Academic Support Services and retention of distance learners at the University of Nairobi. The R^2 was 0.404 and this indicates how much of the total variation in the dependent variable can be explained by the independent variable. In this case, Academic Support services explained 40.4% of the variability in learners' retention with 59.6% of the variation in learners' retention being explained by other factors.

A key assumption made about regression analysis is that the observation is independent. If there is no autocorrelation then the Durbin-Watson statistic should be between 1.5 and 2.5 and in our case, it was 1.989. Empirical findings from test of significance at the 5 percent level of significance or simply 0.05 indicated that Module availability was (p = 0,000); Adequate Tutoring (p = 0,000); Mentoring (p=0.003), Feedback (p=0.001) and Interaction with instructors (p=0.001); and all of the indicators were statistically significant. The β coefficient of Module availability is 0.539 that of Adequate Tutoring is 0.211, Mentoring 0.118, Feedback is 0.233 and Interaction with instructors is 0.293. These findings tend to agree with studies such as those by (Bigatti and Svanum, 2009; UKpo, 2006; Southerland, 2009; Kamau, 2012 and Dhamija, 2014) which have all have demonstrated that learners that are academically engaged are not only more likely to earn a degree but that they would do it and do it faster. These studies have also established that learners' positive contact with faculty staff has a significant influence on retention.

Table 4.17 Multiple Regression Analysis Results for Influence of Academic Support Services on retention of distance learners at the University of Nairobi

a. Model Summary

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.636[a]	0.404	0.396	0.42240	1.989

a. Predictors: (Constant), AcademSS_X_4 Feedback, AcademSS_X_3 Mentoring, AcademSS_X_1 Module availability, AcademSS_X_2 Adequate Tutoring, AcademSS_X_5 Inter. with instructors
b. Dependent Variable: Learner RT

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	17.563	4	4.391	64.609	0.000[b]
	Residual	43.535	244	0.178		
	Total	61.098	248			

a. Dependent Variable: Learner RT
b. Predictors: (Constant), AcademSS_X_4 Feedback, AcademSS_X_3 Mentoring, AcademSS_X_1 Module availability, AcademSS_X_2 Adequate Tutoring, AcademSS_X_5 Inter. with instructors

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	3.104	0.136		22.886	0.000	3.104
	AcademSS_X_1 Module availability	0.339	0.059	0.539	5.752	0.000	0.339
	AcademSS_X_2 Adequate Tutoring	0.154	0.046	0.211	4.306	0.001	0.154
	AcademSS_X_3 Mentoring	0.097	0.040	0.118	2.236	0.003	0.097
	AcademSS_X_4 Feedback	0.163	0.042	0.233	1.355	0.001	0.163
	AcademSS_X_5 Inter. with instructors	0.194	0.049	0.293	2.315	0.001	0.194

a. Dependent Variable: Learner RT

The β values tell us that one unit change in module availability contributes to 53.9% change in learner retention; one unit change in Adequate Tutoring contributes to 21.1% change in learner retention; one unit change in Mentoring contributes to 11.2% in learner retention, one unit change in Feedback contributes to 23.3% change in learner retention and Interactions with instructors contributes to 29.3% change in learner retention. The ANOVA results indicated that the regression model was significant at F = 64.609 with p-value = 0.000 which is lower than the cut-off p-value of 0.05. This means that the null hypothesis was rejected implying that the Academic support services have a significant effect on

learners' retention. The coefficients provide the necessary information to predict Learners Retention from Academic Support Services. From the statistical findings we can now specify the following equation:

$$Z = 3.104 + 0.539 X_1 + 0.211 X_2 + 0.118 X_3 + 0.233 X_4 + 0.293 X_5$$

The findings from this regression model were confirmed by the FGDs where learners felt that having the study module was very important to them given that it was what they relied on during their home study period. Adequate tutoring, mentoring and feedback was also important in influencing satisfaction among learners and determining their retention. The findings demonstrate that the encouragement of students to participate actively in the course discussion by instructors, instructor providing feedback on students work through comments, students being able to interact with instructors during course discussions and informing students about their progress periodically as metric for student-instructor interaction positively influence students' satisfaction and retention at the University of Nairobi.

4.7 Administrative Support Services on the Retention of Distance Learners

This study sought to examine the influence of Administrative Support Services on the retention of distance learners at the UON.

4.7.1 Descriptive analysis of the influence of Administrative Support Services on the Retention of Distance Learners

Eleven items were developed in the self-administered and respondents were requested to indicate the extent to which they agree with the statement and the results are presented in Table 4.18. The means and standard deviations were also computed and are presented in Table 4.18.

Table 4. 18 Frequencies and Percentages for Administrative Support Services

Statement	SA F %	A F %	N F %	D F %	SD F %
14a.The admission information was easily understood	124 (49.8)	105 (42.2)	9 (3.6)	9 (3.6)	2 (0.8)
14b. All pertinent information related to the course is available on the university's website.	105 (42.2)	105 (42.2)	30 (12.0)	5 (2.0)	4 (1.6)
14c. I got assistance in the selection of subject combinations.	91 (36.5)	105 (42.2)	30 (12.0)	11 (4.4)	12 (4.8)
14d. Students are able to register online for courses without having to visit the university.	134 (53.8)	94 (37.8)	14 (5.6)	4 (1.6)	3 (1.2)
14e. Students are able to pay fees without having to visit the university.	146 (58.6)	91 (36.5)	7 (2.8)	5 (2.0)	- (-)
14f.The university offers students flexible payment arrangements for tuition fee	92 (36.9)	99 (39.8)	27 (10.8)	15 (6.0)	16 (6.4)
14g. Students have access to medical facilities offered by the university	65 (26.1)	73 (29.3)	29 (11.6)	35 (14.1)	47 (18.9)
14h. University has established regional centers to offer support to distance learners.	111 (44.6)	110 (44.2)	18 (7.2)	4 (1.6)	6 (2.4)
14i. The university arranges field visits to allow interactions with staff.	41 (16.5)	78 (31.3)	45 (18.1)	32 (12.9)	53 (21.3)
14j. The Regional center is too far from where I live	45 (18.1)	47 (18.9)	39 (15.7)	76 (30.5)	42 (16.9)
14k. Overall I find university staff very supportive	110 (44.2)	104 (41.8)	24 (9.6)	6 (2.4)	5 (2.0)

In item 14a the respondents were requested to indicate if the admission information was easily understood. Study findings indicate that a majority of the learners 124 (49.8%) strongly agreed while 105 (42.2%) agreed with the statement. The mean score and the standard deviation for this item were 4.365 and 0.7874 respectively. This result implies that learners did SA that admission information was easily understood by the learners.

In item, 14b respondents were requested to indicate if all pertinent information related to the course is available on the university's website. Study findings indicate that a majority of the learners 105 (42.2 %) strongly agreed while 105 (42.2%) agreed with the statement. The mean score and the standard deviation for this item were 4.213 and 0.8513 respectively. This result implies that learners did SA that admission information was easily understood by the learners all pertinent information related to the

course is available on the university's website. This result was confirmed by FGDs where one female respondent in her first year in Kisumu Campus said:

"*The application procedure was easily understood and I got assistance with an online application from the regional learning center in Kisumu. I was also able to get all the details concerning the course from the university's website and this was very helpful.*"

In item, 14c respondents were requested to indicate if they received any assistance on the selection of subject combination. Study findings indicate that a majority of the learners 105 (42.2 %) agreed while 91 (36.5%) strongly agreed with the statement. The mean score and the standard deviation for this item were 4.012 and 1.0491 respectively. This result implies that learners generally agreed that did receive some assistance on the selection of subject combination. This was particularly important for first-year students in cases where a student was not sure about the subject combination and the requirements for such a combination.

Findings from items 14a, 14b and 14c agree with those of Curry (2003), who found that distance learners value academic advice sessions that highlight enrolment and orientation procedures prior to the introduction to course materials. These findings also agree with those of (Robinson, 1996; Simpson, 2004; Hodum, 2007; Howard, 2013) that noted that a successful orientation assists students in their transition to the university, aids in social integration, and helps students find their niche in the campus community. The provision of the academic calendar, study time table, teaching and learning the unit-by-unit guide and the provision of course models at the beginning of the semester facilitate students' preparedness for effective course work in the semester. It also embeds discipline and orderliness in the conduct of students towards successful learning and teaching.

In item, 14d respondents were requested to indicate if they are able to register online for courses without having to visit the university. Study findings indicate that a majority of the learners 134 (53.8 %) strongly agreed while 94 (37.8%) strongly agreed with the statement. The mean score and the standard deviation for this item were 4.414 and 0.7735 respectively. This result implies that learners strongly agreed that they were able to register online for courses without having to visit the university. The findings agree with those of Harry, Akosua, and Owusu (2018), who established that a student portal is an effective tool for communicating and diffusing innovative interventions from administration to students and all stakeholders. The provisions of semester online registration, fee status confirmation, appraisal of supervisors and course tutors, viewing and printing of end-of-semester exams results,

online application to patronize institutional products and services including re-sit examination registrations reduces the melanoma of isolation in distance education. Mostly learners at the University of Nairobi were able to register for their courses either using their tablets or mobile phones and these findings were confirmed from FGDs. One male respondent in his first year said:

"*We were taken through a training session on online registration and access to online recourses, and therefore I am able to register online for all my courses once I have paid the required tuition fee.*"

Another respondent in her second year confirmed this but added:

"*Yes it is true that I am able to register all my units online, but sometimes they lock me when I have not registered before the deadline due to some delays in fee payment. No one is allowed to sit examinations without registration since it is from this course registration that one is able to print their examination card. I am happy that they have allowed me on two occasions to register after the deadline and I did not miss my examinations in both cases after I wrote a letter to the Dean explaining why I was late in paying my tuition fee, and I am very grateful for that.*"

In item, 14e respondents were requested to indicate if they were able to pay tuition fees without having to visit the university. Study findings indicate that a majority of the learners 146 (58.6 %) strongly agreed while 91 (36.5 %) agreed with the statement. The mean score and the standard deviation for this item were 4.518 and 0.6543 respectively. This result implies that learners strongly agreed that they were able to pay their tuition fees without having to visit the university. Results from the FGDs confirmed this was one female learner in her second year said:

"*I can pay my tuition fee in any Barclays bank branch and also by MPESA and I find this to be very convenient and the fee reflects in my student's porthole within one hour and hence I am able to register online for my courses.*"

In item, 14f respondents were requested to indicate if the University does offer students flexible payment arrangements for tuition fees. Study findings indicate that a majority of the learners 99 (39.8 %) agreed while 92 (36.9 %) strongly agreed with the statement, even though 27 (10.8 %) neither agreed nor disagreed. The mean score and the standard deviation for this item were 3.948 and 1.1400 respectively. This result implies that learners generally agreed that the University does offer students flexible payment arrangements for tuition fees, results confirmed by the FGDs. One respondent who is her second year said:

"*I have a plan to pay for my tuition fee, and this involves me getting a loan from my SACCO. Hence sometimes there are delays with the loans. This means that I am able to pay a bit of my fee which allows*

me to register and get a few study modules. Once I get my loan I always request for late registration which the university allows. I have at times managed to get my loan just before the semester examinations and I have been allowed to register and take my examinations."

Another respondent, a second-year male student however said:

"*No the university does not offer us any flexibility, and there is a semester that I missed all my examinations because I had not paid the semester fee despite the fact that I had requested to make a commitment to clear the fee once my loan matured. I was forced to defer the semester when my loan was not granted on time. I was able to pay and continue once my loan was approved.* "

In item, 14g respondents were requested to indicate if the students have access to medical facilities offered by the university. Study findings indicate that a majority of the learners 73 (29.3%) agreed while 65 (26.1 %) strongly agreed with the statement. However, 47 (10.8%) strongly disagreed while 35 (14.1%) disagreed with the statement. The mean score and the standard deviation for this item were 3.297 and 1.4674 respectively. This result implies that learners neither agreed nor disagreed with the statement that students have access to medical facilities offered by the university. The variations in responses as indicated by the value of the mean and STD were as a result of responses depending on where the respondents were located. This result was confirmed by results from the FGDs and also from the observation schedule. From the observation schedule, it was confirmed that learning centers that were sampled, Meru, Kisii, Kakamega, and Eldoret did not have a medical facility for the students and that no referral health facility had been identified where learners who fell ill during the residential sessions could be referred to. It is only that was based in Nairobi and Kisumu who had access to such a facility. One respondent, a second-year student based in Eldoret said:

"*We do not have a medical clinic and neither is there a referral health facility that a student can go to in case they are unwell. I know a colleague who fell stick during the last residential session (August 2017) and had to be hospitalized. After discharge, she was told to apply for a refund from the university by surrendering her receipts as evidence of hospitalization. I feel this is not fair to us since we have paid a medical fee of Kshs. 7500. If the university cannot provide us with this facility then let them not charge us for a service that is not being offered.*"

Another respondent, a second-year male student based in Nairobi, Chiromo Campus said:

"*Yes, we do have a medical facility that we can go to when we are unwell, and that we get both in-patient and outpatient services. The clinic has adequate doctors and drugs and in case of serious condition students are referred to Kenyatta hospital.* "

In items, 14h and 14j desired to determine whether the learners were supported by regional centers and if the centers were easily accessible to the learners. In item, 14h respondents were requested to indicate if the University had established regional centers to offer support to distance learners. Study findings indicate that a majority of the learners 111 (44.6 %) strongly agreed while 110 (44.2 %) agreed with the statement. The mean score and the standard deviation for this item were 4.269 and 0.8542 respectively. This result implies that learners strongly agreed with the statement. The findings agree with those of (Kurasha, 2003; Curry, 2003; Mmari, 1998 and Akosua and Owusu, 2018), whose studies emphasized the important role played by regional centers in supporting distance learners. Specifically, Akosua and Owusu (2018) observed that Face-to-face meetings organized regularly at regional and study centers and the use of regional supervisors enhance accessibility and flexibility in distance education.

In item, 14j respondents were requested to indicate if the regional center was too far from where they lived. Study findings indicate that a majority of the learners 76 (30.5 %) disagreed, 42 (16.9 %) strongly disagreed, 45 (18.1 %) strongly agreed, 47 (18.9 %) agreed while 39 (15.7%) neither agreed nor disagreed with the statement. The mean score and the standard deviation for this item were 2.908 and 1.3750 respectively. This result implies that learners neither agreed nor disagreed with the statement. The conclusion can only be that even though the learners strongly agreed that had to access a regional learning center, about half of them felt that it was a distance from where they lived.

Items 14i was also closely linked with regional study centers. In item, 14i respondents were requested to indicate if the university arranges field visits to allow interactions with staff. Study findings indicate that a majority of the learners 78 (31.8 %) agreed but 53 (21.3 %) strongly disagreed with the statement. At the same time 41 (16.5%) strongly agreed, 32 (12.9 %) disagreed and 45 (18.1%) neither agreed nor disagreed with the statement. The mean score and the standard deviation for this item were 3.088 and 1.3971 respectively. This result implies that learners neither agreed nor disagreed with the statement. On the basis of FGDs, it was established that regional visits were mostly organized for the bachelor of education Arts students and not their science counterparts. One respondent, a male student from the Science program, second-year said:

"*I have heard about the field visits but I have never attended one since we have never being invited to attend."*

Another respondent from the Arts program, a male student in his second year said:
"*I have always attended the field visits, especially in Kisumu and I have found them to be informative and I am able to interact with some of the decision-makers of the program. I am able to get feedback concerning issues about the previous residential sessions, get answers on missing marks, receive tips on how to study my module and how to write my term paper, get an opportunity to interact with fellow students and shares ideas on assignments, and any new information that the administration feels that learners should know. I have personally benefitted a lot from these interactions. My only concern is that these visits are no longer held and we have to wait until the next residential session before we can get any additional information about the course.*"

In item 14k the respondents were requested to indicate if they found university staff supportive. Study findings indicate that a majority of the learners 110 (44.2%) strongly agreed while 104 (41.8%) agreed with the statement. The mean score and the standard deviation for this item were 4.237 and 0.8730 respectively. This result implies that learners did SA that they did find university very staff supportive. This result was also confirmed by findings from FGDs where one respondent, a second-year female student from the Nairobi residential center said:
"*I am about to complete my second year and so far I have encountered staff who have been very supportive in terms of admission processes, course registration, subject selection, online registration, support with study material, term papers among others. I have also received all my first-year marks and I am happy that I performed well and I did not fail any subject.*"

The findings agree with those of (Haughey, 2003; Curry, 2003; and Raisman (2013), whose studies emphasized the important role played by administrators of distance learning programmes in supporting distance learners. Specifically, Raisman (2013) found that 84% of the attrition rate observed could be attributed to unsatisfactory institutional support, more so due to unsupportive staff.

Table 4.19 Means and Standard Deviations of Administrative Support Services

Statement	N	Mean	SD
14a.The admission information was easily understood	249	4.365	0.7874
14b. All pertinent information related to the course is available on the university's website.	249	4.213	0.8513
14c. I got assistance in the selection of subject combinations.	249	4.012	1.0491
14d. Students are able to register online for courses without having to visit the university.	249	4.414	0.7735
14e. Students are able to pay fees without having to visit the university.	249	4.518	0.6543
14f.The university offers students flexible payment arrangements for tuition fee	249	3.948	1.1400
14g. Students have access to medical facilities offered by the university	249	3.297	1.4674
14h. University has established regional centers to offer support to distance learners.	249	4.269	0.8542
14i. The university arranges field visits to allow interactions with staff.	249	3.088	1.3971
14j. The Regional center is too far from my house	249	2.908	1.3750
14k. Overall I find university staff very supportive	249	4.237	0.8730
Composite mean and Standard deviation		**3.880**	**0.9720**

Table 4.19 provides a summary of Means and Standard Deviations of Administrative Support Services and the Composite mean 3.880 and Standard deviation 0.9720 respectively. The implication of this result is that the respondents generally agreed that Administrative Support Services were important to the learners and as was observed by Astin and Scherrei (1980) whose findings noted that the administrative styles of a college are crucial to the success of its retention efforts. The style of the institution gives the student his/her first impression of the institution; it also gives them their first glimpse of how they might fit in, succeed, or fail at the institution. Administrative styles of a college can influence a student's decision to drop out. The findings also agree with those of Raisman (2013), who found that those who had dropped out of college overwhelmingly gave institutional reasons for doing so. Specifically, Raisman noted that 84% of the attrition rate observed multiple institutions in the USA could be attributed to unsatisfactory institutional support. The top two reasons for dropout being perceived lack of concern for the student and poor service.

4.7.2 Relationship between Administrative Support Services and Retention of Distance Learners

Correlation analysis using Pearson's product-moment technique was carried out to determine the relationship between Academic Support Services and Retention of Distance Learners. The results of the correlation are presented in Table 4.20.

Table 4.20 Correlation Administrative Support Services and Retention

		Learner RT	Administrative Support
Learner RT	Pearson Correlation	1	.544**
	Sig. (2- tailed)		.000
	N	249	249
Administrative SS	Pearson Correlation	.544**	1
	Sig. (2- tailed)	.000	
	N	249	249

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

Results from table 4.20 show that there is a significant positive relationship between Administrative Support Services and Retention of Distance Learners (r= 0.544, p-value = 0.000. The implication of the findings is that there is a positive and moderate association between Administrative Support Services and Retention of Distance Learners which is significant.

4.7.3 Inferential Analysis of Administrative Support Services and Retention of Distance Learners

The second objective of the study was to examine the influence of Administrative Support Services on the retention of distance learners at the University of Nairobi. Having an established correlation between Administrative Support Services and retention of distance, the researcher sought to analyze the contribution of Administrative Support Services to learner retention at the University of Nairobi through regression analysis. The following hypothesis was tested using multiple regression analysis in order to satisfy the second objective.

Hypothesis Two

H_0: Administrative support services has no significant influence on retention of distance learners at the University of Nairobi.

H_2: Administrative support services have a significant influence on retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Course Information

X_2 = Medical facility

X_3 = Course Registration and Fee Payment

X_4 = Supportive Staff

X_5 = Regional Centres and Distance

u = random error

Results in Table 4.21 show that r = 0.544, implying a positive and moderate correlation between Administrative Support services and retention of distance learners at the University of Nairobi. The R^2 was 0.282 indicating that Administrative Support services explained 28.3% of the variability in learners' retention. The Durbin-Watson statistic was 1.813 and this was an indication of the absence of the problem of autocorrelation. Significance test at 0.05 indicated that Course Information was (p=0.003); Medical Facility (p=0.003); Registration and Fee payment (p=0.142); Supportive Staff (p=0.000) and Reg Centres (p=0.001) and apart from registration and fee payment all the other four variables are all statistically significant.

The β coefficient of Course Information is 0.159 that of Medical Facility is 0.164, Registration and Fee payment 0.153, Supportive Staff is 0.353 and Reg Centres 0.284. The β values tell us that a unit change in Course Information contributes to 15.9% change in learner retention; one unit change in Medical Facility contributes to 16.4% change in learner retention; one unit change in Registration and Fee payment contributes to 7.3% change in learner retention; one unit change in Supportive Staff contributes to 35.3% change in learner retention and one unit change in Reg Centres contributes to 28.4% change in learner retention. The ANOVA results indicated that the regression model was significant at F = 40.441 with p-value = 0.000 which is lower than the cut-off p-value of 0.05. This means that the null hypothesis was rejected implying that the Administrative Support services have a significant effect on learners' retention. The coefficients provide the necessary information to predict Learners Retention from Administrative Support services.

Table 4.21 Multiple Regression Analysis Results for Influence of Administrative Support services on the retention of distance learners at the University of Nairobi

a. Model Summary

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.544[a]	0.296	0.282	0.42070	1.813

a. Predictors: (Constant), AdminSS_X_5 Reg Centres & Distance, AdminSS_X_3 Registration & Fee , AdminSS_X_1 Course Inform, AdminSS_X_2 , Medical facility ,AdminSS_X_4 Supportive Staff

b. Dependent Variable: Learner RT Mean

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	18.090	5	3.618	40.441	0.000[b]
	Residual	43.008	243	0.177		
	Total	61.098	248			

a. Dependent Variable: Learner RT Mean

b. Predictors: (Constant), AdminSS_X_5 Reg Centres & Distance, AdminSS_X_3 Registration & Fee , AdminSS_X_1 Course Inform, AdminSS_X_2 , Medical facility ,AdminSS_X_4 Supportive Staff

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	2.803	0.219		12.784	0.000	2.803
	AdminSS_X_1 Course Inform	0.131	0.051	0.159	2.558	0.003	0.131
	AdminSS_X_2 Medical Facility	0.070	0.030	0.164	2.328	0.003	0.070
	AdminSS_X_3 Registration & Fee	0.066	0.048	0.153	2.172	0.142	0.066
	AdminSS_X_4 Supportive Staff	0.211	0.050	0.353	4.192	0.000	0.211
	AdminSS_X_5 Reg Centres	0.256	0.052	0.284	1.074	0.001	0.256

a. Dependent Variable: Learner RT

The β coefficient of Course Inform model is 0.159 that of Medical Facility is 0.164, Registration and Fee payment 0. 153, Supportive Staff is 0.353 and Reg Centres 0. 284. The β values tell us that one unit change in Course Information contributes to15.9% change in learner retention; one unit change in Medical Facility contributes to 16.4% change in learner retention; one unit change in Registration and Fee payment contributes to 7.3% in learner retention; one unit change in Supportive Staff contributes to 35.3% in learner retention and one unit change in Reg Centres contributes to 28.4% change in learner retention. The ANOVA results indicated that the regression model was significant at F = 40.441 with

p-value = 0.000 which is lower than the cut-off p-value of 0.05. This means that the null hypothesis was rejected implying that the Administrative Support services have a significant effect on learners' retention. The coefficients provide the necessary information to predict Learners Retention from Administrative Support services. From the statistical findings we can now specify the following equation;

$$Z = 2.803 + 0.159 X_1 + 0.164 X_2 + 0.153 X_3 + 0.353 X_4 + 0.284 X_5$$

The findings from this regression model were confirmed by the FGDs where learners felt that having supportive staff was very important to them since they were critical in facilitating admission processes, course registration, subject selection, online registration, support with study material, term papers among others. Learners outside Nairobi and Kisumu expressed concern about the lack of medical facility and the fact that it was costly when one fell sick and had to pay out of pocket, and this put more strain on their finances. These findings also underscore the importance of institutional administrators in higher education, who have been found to be very useful in supporting learners when they perform key functions such as admission and registration support; module dispatch and provision of information among others. These findings are supported by findings from studies such as those by (Howard, 2013 Raisman, 2013 and Harry, Akosua, and Owusu, 2018), who agreed that administrative services in the form of course information, course registration, having supportive staff and having learning centres which supported distance learners contributed significantly to their retention.

4.7 Analysis of Influence of Guidance and Counseling Support Services on the Retention of Distance Learners

This study sought to establish the influence of Guidance and Counseling Support Services on the retention of distance learners at the University of Nairobi.

4.7.1 Descriptive analysis of the influence of Guidance and Counseling Support Services on the Retention of Distance Learners

Thirteen items were developed in the self-administered and respondents were requested to indicate the extent to which they agree with the statement and the results are presented in Table 4.22. The means and standard deviations were also computed and are presented in table 4.22.

Table 4.22 Frequencies and Percentages for Guidance and Counseling Support Services

Statement	SA F %	A F %	N F %	D F %	SD F %
15a. The university offers counselling services for personal difficulties related to my studies.	44 (17.7)	81 (32.5)	55 (22.1)	31 (12.4)	38 (15.3)
15b. I find my course stressful.	30 (12)	22 (8.8)	58 (23.3)	88 (35.3)	51 (20.5)
15c. Students are provided with financial aid by the university.	20 (8.0)	17 (6.8)	43 (17.3)	60 (24.1)	109 (43.8)
15d. Meetings are frequently held to encourage learners.	34 (13.7)	62 (24.9)	43 (17.3)	66 (36.5)	44 (17.7)
15e. I was guided on how to manage time	52 (20.9)	72 (28.9)	49 (19.7)	50 (20.1)	26 (10.4)
15f. My family is very supportive of me undertaking this course.	136 (54.6)	87 (34.9)	18 (7.2)	4 (1.6)	4 (1.6)
15g. My employer is supportive of my studies.	48 (19.3)	103 (41.4)	56 (22.5)	21 (8.4)	21 (8.4)
15h. The orientation briefing was very helpful	92 (36.9)	133 (53.4)	20 (8.0)	4 (106)	- (-)
15i. I have received career advice concerning my course	65 (26.1)	97 (39.0)	41 (16.5)	26 (10.4)	20 (8.0)
15j. I get feelings of loneliness and isolation during my home study.	24 (9.6)	47 (18.9)	46 (18.5)	78 (31.3)	54 (21.7)
15k. When I have a problem I know where to get help.	57 (22.9)	126 (50.6)	37 (14.9)	23 (9.2)	6 (2.4)
15l. Family problems do interfere with my studies	37 (14.9)	79 (31.7)	49 (19.7)	38 (15.3)	46 (18.5)
15m. Overall I feel encouraged to continue with my studies	124 (49.8)	107 (43.0)	12 (4.8)	3 (1.2)	3 (1.2)

In item, 15a respondents were requested to indicate if the university offers counselling services for personal difficulties related to their studies. Study findings indicate that a majority of the learners 81 (32.5%) agreed, 55 (22.1%) neither agreed nor disagreed, 44 (17.7 %) strongly agreed, 38 (15.3%) strongly disagreed while 31 (12.4%) disagreed with the statement. The mean score and the standard deviation for this item were 3.249 and 1.3084 respectively. This result implies that learners neither agreed nor disagreed with the statement that the university offers counselling services for personal difficulties related to their studies.

In item, 15b respondents were requested to indicate whether they found their course stressful. Study findings indicate that a majority of the learners 88 (35.3%) disagreed, 58 (23.3 %) neither agreed nor disagreed 51 (20.5%) strongly disagreed, 30 (12 %) strongly agreed while 22 (8.8 %) agreed with the statement. The mean score and the standard deviation for this item were 2.566 and 1.2494 respectively. This result implies that learners disagreed with the statement that they found their course stressful.

Based on items 15a and 15b FGDs revealed the following information. One respondent, a female student in her second year had this to say:

"*I am able to approach my course instructor when I have a challenge with my studies. Also, the university used to have regional visits that were helpful in terms of advising us on how to study and how to cope with stress, especially when preparing for examinations, given that some of us are parents, wives, and teachers, with many other responsibilities apart from studying. When I have personal issues that affect my concentration, I am able to contact the Assistant Dean of Students for personal and academic issues. I am happy that in most of the cases my issues have been resolved.*"

Another respondent, a first-year male student whose subject combinations are Mathematics and Business Studies said:

"*I find my course a bit challenging and given that I also have other responsibilities in school as ahead of the department, and the fact that I also have a young family, I hardly have enough time to study. I come from Kisii and even though the regional coordinator supports us, there is no one at the center that I can consult when it comes to challenges in mathematics and business. Forming study groups could help but if you are the only two or three taking mathematics and business studies, then it means that you can only form a study group if every comes to the center, or the alternative is to wait until when the residential are arranged then I am able to form a study group with students from other regions. Even during the residential sessions, it has been difficult to meet with our course instructors for further consultation due to their demanding schedule. Hence, this state of affairs has given me some fear about the course, since I know that mathematics becomes challenging in the second and third year, even though I have so far been able to cope.*"

However learners outside Nairobi and Kisumu campuses were unable to receive any counselling support since the learning centers in Kisii, Meru, Kakamega, and Eldoret did not have an Assistant Dean of Students. Hence most of those interviewed rated counselling services offered by the university negatively because they were unable to access the service at the regional learning centers.

For instance, a second-year female student from Meru learning center said:
"I have never met any university counselor since I began the course and hence every time I have challenges either academically or even personal, I share with my colleagues, but I do not always get the help I need since most of them also have their own problems, I wish the university would provide us with a person we can talk to like our colleagues have in Nairobi."

These findings agree with those of (Arkar, Sari, and Fidaner, 2004 and Nipcon et al. 2006) who found that both loneliness and lack of social support were significantly associated with dropping out, in their sample of freshmen. This is aligned with Tinto's theory which asserts that students may be more likely to stay in college if they feel like they fit in.

In item, 15c respondents were requested to indicate if the university offers students some form of financial aid. Study findings indicate that a majority of the learners 109 (43.8%) strongly disagreed, 43 (17.1%) neither agreed nor disagreed, 60 (17.7 %) disagreed, 20 (15.3%) strongly agreed while 17 (12.4%) agreed with the statement. The mean score and the standard deviation for this item were 2.112 and 1.2650 respectively. This result implies that learners disagreed with the statement that the university offers students some form of financial aid. This finding is valid to the extent that given all the learners in the distance learning programs are self-sponsored, it would not be expected that the university would offer them with any form of financial aid. However, just like the government-sponsored students, learners are advised to apply to the higher education loans board for any financial support and also bursaries for those who are needy.

In item, 15d respondents were requested to indicate if meetings are frequently held to encourage learners with their studies. Study findings indicate that a majority of the learners 66 (36.5%) disagreed, 43 (17.3%) neither agreed nor disagreed, 62 (24.9%) agreed, 43 (13.7%) strongly agreed while 44 (17.7%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 2.904 and 1.3285 respectively. This result implies that learners neither agreed nor disagreed with the statement.

In item, 15e respondents were requested to indicate if they were guided on how to manage time. This question was important from the assumption that many studies have shown that distance learners are usually mature adults who apart from family responsibilities, they are also busy at work, a fact heightened in Park (2007) who indicated that most distance education students are adults between the

ages of 25 and 50. Osei (2012) also indicated that distance learning is most patronized by an older (> 30 years) and married student population. Time management for these students, therefore, is important if they are to succeed. Results indicate that a majority of the learners 72 (28.9%) agreed, 49 (19.7%) neither agreed nor disagreed, 52 (20.9 %) strongly agreed, 50 (20.1%) disagreed while 26 (10.4%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.297 and 1.2889 respectively. This result implies that learners neither agreed nor disagreed with the statement.

From the FGDs, one respondent, a second-year female student reported that:

"I am 39 years old, married with four children and all of them are in primary and secondary school. I am a teacher at a busy public primary school given that my class has over 90 pupils. My husband is a headteacher in a secondary school and also quite busy. I have to take care of the family and also find enough time to do my work and study. During the orientation session, we were briefed on how to study and manage our time, especially during the home study, though this session was brief and I must admit that I am finding it very difficult to juggle family, work, and study. I sometimes feel like taking time off studies but then I ask myself when will I ever complete my studies, but the temptation is always there for me to pause my studies and resume later."

A first-year male student reported that:

"I am a teacher in a busy public primary school and also ahead of a department. I find it difficult to spare time for my studies, especially during the home study. We have never been called for any regional meeting and hence honestly I do not know how to balance between study, work and family."

In items 15f and 15g, it was important to establish whether respondents had support from their families and employers while pursuing their degree program. In item, 15f respondents were required to indicate if their families were supportive of their education. Study findings indicate that a majority of the learners 136 (54.6 %) strongly agreed, 87 (34.9%) agreed, 18 (7.2 %) neither agreed nor disagreed, 4 (1.6 %) disagreed while 4 (1.6 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.394 and 0.8217 respectively. This result implies that learners strongly agreed that their families were supportive of their education. On the other hand in item 15g respondents were required to indicate if their employer was supportive of their education. Results indicate that a majority of the learners 103 (41.4 %) agreed, 48 (19.3%) strongly agreed, 56 (22.5 %) neither agreed nor disagreed, 21 (8.4 %) disagreed while 21 (8.4 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.546 and 1.1460 respectively.

This result implies that learners agreed that their employer was supportive of their education. Both sets of results were confirmed by FGDs; One respondent, a second-year female student reported that:
"*I am very happy that I am able to pursue this degree course since my husband and I are both primary school teachers. We are both are P1 diploma holders, but he graduated with a bachelor's degree in education from the same program in 2016 and has joined a master's degree in education at the UON through distance learning and hopefully, his promotion will come soon since our union is still pursuing the issue with Teacher Service Commission. He is very supportive and he is the one who encouraged me to join the course and even supports me in paying my tuition fee. I always get permission from my headteacher to attend my residential sessions in Nairobi, and I have never missed any. He is aware that I am perusing the course and, being a graduate, he encourages other teachers to do the same.* "

This finding was supported by studies such as those of (Dearnley, 2003; and Bertram, 2003). Dearnley (2003) while investigating the impact of academic, professional and domestic networks in ODL, did establish a link between these networks and a learner's motivation to persist with their studies.

In item, 15h respondents were requested to indicate whether the orientation briefing was helpful, especially in clarifying issues of course registration, subject combination requirements, study skills, time management, and assignment submissions, among others. Study findings indicate that a majority of the learners 133 (53.4 %) agreed, 92 (36.9%) strongly agreed while 20 (8 %) neither agreed nor disagreed with the statement. The mean score and the standard deviation for this item were 4.257 and 0.6707 respectively. This result implies that learners strongly agreed that the orientation briefing was helpful. From the FGDs, one of the respondents, a first-year male student said:
"*I am glad I attended the orientation briefing, because it was from that briefing that I was able to make up my mind on the subject combinations to take, learned about the existence of learning centres, their location and the support one could get from them, the importance course registration, importance of completing assignments on time, study skills, time management tips, handling stress as a mature learner, importance of honesty in examinations and the consequences of cheating, importance of class attendance, who to consult in cases of academic and personal challenges, and many other issues concerning university life and the distance learning program*."

This finding is collaborated by (Scagnoli, 2001 and Brown, 2008), who established that most effective orientation programs are those aimed at increasing retention based on both student and university needs and interests, delivered in an appropriate format, and able to target specific student populations. A study

by Colyar and Stich (2011), emphasized the need to have an even longer orientation period especially for younger students who had just completed secondary education and were going to college for the first time.

In item, 15i respondents were requested to indicate whether they received career advice concerning their course. Study findings indicate that a majority of the learners 97 (39.0 %) agreed, 65 (26.1%) strongly agreed, 41 (16.5%) neither agreed nor disagreed, 26 (10.4%) disagreed, while 20 (8%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.647 and 1.2030 respectively. This result implies that learners agreed that they did receive career advice concerning their course. This finding agrees with those by (Swanson, 2006; ACT, 2010; Hanover Research, 2011; Noel-Levitz, 2008; Hester, 2008; Thompson, Orr, Thompson, and Grover, 2007) which established that academic advising had a significant influence on retention. However, the findings differ from those by (Pietras, 2010 and Arhin, Wang'eri and Kigen, 2017) who established that academic advising was not a significant predictor of student retention in distance learning. From the FGDs, one of the respondents, a second-year male student said:
"When I joined the course I was not sure about my subject combination, but when I approached the lecturer in charge at our Kisumu Campus, he was able to guide me on what subject combinations to take, on how to get assistance with my studies and how to manage my time. He also advised me to attend the regional visits where we would form group discussions and support each other, hence I am very satisfied with the advice I received."

In item, 15j respondents were requested to indicate whether they got a feeling of loneliness and isolation during their home study. Study findings indicate that a majority of the learners 78 (31.3%) disagreed, 54 (21.7%) strongly disagreed, 46 (18.5%) neither agreed nor disagreed, 47 (18.9%) agreed, while 24 (9.6 %) strongly agreed with the statement. The mean score and the standard deviation for this item were 2.635 and 1.2759 respectively.

In item 15k respondents were requested to indicate whether they knew who to consult in they faced challenges during their course. Study findings indicate that a majority of the learners 126 (50.6%) agreed, 57 (22.9%) strongly agreed, 37 (14.9%) neither agreed nor disagreed, 23 (9.2%) disagreed, while 6 (2.4 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.823 and 0.9677 respectively. This result implies that learners agreed with the statement, and this result was confirmed during the FGDs. One respondent, a second-year male student said:

"*During the orientation, I learned the difference between the Dean, who is an academic head of a school and Assistant Dean of Students who is the person mandated to offer counselling support to learners on issues that were mostly nonacademic. But I also learned the Assistant Dean of Students could also offer career advice to the student and academic advice. I also learned that there were subject coordinators whom a student could consult in case of missing marks or missed lessons. I, therefore, know who to ask when I need academic or nonacademic advice.*"

In item, 15l respondents were requested to indicate whether family problems do interfere with their studies. Study findings indicate that a majority of the learners 79 (31.7%) agreed, 37 (14.9%) strongly agreed, 49 (19.7%) neither agreed nor disagreed, 38 (15.3%) disagreed, while 46 (18.5 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.092 and 1.3424 respectively. This result implies that learner's neither agreed nor disagreed with the statement. Learners here were divided with some saying that family problems do interfere with their studies and others saying they do not. This result was collaborated by FGDs; one respondent, a second-year female student agreed that family problems do interfere with her studies,

"I am married with two kids and I am a teacher in primary school. My husband also works as a teacher in the same school and he is studying for his master's degree. Since both our incomes are not adequate to cater for all our needs, both of us have had to take loans to finance our education. But he drinks too much and fails to pay the fee for the children and rent which I have to do. This has forced me to postpone my studies on several occasions and now my friends are two semesters ahead of me. This is very frustrating and sometimes I feel depressed and want to drop out since my husband is very unsupportive and my parents are unable to help me financially."

On the other hand, another second-year female student disagreed that family problems do interfere with her studies.

"I am married with three kids' two boys and a girl who are aged seven, four and one year's respectively and I am a teacher by profession and teach in a public primary school. My husband is a businessman and he is always away on business. I also stay with both my sister and brother in law who are in college and my husband pays for their tuition fee. I come from Mombasa and my husband does not like me traveling to Nairobi especially to attend the residential sessions. Since I gave birth to my daughter I have had to attend the residential sessions with her and the maid. My husband even demanded that I pause my studies in order to take care of her. However, I have had to explain to him why this degree is important to me as a person but he insists that he earns enough money to support me and the children. Also being a Muslim this has created tension in the family and continues to be a big issue, but I am so determined and focused on earning my degree that I pay my own school fee since my husband has

declined to pay, despite the fact that he pays college tuition for his brother and sister. My mother in law has also warred in and says I do not respect her son but this is not true. I am looking at the future, just in case my husband is no longer able to provide and the fact that I have a young family."

In item, 15m respondents were requested to indicate whether overall they felt encouraged to continue with their studies. Study findings indicate that a majority of the learners 124 (49.8%) strongly agreed, 107 (43.0%) agreed, 12 (4.8%) neither agreed nor disagreed, 3 (1.2%) disagreed, while 3 (1.2 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.390 and 0.7438 respectively. This result implies that learners strongly agreed with the statement.

Table 4.23 Means and Standard Deviations of Guidance and Counseling Support Services

Statement	**N**	**Mean**	**SD**
15a. The university offers counselling services for personal difficulties related to my studies.	249	3.249	1.3084
15b. I find my course stressful.	249	2.566	1.2494
15c. Students are provided with financial aid by the university.	249	2.112	1.2650
15d. Meetings are frequently held to encourage learners with their studies.	249	2.904	1.3285
15e. I was guided on how to manage time	249	3.297	1.2889
15f. My family is very supportive of me undertaking this course.	249	4.394	0.8217
15g. My employer is supportive of my studies.	249	3.546	1.1460
15h. The orientation briefing was very helpful	249	4.257	0.6707
15i. I have received career advice concerning my course	249	3.647	1.2030
15j. I get feelings of loneliness and isolation during my home study.	249	2.635	1.2759
15k. When I have a problem I know where to get help.	249	3.823	0.9677
15l. Family problems do interfere with my studies	249	3.092	1.3424
15m. Overall I feel encouraged to continue with my studies	249	4.390	0.7438
Composite mean and Standard deviation		**3.283**	**0.9318**

Table 4.23 provides a summary of Means and Standard Deviations of Guidance and Counseling Support Services and the Composite mean 3.283 and Standard deviation 0.9318 respectively. The implication of this result is that the respondents agreed that Guidance and Counseling Services were important to the learners and as was observed.

4.7.2 Relationship between Guidance and Counseling Services and Retention of Distance Learners

Correlation analysis using Pearson's product-moment technique was carried out to determine the relationship between Guidance and Counseling Support Services and Retention of Distance Learners. The findings of the correlation are presented in Table 4.24.

Table 4.24 Correlation of Guidance and Counselling Support Services and Retention

		Learner RT	Counselling Support
Learner RT	Pearson Correlation	1	0.482**
	Sig. (2- tailed)		0.000
	N	249	249
Counselling SS	Pearson Correlation	0.482**	1
	Sig. (2- tailed)	0.000	
	N	249	249

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

Results from Table 4.24 reveal that there is a significant positive relationship between Guidance and Counseling Support Services and Retention of Distance Learners (r= 0.482, p-value = 0.000. This implies that there is a low association between Guidance and Counseling Support Services and Retention of Distance Learners which is significant.

4.7.3 Inferential analysis of Guidance and Counselling Services and Retention of Distance Learners

The third objective of the study was to determine the influence of Guidance and Counselling Support Services on the retention of distance learners at the University of Nairobi. Having established a correlation between Guidance and Counselling Support Services and retention of distance, the researcher sought to analyze the contribution Guidance and Counselling Support Services to learner retention at the University of Nairobi through regression analysis. The following hypothesis was tested using multiple regression analysis in order to satisfy the third objective.

Hypothesis Three

H_0: Guidance and Counseling Support Services has no significant influence on retention of distance learners at the University of Nairobi.

H_3: Guidance and Counseling Support Services has a significant influence on retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Orientation briefing

X_2 = Career Advice

X_3 = Time Management

X_4 = Counsellor

X_5 = Outside Support

u = random error

Results in Table 4.25 show that r = 0.482, implying a positive and moderate correlation between Guidance and Counseling support services and retention of distance learners at the University of Nairobi. The R^2 was 0.232 indicating that Guidance and Counseling support services explained 23.2% of the variability in learners' retention. The Durbin-Watson statistic was 1.856 indicating that the variables were not correlated. Significance test at 0.05 indicated that Orientation briefing was (p=0.000); Career Advice (p=0.000); Time Mgt (p=0.263); Counsellor (p=0.268) and Outside Support (p=0.003) and apart from Time Mgt and Counsellor all the other three variables are all statistically significant. The β coefficient of Orientation briefing model is 0. 293 that of Career Advice is 0. 355, Time Mgt -.081, Counsellor is 0.075 and Outside Support 0. 118. The β values tell us that one unit change in Orientation briefing contributes to 29.3% change in learner retention; one unit change in Career Advice contributes to 35.5% change in learner retention; one unit change in Time Mgt contributes to 8.1% change in learner retention; one unit change in Counsellor contributes to 7.5% change in learner retention and one unit change in Outside Support contributes to 11.8% change in learner retention. The ANOVA results indicated that the regression model was significant at F = 34.229 with p-value = 0.000 which is lower than the cut-off p-value of 0.05. This means that the null hypothesis was rejected implying that Guidance and Counseling Support Services have a significant effect on learners' retention. The coefficients provide the necessary information to predict Learners Retention from Guidance and Counseling Support Services

Table 4.25 Multiple Regression Analysis Results for Influence of Guidance and Counseling support services on the retention of distance learners at the University of Nairobi

a. Model Summary

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.482[a]	0.232	0.217	0.43930	1.856

a. Predictors: (Constant), Guid CounSS_X_5 Outside Support, Guid CounSS_X_3 Time Mgt, Guid CounSS_X_1 Orientation, Guid CounSS_X_4 Counsellor, Guid CounSS_X_2 Career Advice
b. Dependent Variable: Learner RT

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	7.436	1	7.436	34.229	.000[b]
	Residual	53.661	247	0.217		
	Total	61.098	248			

a. Predictors: (Constant), Guid CounSS_X_5 Outside Support, Guid CounSS_X_3 Time Mgt, Guid CounSS_X_1 Orientation, Guid CounSS_X_4 Counsellor, Guid CounSS_X_2 Career Advice
b. Dependent Variable: Learner RT

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	3.064	.222		13.831	.000	3.064
	Guid CounSS_X_1 Orientation	.217	.047	.293	4.605	.000	.217
	Guid CounSS_X_2 Career Advice	.201	.042	.355	4.762	.000	.201
	Guid CounSS_X_3 Time Mgt	-.031	.028	-.081	-1.121	.263	-.031
	Guid CounSS_X_4 Counsellor	.053	.047	.075	1.111	.268	.053
	Guid CounSS_X_5 Outside Support	.187	.052	.118	1.686	.003	.187

a. Dependent Variable: Learner RT

From the statistical findings we can now specify the following equation;

$$Z = 3.064 + 0.293\ X_1 + 0.355\ X_2 - 0.081\ X_3 + 0.075\ X_4 + 0.118\ X_5$$

The findings from this regression model are supported by the FGDs and descriptive analysis. The variable that had the greatest impact was academic advising followed by orientation. Learners were satisfied with the kind of advice that they were given in terms of subject combination, study habits,

term paper preparation among others. These findings do agree with those by Swanson (2006) whose study showed that having extra time with a professional staff member trained on academic advising and learning about the student's strengths on a personal basis resulted in a higher rate of persistence amongst those students.

Learners also valued the information they received during the orientation briefing. However, findings from the results on counsellor revealed that the majority of respondents rated did not rate it positively due to the fact that it was inaccessibility to some of the learners. Although the service is available, its accessibility is a problem for students outside Nairobi, Kisumu and Chiromo Campuses. Consequently, the test did not show any good basis to determine the relationship between the availability of a counsellor and the retention of students. The same conclusion can be said on time management where most learners felt that they had not received any support on how to manage their study time.

4.8 Technological Support Services on the Retention of Distance Learners

This study sought to assess the influence of Technological Support Services influence on the retention of distance learners at the UON.

4.8.1 Descriptive analysis of the influence of Technological Support Services on the Retention of Distance Learners

Thirteen items were developed in the self-administered and respondents were requested to indicate the extent to which they agree with the statement and the results are presented in Table 4.26. The means and standard deviations were also computed and are presented in Table 4.26.

Table 4.26 Frequencies and Percentages for Technological Support services

Statement	SA F %	A F %	N F %	D F %	SD F %
16a. Students have access to online resources.	79 (31.7)	88 (35.3)	26 (10.4)	15 (6.0)	41 (16.5)
16b. My regional center has computers	82 (32.9)	105 (42.2)	21 (8.4)	21 (8.4)	20 (8.0)
16c. Computers at the regional centers are connected to the internet	77 (30.9)	74 (29.7)	25 (10)	32 (12.9)	41 (16.5)
16d. My regional center has WIFI facility	65 (26.1)	48 (19.3)	23 (9.2)	51 (20.5)	62 (24.9)
16e. I know how to use a computer	110 (44.2)	108 (43.4)	6 (2.4)	21 (8.4)	4 (1.6)

16f. Where I live we have access to electricity supply.	114 (45.8)	96 (38.6)	9 (3.6)	16 (6.4)	14 (5.6)
16g. I receive communication by SMS	105 (42.2)	97 (39.0)	16 (6.4)	17 (6.8)	14 (5.6)
16h. The university uses social media to communicate important information	101 (40.6)	106 (42.6)	22 (8.8)	10 (4.0)	10 (4.0)
16i. My Regional center has a library	129 (51.8)	85 (34.1)	18 (7.2)	11 (4.4)	6 (2.4)
16j. I am able to access digital materials from the regional center library	57 (22.9)	50 (20.1)	44 (17.7)	51 (20.5)	47 (18.9)
16k. There is a call center that one is able to call any time for support	44 (17.7)	42 (16.9)	52 (20.9)	48 (19.3)	63 (25.3)
16l. I frequently use social media in my communications with my colleagues	98 (39.4)	95 (38.2)	30 (12.0)	11 (4.4)	15 (6.0)
16m. I can access my results from my phone.	104 (41.8)	91 (36.5)	26 (10.4)	10 (4.0)	18 (7.2)

In item, 16a respondents were required to indicate whether students have access to online resources. Study findings indicate that a majority of the learners 88 (35.3%) agreed, 79 (31.7%) strongly agreed, 26 (10.4%) neither agreed nor disagreed, 15 (6.0%) disagreed, while 41 (16.5 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.598 and 1.4111 respectively. This result implies that learners agreed with the statement.

In item, 16b respondents were required to indicate whether their regional center had computers. Study findings indicate that a majority of the learners 105 (42.2%) agreed, 82 (39.9%) strongly agreed, 21 (8.4%) neither agreed nor disagreed, 21 (8.4%) disagreed, while 20 (8.0 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.835 and 1.2052 respectively. This result implies that learners agreed with the statement.

In item, 16c respondents were required to indicate whether computers at the regional centers were connected to the internet. Results indicate that a majority of the learners 77 (30.9%) strongly agreed, 74 (29.7%) agreed, 25 (10.0%) neither agreed nor disagreed, 30 (12.9%) disagreed, while 41 (16.5%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.458 and 1.4561 respectively. This result implies that learners agreed with the statement.

In item, 16d respondents were required to indicate whether their regional center had a WIFI facility. Study findings indicate that a majority of the learners 65 (26.1%) strongly agreed, 48 (19.3%) agreed, 23 (9.2%) neither agreed nor disagreed, 51 (20.5%) disagreed, while 62 (24.9%) strongly disagreed

with the statement. The mean score and the standard deviation for this item were 3.458 and 1.4561 respectively. This result implies that learners agreed with the statement.

In item, 16e respondents were required to indicate whether they knew how to use a computer. This item wanted to establish if the respondents had computer skills. Study findings indicate that a majority of the learners 110 (44.2%) strongly agreed, 108 (43.4%) agreed, 6 (2.4%) neither agreed nor disagreed, 21 (8.4%) disagreed, while 4 (1.6%) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.201 and 0.9545 respectively. This result implies that learners strongly agreed with the statement.

The results for items 16a, 16b, 16c, 16d, and 14e were confirmed during FGDs and also using the observation schedule. One respondent, a second-year female student said:
"*I know how to use a computer and I am able to access online resources which have been very useful to me when it comes to assignments and also references books. My regional center is Kisumu Campus and it has a computer lab, internet connectivity, and even WIFI. I am also able to access most of my study modules online.* "
Another respondent, a second-year male student said:
"*I am computer literate, and I know how to use a computer, and I actually own one. My regional center is Eldoret. The learning center has a computer room but with only four computers. These computers are not connected to the internet, and therefore, I am not able to have access to online resources. Their center does not have WIFI and I am asking the university to facilitate because we have paid computer fees yet we have very few computers and no internet, yet our counterparts in Nairobi and Kisumu enjoy such facilities which I think is unfair.*"

These findings agree with those by (Thomas and Eryilmaz, 2014; Sun, 2016; Howard, Ma, and Yang, 2016; Morley, 2012; Robison and Huett, 2012) whose studies demonstrated that the technology used had a positive impact on retention. Howard, Ma, and Yang (2016) found that computer self-efficacy determined the kind of attitude that a learner would have towards the use of information technology. Hence learners who were conversant with the use of computers were more likely to appreciate the use of ICT technology and the internet to enrich their learning experience.

From the observation schedule the study confirmed that in Kisumu Campus, there was a large computer lab that had more than 40 computers, which were connected to the internet. The Campus is also WIFI

enabled, which enables learners with laptops, tablets, and smartphones to download information from the internet without having to buy data bundles. Most of the leaners were able to use the computers for research and do their assignments. In Eldoret, there is a room that acts as a computer lab and has only four computers. The computers have not been connected to the internet, and their UPSs are also faulty, hence they have limited use for the learners. Therefore learners in Eldoret do not have access to online resources. The center has a modem that is used only for the office.

In item, 16f respondents were required to indicate whether their homes had access to electricity supply. This item wanted to establish if the respondents were able to study during the night given that most of them were at their places of work during the day. Study findings indicate that a majority of the learners 114 (45.8 %) strongly agreed, 96 (38.6%) agreed, 9 (2.4 %) neither agreed nor disagreed, 16 (6.4 %) disagreed, while 14 (5.6 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.224 and 1.0005 respectively. This result implies that learners strongly agreed with the statement.

From the FGDs, the majority of the learners agreed that their homes were connected to electricity. One respondent, a second-year male student said:
"I come from Machakos County and we have electricity connections in many parts of the County and ever some remote places away from the town, hence I am able to study at night. The government has tried to ensure all areas of the County have electricity connections through the last mile project implemented by Kenya Power ltd."

In item, 16g respondents were required to indicate whether they receive communication by SMS from the university. This item wanted to establish whether the university does use bulk SMS to communicate with the learners. Study findings indicate that a majority of the learners 105 (42.2 %) strongly agreed, 97 (39.0%) agreed, 16 (6.4 %) neither agreed nor disagreed, 17 (6.8 %) disagreed, while 14 (5.6 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.052 and 1.1258 respectively. This result implies that learners agreed with the statement. This result can be confirmed by the information presented in table 4.9 where it was established that 98 percent of the respondents owned a phone, and of those who owned a phone, 91.6 percent said it was a smartphone. Table 4.9 also confirms that the majority of the respondents, 84.7 percent acknowledged receiving text messages from the university. Those who did not receive the messages did acknowledge that it was an

inconvenience when such information did not reach them, but their colleagues would pass the information to them.

In item, 16h respondents were required to indicate whether the university uses social media to communicate important information. This item wanted to establish whether the university does use popular social media to communicate with the learners. Study findings indicate that a majority of the learners 106 (42.6 %) agreed, 101 (40.6 %) agreed, 22 (8.8 %) neither agreed nor disagreed, 10 (4.0 %) disagreed, while 10 (4.0 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.116 and 1.0033 respectively. This result implies that learner's agreed with the statement and from the FGDs, it was revealed that WhatsApp was the most popular social media that was used for communication between the administration and the students. One respondent, a first-year female student said:

"*I belong to a WhatsApp group that was created by one administrator at the university for all students who are in my year (part two). The administrator is able to post information for all students who are in that part, mostly posted are residential schedules, class timetables, examination timetables, registration information, assignments that an instructor wished to pass to a particular class in that group, among others.*"

Findings from items 16g and 16h agree with the studies of (Aluko, 2009; Beukes, 2009; Fresen and Hendrikz, 2009; Kajumbula, 2006; Horstmanshof, 2004; Harry, Akosua and Owusu, 2018; Maritim and Mushi, 2011, Hendrikz and Aluko, 2012), which observed that short messaging (SMS) mobile phone technology was used to support distance learners, supplementing print and face-to-face contact. Furthermore, the study also showed that students who received SMS messages were academically more active than those who did not.

In items 16i and 16j, the study wanted to establish whether the learning centers had libraries that were digital. In item, 16i respondents were required to indicate whether their regional center had a library. Study findings indicate that a majority of the learners 129 (51.8 %) strongly agreed, 85 (34.1 %) agreed, 18 (7.2 %) neither agreed nor disagreed, 11 (4.4 %) disagreed, while 6 (2.4 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.285 and 0.9520 respectively. This result implies that learners strongly agreed with the statement.

In item 16j respondents were required to indicate whether they were able to access digital materials from the regional center library Study findings indicate that a majority of the learners 57 (22.9 %) strongly agreed, 50 (20.1 %) agreed, 44 (17.7 %) neither agreed nor disagreed, 51 (20.5 %) disagreed, while 47 (18.9 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.076 and 1.4418 respectively. This result implies that learner's neither agreed nor disagreed with the statement.

Results from the two items 16i and 16j were confirmed by FGDs and also from observation. From three regional centers, Kisii, Meru and Eldoret, the study was able to establish the following:
One respondent, a second-year female student from the Kisii learning center said:
"*There is a library and a computer lab that has a few computers. The library is connected to the internet and I am able to access E-resources.*"
A second respondent, a second-year male student from Meru learning center said:
"*We do not have a library, and learners are normally referred to the Kenya National Library which is nearby, though I do not understand why a university that calls itself world-class would not have its own library. There is a computer room that has very few computers and there is no internet connection. Hence it is not possible for the students from this region to benefit from E-resources.*"
A third respondent, a first-year male student from the Eldoret learning center had this to say:
"*There is a room that acts as a library, it has limited space and there is no connection to the internet, learners are not able to access E-resources. Given that we are many students, we are requesting the university to provide us with a digital library.*"

In item, 16k respondents were required to indicate if there was a call center that one is able to call any time for support. Results indicate that a majority of the learners 63 (25.3 %) strongly disagreed, 48 (19.3 %) disagreed, 52 (20.9 %) neither agreed nor disagreed, 44 (17.7 %) strongly agreed, while 42 (16.9 %) agreed with the statement. The mean score and the standard deviation for this item were 2.823 and 1.4343 respectively. This result implies that learner's neither agreed nor disagreed with the statement. Results from the two item 16k were confirmed by FGDs; A second-year male student said;
"I have never heard about the call center, do we have one…"
This appeared to be the general view among most of the respondents. However, the few that had used it said that most of the time the calls go unanswered or they are referred elsewhere for assistance.
"I tried calling on a weekday and on a Saturday and when on both times my calls were not answered, I never called back……I just gave up"

Another student said; *"When I called I wanted to find out about reporting dates for the residential and I was referred to Kikuyu, where I got the information form the course administrator. The lady I spoke with was quite helpful"*

In item, 16l respondents were required to indicate whether they frequently use social media to communications their colleagues. Study findings indicate that a majority of the learners 98 (39.4 %) strongly agreed, 95 (38.2 %) agreed, 30 (12.0 %) neither agreed nor disagreed, 11 (4.4 %) disagreed, while 15 (6.0 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.004 and 1.1126 respectively. This result implies that learners agreed with the statement.

From the FGDs it was established that the majority of the learners used social media, especially WhatsApp to communicate with their colleagues. Most of the learners had joined WhatAsps groups that were used to communicate important information. In this forum students received updates on their course from university administrators, used the forum to raise issues or concerns about their course, share notes and class handouts, share term paper questions and also past examination papers.

In item, 16m respondents were required to indicate whether they can access their results from their phones. Study findings show that a majority of the learners 104 (41.8 %) strongly agreed, 91 (36.5 %) agreed, 26 (10.4 %) neither agreed nor disagreed, 10 (4.0 %) disagreed, while 18 (7.2 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.016 and 1.1569 respectively. This result implies that learners agreed with the statement.

Table 4.27 provides a summary of Means and Standard Deviations of Technological Support Services and the Composite mean 3.651 and Standard deviation 1.1126 respectively. The implication of this result is that the respondents agreed that Technological Services were important to the learners and as was observed.

Table 4.27 Means and Standard Deviations of Technological Support Services

Statement	N	Mean	SD
16a. Students have access to online resources.	249	3.598	1.4111
16b. My regional centre has computers	249	3.835	1.2052
16c. Computers at the regional centers are connected to the internet	249	3.458	1.4561
16d. My regional center has WIFI facility	249	3.012	1.5644
16e. I know how to use a computer	249	4.201	0.9545
16f. Where I live we have access to electricity supply.	249	4.224	1.0005
16g. I receive communication by SMS	249	4.052	1.1258
16h. The university uses social media to communicate important information	249	4.116	1.0033
16i. My Regional centre has a library	249	4.285	0.9520
16j. I am able to access digital materials from the regional center library	249	3.076	1.4418
16k. There is a call center that one is able to call any time for support	249	2.823	1.4343
16l. I frequently use social media in my communications with my colleagues	249	4.004	1.1126
16m. I can access my results from my phone.	249	4.016	1.1569
Composite mean and Standard deviation		**3.651**	**1.1126**

4.8.2 Relationship between Technological Support Services and Retention of Distance Learners

In an attempt to establish the relationship between Technological Support Services and Retention of Distance Learners correlation analysis using Pearson's product-moment technique was carried out and the results are presented in Table 4.28

Table 4.28 Correlation of Technological Support Services and Retention

		Learner RT	Technological Support
Learner RT	Pearson Correlation	1	.484**
	Sig. (2- tailed)		.000
	N	249	249
Technological SS	Pearson Correlation	.484**	1
	Sig. (2- tailed)	.000	
	N	249	249

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

Findings from Table 4.28 show that there is a significant positive relationship between Technological Support Services and Retention of Distance Learners (r= 0.484, p-value = 0.000). This implies that there is a moderate and positive association between Technological Support Services and Retention of Distance Learners which is significant.

4.8.3 Inferential analysis of Technological Support Services and Retention of Distance Learners

The fourth objective of the study was to determine the influence of Technological Support Services on the retention of distance learners at the University of Nairobi. Having established a correlation between Technological Support Services and retention of distance, the researcher sought to analyze the contribution of Technological Support Services to learner retention at the University of Nairobi through regression analysis. The following hypothesis was tested using multiple regression analysis in order to satisfy the fourth objective.

Hypothesis Four

H_0: Technological Support Services has no significant influence on retention of distance learners at the University of Nairobi.

H_1: Technological Support Services has a significant influence on retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 =ICT Competence

X_2 = Access to online resources

X_3 = Access to library

X_4 = Communication by SMS

X_5 = Call Centre

u = random error

Table 4.29 Multiple Regression Analysis Results for Influence of Technological Support Services on retention of distance learners at the University of Nairobi

a. Model Summary

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.484[a]	0.234	0.218	0.43883	1.618

a. Predictors: (Constant), TechnoSS_X_5 Call Centre, TechnoSS_X_4 Communication by SMS, TechnoSS_X_1 ICT Competence, TechnoSS_X_3 Access to library, TechnoSS_X_2 Access to online resources

b. Dependent Variable: Learner RT

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	14.302	5	2.860	34.854	.000[b]
	Residual	46.796	243	0.193		
	Total	61.098	248			

a. Predictors: (Constant), TechnoSS_X_5 Call Centre, TechnoSS_X_4 Communication by SMS, TechnoSS_X_1 ICT Competence, TechnoSS_X_3 Access to Access to library, TechnoSS_X_2 Access to online resources

b. Dependent Variable: Learner RT

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	3.175	0.165		19.243	0.000	3.175
	TechnoSS_X_1 ICT Competence	0.179	0.145	0.270	4.010	0.000	0.179
	TechnoSS_X_2 Access to online resources	-0.038	0.043	-0.067	-0.884	0.377	0.038
	TechnoSS_X3 Access to library	0.123	0.142	0.242	0.558	0.000	0.123
	TechnoSS_ X_4 Communication by SMS	0.133	0.031	0.276	4.322	0.000	0.133
	TechnoSS_ X_5 Call Centre	0.033	0.035	0.069	0.958	0.339	0.033

a. Dependent Variable: Learner RT

Study findings in Table 4.29 reveal that r = 0.484, implying a positive and moderate correlation between Technological Support Services and retention of distance learners at the University of Nairobi. The R^2 was 0.234 indicating that Technological support services explained 23.4% of the variability in learners' retention. The Durbin-Watson statistic was 1.618 indicating that the variables were not correlated. Significance test at 0.05 indicated that ICT Competence (p=0.000); Access to online resources

(p=0.377); Access to the library (p=0.000); Communication by SMS (p=0.000) and Call Centre (p=0.339) and apart from Access to online resources and Call Centre all the other three variables are all statistically significant. The β coefficient of ICT Competence is 0. 270 that of Access to online resources is -0.067, Access to the library is .242, Communication by SMS is 0.276 and Call Centre is .069. The β tells us that one unit change in ICT Competence contributes to 27.0% change in learner retention; one unit change in Access to online resources contributes to 6.7% change in learner retention; one unit change in Access to library contributes to 24.2% change in learner retention; one unit change in Communication by SMS contributes to 27.6% in learner retention and one unit change in Call Centre contributes to 6.9% change in learner retention.

The ANOVA results revealed that the regression model was significant at F = 34.854 with p-value equal 0.000 which is lower than the cut-off p-value of 0.05. This implies that the null hypothesis was rejected meaning that Technological Support Services has a significant effect on learners' retention. The indicators did provide the necessary information to predict Learners Retention from Technological Support Services. From the statistical findings we can now specify the following equation;

$$Z = 3.175 + 0.270\ X_1 - 0.067\ X_2 + 0.242\ X_3 + 0.276\ X_4 + 0.069\ X_5$$

The findings from this regression model are supported by the FGDs and descriptive analysis. The variable that had the greatest impact was Communication by SMS followed by ICT Competence. Given that the majority of the learners owned mobile phones, learners were able to receive communication, especially on reporting dates for residential sessions, confirmation of admission for new students, CATS, and examination dates. These findings are similar to those of Riordan and Traxler (2005) who observed that the use of bulk SMS texting did enhance student support, inclusion and retention at the University of Wolverhampton. Similarly, ICT competence was found to significantly influence retention since learners who have computer skills are more likely to be more receptacle towards the use of computers to facilitate their studies. Learners also valued accessibility to libraries, especially in regional centers. This finding is similar to that by Prajapati (2008) who observed that the provision of quality library services enhances learner engagement. However, findings from the results on access to online resources showed that learners rated it negatively since they were unable to access the service. Although the service is available, its accessibility is a problem for students outside Nairobi, Kisumu and Chiromo Campuses. Although most of the learning centers had some computers, those in Mere and Eldoret learning centers were not connected to the internet and hence learners did not have access to online resources. Consequently, it was not possible to demonstrate any statistical significance in the

case of online resources and retention of students. The same conclusion can be said on Call Centre where most learners felt that the numbers that they were given to call were not be answered, and some of the learners did not even know that there was a call center that they could get help if they wanted an issue clarified.

4.9 Analysis of the Influence of Learner Characteristics on the Retention of Distance Learners

The study sought to determine the influence of learner characteristics on the retention of distance learners at the University of Nairobi.

4.9.1 Descriptive analysis of the influence of Learners Characteristics on the Retention of Distance Learners

Ten items were developed in the self-administered and respondents were required to indicate the extent to which they agree with the statement. Table 4.30 presents the results of the means and standard deviations that were computed.

Table 4.30 Frequencies and Percentages for Learners Characteristics

Statement	SA F %	A F %	N F %	D F %	SD F %
17a. During home study, I do consult my classmates for support with my assignments	92 (36.9)	124 (49.8)	11 (4.4)	14 (5.6)	8 (3.2)
17b. Gender is not a factor when it comes to studies.	64 (25.7)	75 (30.1)	62 (24.9)	29 (11.6)	19 (7.6)
17c.My family life does not interfere with my studies	76 (30.5)	73 (29.3)	41 (16.5)	42 (16.9)	17 (6.8)
17d. I only sit for exams when I feel ready	36 (14.5)	63 (25.3)	36 (14.5)	60 (24.1)	54 (21.7)
17e. I study at my own pace	68 (27.3)	93 (37.3)	18 (7.2)	42 (16.9)	28 (11.2)
17f. I have taken loans to pay for my fees.	100 (40.20)	81 (32.5)	13 (5.2)	28 (11.2)	27 (10.8)
17g. My age is not a consideration when it comes to studies.	76 (30.5)	127 (51.0)	31 (12.4)	3 (1.2)	12 (4.8)
17h. I am able to balance my work commitments with those of my studies	95 (38.2)	114 (45.8)	24 (9.6)	7 (2.8)	9 (3.6)
17i. My previous educational qualification is important when it comes to my studies	87 (34.9)	108 (43.4)	28 (11.2)	10 (4.0)	16 (6.4)
17j. I have to engage in other business ventures to raise my fees.	101 (40.6)	96 (38.6)	20 (8.0)	21 (8.4)	11 (4.4)

In item 17a the respondents were required to indicate whether during the home study they did consult their classmates for support with their assignments. Study findings indicate that a majority of the learners 124 (49.8 %) agreed, 92 (36.9 %) strongly agreed, 11 (4.4 %) neither agreed nor disagreed, 14 (5.6 %) disagreed, while 8 (3.2 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.116 and 0.9580 respectively. This result implies that learners agreed with the statement that they did consult their classmates for support with their assignments during home study. From the FGDs, respondents revealed that they had formed study groups that meet in the regional centers and it is during these meetings that they are able to discuss and share ideas. One of the respondents, a second-year female student said:

"*I am in a study group and we meet every month for discussions and also share ideas on how to go about with our assignments. This way, I am able to complete my assignments on time, unlike other*

students who I see struggling to complete them during the residential sessions when the rest of us are busy preparing for either cats or examinations."

These findings agree with those by (Holder, 2007; Aragon and Johnson, 2008; Doherty, 2006) who noted that those ODL students who were successful were those who were able to manage their time effectively. The studies also reported poor time management as a cause of student's withdrawal from college.

In item 17b the respondents were required to indicate whether they considered gender as a factor when it comes to their studies. Study findings indicate that a majority of the learners 75 (30.1 %) agreed, 64 (25.7 %) strongly agreed, 62 (24.9 %) neither agreed nor disagreed, 29 (11.6 %) disagreed, while 19 (7.6 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.546 and 1.2077 respectively. This result implies that learners agreed with the statement that gender was a factor when it comes to their studies.

In item 17c the respondents were required to indicate whether their family life did or did not interfere with their studies. Study findings indicate that a majority of the learners 76 (30.5 %) strongly agreed, 73 (29.3 %) agreed, 41 (16.5 %) neither agreed nor disagreed, 42 (16.9 %) disagreed, while only 19 (7.6 %) strongly disagreed. The mean score and the standard deviation for this item were 3.598 and 1.2666 respectively. This result implies that learners strongly agreed with the statement that their family life did not interfere with their studies.

Items 17b, 17c and 17h desired to establish whether gender and family life were important determinates in influencing the persistence of learners in ODL modes of study. From the FGDs most of the respondents interviewed agreed that both were key determinates, especially among the female students. One respondent, a second-year female student shared this:

"*I am married and a mother of three. I am a primary school teacher and my husband is a headteacher in a primary school nearby. During my second semester, first year, I become pregnant gave birth and there was no one to look after the child for me. My husband insisted l temporarily stop the programme to take care of the child, so l had no choice, but to drop out of that semester and the subsequent semester. When I was able to resume my studies my classmates were already a year ahead of me."*

Another female respondent in her second year also shared a similar experience, even though she chose a different course of action:

"*I am married and I was pregnant when I joined the course. I gave birth about three weeks before the residential sessions. I told my husband that I did not want to miss the examinations, and we agreed that I travel with a maid to help me. I come from Kitui and I can tell you it was a struggle to get by because of the extra expenses of the new baby and the maid whom I had to pay for accommodation and meals for two weeks. I did not even wait for the third week which was meant to be an introduction to part III since I did not have enough money to sustain my stay anymore. Therefore I do feel that women who are mothers do face special challenges as distance learners that in some cases force them to drop out of the course.*"

However, the findings were different for male students; one second-year male student said;

"I leave all the responsibilities of raising the children to my wife who is supported by a maid, and hence home duties do not interfere with my studies…. ."

In item 17d the respondents were required to indicate whether they only sat for examinations when one felt ready. Study findings indicate that a majority of the learners 63 (25.3 %) agreed, 36 (14.5 %) strongly agreed, 36 (14.5 %) neither agreed nor disagreed, 60 (24.1 %) disagreed, while 54 (21.7 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.267 and 0.9392 respectively. This result implies that learners agreed with the statement that they only sat for examinations when one felt ready and was well prepared. These findings agree with the findings of studies such as that of (McGhie, 2017; and Grebennikov and shah, 2012) who looked at a learner's expectation about the course and the amount of work expected. They have opined that a learner having realistic expectations at the beginning of a study programme about the amount of work required is a student success factor. Those who knew about the rigor that the course entailed were more likely to be more prepared for examinations than those who were not.

In item 17e the respondents were required requested to indicate whether they studied at their own pace. Study findings indicate that 93 (37.3 %) agreed, 68 (27.3 %) strongly agreed, 18 (7.2 %) neither agreed nor disagreed, 42 (16.9 %) disagreed, while 28 (11.2 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.526 and 1.3472 respectively. This result implies that learners agreed with the statement that they studied at their own pace.

In item 17f the respondents were required to indicate whether they had taken out loans to pay for their tuition fee. Results indicate that 100 (40.2 %) strongly agreed, 81 (32.5 %) agreed, 13 (5.2 %) neither agreed nor disagreed, 28 (11.2 %) disagreed, while 27 (10.8 %) strongly disagreed. The mean score and

the standard deviation for this item were 3.799 and 1.3589 respectively. This result implies that learners strongly agreed with the statement that they had taken out loans to pay for their tuition fees.

In item 17g the respondents were required to indicate whether age was not a consideration when it comes to studies. Study findings indicate that a majority of the learners 127 (51.0 %) agreed, 76 (30.5 %) strongly agreed, 31 (12.4 %) neither agreed nor disagreed, 3 (1.2 %) disagreed, while 12 (4.8 %) strongly disagreed. The mean score and the standard deviation for this item were 4.012 and 0.9566 respectively. This result implies that learners agreed with the statement that age was not a consideration when it comes to studies. Age distribution of the respondents has also been identified by various studies such as (Dillon and Blanchard, 1991; Titus, 2003; Austin and Oseguera, 2003; Galusha, 2012; Khan, 2005; and Awe, 2013) as having a significant influence on the retention of distance learners. Study findings presented in Table 4.3 indicated that the majority of the respondents are youth below the age of 35 years with a cumulative percentage of 80.3. Studies such as that of Porter (2004) did observe that with the advance in technologies used in distance learning younger people are enrolling for distance learning courses especially those in the age category of 21-30 years. That is why in this study learner's agreed with the statement that age was not a consideration when it comes to studies.

This result viewed together with item 17j, FGDs established that most of the respondents did have challenges in raising their tuition fees and hence would rely on loans mostly from their Cooperative Societies to settle their tuition fees. One male respondent in his second year shared the following:
"*I am married and I have a young family. I am a P1 teacher and my salary is not sufficient to cater to all my needs and those of my family. My wife is also a teacher, we have agreed that she holds on first, so that when I complete my course she can start her program. I have now taken two loans from my Cooperative society to help me finance part of my tuition fee and also to invest a bit in a shop that my wife runs so that we can have some additional income.* "

In item 17h the respondents were required to indicate that they were able to balance their work commitments with those of their studies. Study findings indicate that a majority of the learners 114 (45.8 %) agreed, 95 (38.2 %) strongly agreed, 24 (9.6 %) neither agreed nor disagreed, 7 (2.8 %) disagreed, while 9 (3.6 %) strongly disagreed. The mean score and the standard deviation for this item were 4.120 and 0.9512 respectively. This result implies that learners agreed with the statement that they were able to balance their work commitments with those of their studies. This finding differs from that of Hawkins at al (2005) who noted that employed students did not demonstrate a lower level of

academic performance relative to unemployed students but instead experienced a higher relative dropout rate as well as longer times needed for degree completion. In our case, most of the learners agreed that they were able to balance their work commitments with those of their studies.

In item 17i the respondents were required to indicate whether their previous educational qualification was important when it comes to their studies. Study findings indicate that a majority of the learners 108 (43.4 %) agreed, 87 (34.9 %) strongly agreed, 28 (11.2 %) neither agreed nor disagreed, 10 (4.0 %) disagreed, while 16 (6.4 %) strongly disagreed. The mean score and the standard deviation for this item were 3.964 and 1.0974 respectively. This result implies that learners agreed with the statement that their previous educational qualification was important when it comes to their studies. Study finding in Table 4.4 indicated that 12.0% of the respondents had O level qualifications, 4.8% had A level, 24.9% had Diploma qualification other than the P1, and this included diploma in human resource management, diploma in business management, diploma in education, among others that had been acquired from recognized institutions of higher learning, and a majority 47.4% of the respondents had P1 Diploma certificate, while only 10.8% had Bachelor's Degrees. The findings demonstrated that the majority of the respondents were P1 diploma holders and most teachers who were employed in primary schools and were interested in advancing their education. This finding is supported by literature where studies such as (Astin and Oseguera, 2003; Titus, 2003; Orfield, Losen, Wald, and Swanson, 2004; Gifford, Briceno-Perriott, and Mianzo, 2006; Reason, 2003) which concluded that student's pre-existing attributes and characteristics significantly influence his/her chances of graduating college, especially pre-college qualification.

In item 17j the respondents were required to indicate whether they have had to engage in other business ventures to raise their tuition fees. Study findings indicate that a majority of the learners 101 strongly (40.6 %) agreed, 96 (38.6 %) agreed, 20 (8.0 %) neither agreed nor disagreed, 21 (8.4 %) disagreed, while 11 (4.4 %) strongly disagreed. The mean score and the standard deviation for this item were 4.024 and 1.1069 respectively. This result implies that learners agreed with the statement that they have had to engage in other business ventures in order to raise their tuition fees. Item 17j desired to establish whether learners they did experience challenges in raising their tuition fee and also if they have had to engage in other business ventures to raise their tuition fee. From the FGDs some of the respondents shared the following: A female student in her first year said:

"*I am a P1 teacher and have a family. My husband is also a P1 teacher and with four children and both of us studying, I have had to start a small poultry business where I sell eggs and chicken to supplement our income. I run the business with my sister and we also sell vegetables and fruits.* "

A male student in his second year said:

"*I sell stationery, especially term paper covers, pens, foolscaps and exercise books, especially during the residential sessions. This business is tough and the profit margins are small given that other students are also involved. But I appreciate the little extra that I get since I can at least supplement and pay for my residential expenses and tuition.*"

Findings from item 17j agree with studies of (Avery and Turner, 2012; Nora, 1990; Perna, 1998; Robb, et al., 2012; Rothstein and Rouse, 2007; Wessel, et al., 2006 and Bowa, 2010). These studies have concluded that students do have a challenge in raising their tuition and hence they will either rely on financial aid or supplementary income from small-scale business activities.

Table 4.31 Means and Standard Deviations of Learner Characteristics

Statement	N	Mean	SD
17a. During home study, I do consult my classmates for support with my assignments	249	4.116	0.9580
17b. Gender is not a factor when it comes to studies.	249	3.546	1.2077
17c. My family life does not interfere with my studies	249	3.598	1.2666
17d. I only sit for exams when I feel ready	249	4.267	0.9392
17e. I study at my own pace	249	3.526	1.3472
17f. I have taken loans to pay for my tuition fee.	249	3.799	1.3589
17g. My age is not a consideration when it comes to studies.	249	4.012	0.9566
17h. I am able to balance my work commitments with those of my studies	249	4.120	0.9512
17i. My previous educational qualification is important when it comes to my studies	249	3.964	1.0974
17j. I have had to engage in other business ventures to raise my fees.	249	4.024	1.1069
Composite mean and Standard deviation		**3.7572**	**1.1161**

Summary of the Means and Standard Deviations of Learner Characteristics and the Composite mean 3.7572 and Standard deviation 1.1161 respectively are presented in Table 4.31. From this result, it is possible to conclude that the respondents agreed that Learner Characteristics was an important determinant of learner retention in distance learning.

4.9.2 Relationship between Learner Characteristics and Retention of Distance Learners

In an attempt to establish the relationship between Learner Characteristics and Retention of Distance Learners correlation analysis using Pearson's product-moment technique was carried out and the results are presented in Table 4.32.

Table 4.32 Correlation of Learner Characteristics and Retention

		Learner RT	Learner Characteristics
Learner RT	Pearson Correlation	1	.496**
	Sig. (2- tailed)		.000
	N	249	249
Learner Characteristics	Pearson Correlation	.496**	1
	Sig. (2- tailed)	.000	
	N	249	249

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

Findings from Table 4.28 show that there is a significant positive relationship between Learner Characteristics and Retention of Distance Learners (r= 0.496, p-value = 0.000). This implies that there is a moderate and positive association between Learner Characteristics and Retention of Distance Learners which is significant.

4.9.3 Inferential Analysis of Learners Characteristics and Retention of Distance Learners

The first objective of the study was to determine the influence of Learners Characteristics on the retention of distance learners at the UON. Having established a correlation between Learners Characteristics and retention of distance, the researcher sought to analyze the contribution of Learners Characteristics to learner retention at the UON through regression analysis. The following hypothesis was tested using multiple regression analysis in order to satisfy the fifth objective.

Hypothesis Five

H_0: Learners Characteristics have no significant influence on the retention of distance learners at the University of Nairobi.

H_1: Learners Characteristics have a significant influence on the retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$$Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + u$$

Where Z = Retention of distance learners

X_1 = Age

X_2 = Gender

X_3 = Employment Status

X_4 = Edu Background

X_5 = Marital Status

u = random error

Study findings presented in table 4.33 show that r = 0.496, implying a positive and moderate correlation between Learners Characteristics and retention of distance learners at the University of Nairobi. The R^2 was 0.246 indicating that Learners' Characteristics explained 24.6% of the variability in learners' retention. The Durbin-Watson statistic was 1.828 indicating that the variables were not correlated. Significance at 0.05 indicated that Age was (p=0.048); Gender was (p=0.000); Employment status was (p=0.377); Edu Background was (p=0.001) and Marital status was (p=0.001) and apart from Employment status and Age all the other three variables are all statistically significant. The β coefficient of Age model is 0.191 that of Gender is 0.228, Employment status is .052, Edu. Background is 0.187 and marital status is .211. The β values tell us that one unit change in Age contributes to 19.1% change in learner retention; one unit change in Employment status contributes to 5.2% change in learner retention; one unit change in Gender contributes to 22.8% in learner retention; one unit change in Edu Background contributes to 18.7% in learner retention and one unit change in Marital status contributes to 21.1% change in learner retention**.** The ANOVA results indicated that the regression model was significant at F = 35.819 with p-value equal 0.000 which is lower than the cut-off p-value of 0.05. This means that the null hypothesis was rejected implying that Learners Characteristics have a significant effect on learners' retention. The coefficients provide the necessary information to predict Learners' Retention from Learners Characteristics.

Table 4.33 Multiple Regression Analysis Results for Influence of Learners Characteristics on Retention of Distance Learners at the University of Nairobi

a. Model Summary

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.496[a]	0.246	0.230	0.45583	1.828

a. Predictors: (Constant), LearnerCharX$_5$_Marital status, LearnerCharX$_3$_Employment status, LearnerCharX$_4$_ Family Commitments, LearnerCharX$_1$_Age, LearnerCharX$_2$_Gender

b. Dependent Variable: Learner RT

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	15.003	5	3.001	35.819	0.000[b]
	Residual	46.094	243	0.190		
	Total	61.098	248			

a. Predictors: (Constant), LearnerCharX$_5$_Marital status, LearnerCharX$_3$_Employment status, LearnerCharX$_4$_ Edu Background, LearnerCharX1_Age, LearnerCharX$_2$_Gender

b. Dependent Variable: Learner RT

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	3.186	0.182		17.471	0.000	3.186
	LearnerCharX1_Age	0.173	0.037	0.191	1.984	0.048	0.173
	LearnerCharX2_Gender	0.194	0.032	0.228	2.943	0.000	0.194
	LearnerCharX3_Employment status	0.030	0.034	0.052	0.885	0.377	0.030
	LearnerCharX$_4$_ Edu Background	0.127	.0035	0.187	2.349	0.001	0.127
	LearnerCharX5_Marital status	0.179	0.041	0.211	2.853	0.001	0.179

a. Dependent Variable: Learner RT

From the statistical findings we can now specify the following equation;

$$Y=3.186 + 0.191\ X_1 + 0.228\ X_2 + 0.052\ X_3 + 0.187\ X_4 + 0.211\ X_5$$

The findings from this regression model are supported by the FGDs and descriptive analysis. The variable that had the greatest impact was Gender characteristics followed by marital status. However, findings from the results on employment status and Age of the respondents were not found to be

significant factors in influencing retention. Various studies such as (Astin and Oseguera, 2003; Titus, 2003; Pierrakeas, Xenos, Panagiotakopoulos, and Vergidis, 2004; Harris and Gibson, 2006; Park, 2007; Gibson, 2012; Osei, 2012; Rakes, Dunn, and Rakes, 2013; Tladi, 2013) have demonstrated that learner characteristics do significantly influence persistence in distance learning. However on the issue of age both Park (2007) Osei (2012) indicated that most distance education students are adults between the ages of 25 and 50, mostly greater than 30 years. However, the findings of this study indicated that the respondents were and below the age of 35 years, perhaps the reason why age was regarded to be an important factor. Similarly, employment status was found not to be significant from the fact that the respondents comprised of those who were unemployed representing 27.7%, those in, full-time formal employment representing 51.8% and those in part-time employment, 14.9%. More importantly, of those in full-time formal employment, the majority were employed as teachers in primary schools and hence were able to find time to attend the residential sessions which are held during the April, August and December holidays when schools are closed for holidays.

4.10 Hidden Costs on the Retention of Distance Learners

The study sought to determine the influence of Hidden Costs on the retention of distance learners at the University of Nairobi.

4.10.1 Descriptive analysis of the influence of Hidden Costs on the Retention of Distance Learners

Ten items were developed in the self-administered and respondents were required to indicate the extent to which they agree with the statement. Table 4.34 presents the results of the means and standard deviations that were computed

Table 4.34 Frequencies and Percentages for Hidden Costs

Statement	SA F %	A F %	N F %	D F %	SD F %
18a. I find the cost of accommodation high.	84 (33.7)	92 (36.9)	30 (12.0)	21 (8.4)	22 (8.8)
18b. I find meals very expensive	65 (26.1)	96 (38.6)	30 (12.0)	32 (12.9)	26 (10.4)
18c. I always take three meals in a day	69 (27.7)	72 (28.9)	35 (14.1)	53 (21.3)	20 (8.0)
18d. I often have to do a lot of photocopying	106 (42.6)	99 (39.8)	25 (10.0)	13 (5.2)	6 (2.4)
18e.Transport expenses normally strain my finances	89 (35.7)	89 (35.7)	29 (11.6)	28 (11.6)	14 (5.6)
18f. I have missed a session due to lack of money for accommodation and meals	62 (24.9)	45 (18.1)	35 (14.1)	62 (24.9)	45 (18.1)
18g. Apart from the tuition fee, I have had to borrow some money to cover my residential sessions	82 (32.9)	83 (33.3)	25 (10)	31 (12.4)	28 (11.2)
18h. I find data bundles expensive	79 (31.7)	117 (47.0)	18 (7.2)	16 (6.4)	19 (7.6)
18i. I need additional resources to buy books and stationery.	94 (37.8)	115 (46.2)	17 (6.8)	11 (4.4)	11 (4.4)
18j. I knew about the additional expenses before I joined the course	52 (20.9)	86 (34.5)	41 (16.5)	36 (14.5)	34 (13.7)

In item 18a the respondents were required to indicate whether they found the cost of accommodation high. Study findings indicate that a majority of the learners 92 (36.9 %) agreed, 84 (33.7 %) strongly agreed, 30 (12.0 %) neither agreed nor disagreed, 21 (8.4 %) disagreed, while 22 (8.4 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.783 and 1.2448 respectively. This result implies that learners agreed with the statement that they found the cost of accommodation high.

In item 18b the respondents were required to indicate whether they found meals expensive. Study findings indicate that a majority of the learners 96 (38.6 %) agreed, 65 (26.1 %) strongly agreed, 30 (12.0 %) neither agreed nor disagreed, 32 (12.9 %) disagreed, while 26 (10.4 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.570 and 1.2874 respectively. This result implies that learners agreed with the statement that they did found meals expensive.

In item 18c the respondents were required to indicate whether they took three meals per day. Study findings indicate that a majority of the learners 72 (28.9 %) agreed, 69 (39.8 %) strongly agreed, 35 (14.1 %) neither agreed nor disagreed, 53 (21.3 %) disagreed, while 20 (8.0 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.470 and 1.3107 respectively. This result implies that learners strongly agreed with the statement that they took three meals per day.

With items 18a, 18b and 18c it was important to establish whether learners were able to meet the additional expenses associated with their degree course and how they were copying. Study findings from the FGDs confirmed the three findings with some interesting remarks made by some respondents. One respondent, a male student in his second year shared his experience:

"*Every residential session I must make sure that I have set aside adequate money for transport, accommodation, and meals. I come from Mombasa and roughly I have to set aside Kshs. 2400 to transport every time I have to travel to Nairobi and back. I can't use the train since it would mean that I pay for a taxi to get to the station in Mombasa and from the station in Nairobi. Since the university does not provide us with accommodation, I prefer to stay at Ngara Girls, a secondary school that has accepted to accommodate us at a fee. I am charged Kshs. 350 per day for accommodation and meals. When we stay for three weeks this comes roughly to about Kshs. 7,350, and if its 2 weeks then it comes to Kshs. 4900. On average therefore to ensure that I attend all the three residential in a year I would have to spend Kshs 8200 on meals and accommodation per session, and this would total to Kshs 24,350 per year. To minimize the cost of meals I sometimes prefer to pay Kshs. 150 for accommodation only and the spent about Kshs. 100 on meals per day. I always make sure I have breakfast and supper and skip lunch. Because it is important for me to complete my studies, I subsidies my income by taking soft loans from my Cooperative society.*"

This is similar to what the students at Kisumu Campus have to go through: A respondent, a second-year female student had this to share:

"I come from Migori and fare is Kshs 400 one way and we have to find our own accommodation. The students have negotiated with a nearby school St. Teresa's girls, Kibuye, where we pay Kshs 200 per day for accommodation only. I am happy this way because it would have been more costly if the residential session were held in Nairobi. Each one now has to buy meals, and I try as much as possible to have at least 3 meals per day, but I must have at least breakfast and supper, and since in most cases

we have lessons over lunch most of us normally skip lunch. We try and get cheap meals nearby from some women who prepare chapati, githeri, tea, bread, etc. On average one can spend about Kshs. 100 to 200 depending on what you buy and the number meals you take, I find these costs though manageable as part of my learning process."

In item 18d the respondents were required to indicate whether they often had to do a lot of photocopying. Study findings indicate that a majority of the learners 106 (42.6 %) strongly agreed, 99 (39.8 %) agreed, 25 (10.0 %) neither agreed nor disagreed, 13 (5.2 %) disagreed, while 6 (2.4 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.149 and 0.9662 respectively. This result implies that learners strongly agreed with the statement that they often had to do a lot of photocopying. This result was consistent with opinions obtained from the FGDs, where the majority of the respondents said that they had to do a lot of photocopying. One respondent, a second-year male student had this to share:

"Each semester, I have to now have a small budget for photocopying, given that I do not always get all the study modules. If I miss 3 or at worst four modules then I have to photocopy from my friends or our colleagues who are ahead of us. Sometimes there is only one library copy which all the students have to photocopy from. If a module is say 120 pages then and I am missing 4 I am forced to spend Kshs 240 per module which comes to about Kshs 1000, if you include photocopying of handouts given by our instructors as supplementary notes and also past papers for revision. He, however, said this expense is sometimes lower when he is able to get all his study modules."

In item 18e the respondents were required to indicate whether transport expenses normally strain their finances. Study findings indicate that a majority of the learners 89 (35.7 %) strongly agreed, 89 (35.7 %) agreed, 29 (11.6 %) neither agreed nor disagreed, 28 (11.6 %) disagreed, while 14 (5.6 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.847 and 1.1883 respectively. This result implies that learners agreed with the statement that transport expenses normally strain their finances.

In item 18f the respondents were required to indicate whether have missed a session due to lack of money for accommodation and meals. Study findings indicate 62 (24.9 %) strongly agreed, 62 (24.9 %) disagreed, 35 (14.1 %) neither agreed nor disagreed, 45 (18.1 %) agreed, while 45 (18.1 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.068 and 1.4672 respectively. This result implies that learner's neither agreed nor disagreed with the statement

that had missed a session due to lack of money for accommodation and meals, perhaps indicating why opinion here was divided. This result was varied due to the fact that learners had different opinions and FGDs gave some clarity to these opinions. One respondent, a second-year female student had this to share:

"Since I joined the course, I have learned to set aside some money, between 5000 and 10,000 shillings for my expenses on travel, meals, and accommodation. When I do not have enough money, but I have paid my tuition fee and registered for my courses, I do not attend the revision tuition, but only go for the examinations, after my colleagues send me information on what they did during the revision week. I sometimes either miss the entire session or just attend the first two days of my revision tuition, just to get the assignments or collect the study modules for the next part. I have never missed the entire residential session due to lack of money for accommodation and meals, most students just miss a part of the session, but always find a way to do their examinations."

Another respondent, a first-year male student shared the following:

"No, I have not missed any residential session due to lack of money for meals and accommodation. Since I am not working, my parents' carter all my expenses. Since we are accommodated in Chiromo, I pay Kshs 150 for accommodation and spent between Kshs 200 and Kshs 300 for meals. I find this reasonable and I can't complain."

In item 18g the respondents were required to indicate whether apart from tuition fees they have had to borrow money to cover their residential sessions. Study findings indicate that a majority of the learners 83 (33.3 %) agreed, 82 (32.9 %) strongly agreed, 25 (10 %) neither agreed nor disagreed, 31 (12.4 %) disagreed, while 28 (11.2 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.643 and 1.3488 respectively. This result implies that learners agreed with the statement that they have had to borrow money to cover their residential sessions.

In item 18h the respondents were required to indicate whether they found data bundles expensive. Results indicate that a majority of the learners 117 (47.0 %) agreed, 79 (31.7 %) strongly agreed, 18 (7.2 %) neither agreed nor disagreed, 16 (6.4 %) disagreed, while 19 (7.6 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.888 and 1.1515 respectively. This result implies that learners agreed with the statement that they found data bundles expensive. Results from the FGDs were confirmed that learners who did not have access to either an internet-connected computer or a center that was WIFI enabled did agree that data bundles were a

challenge to them. Some learners raised concerns that were now even been told to access their modules online and this was creating another challenge for them. One respondent, a first-year male student had this to share:

"I study at the Eldoret learning center, which is no connection to the internet. Therefore I am forced to buy data bundles if I have to download some information like study modules, timetables, residential schedules among others. Sometimes I have to buy the daily bundles of Kshs 99 from Safaricom and do the same the following day if I want to remain in touch with my colleagues since most communication is usually on WhatsApp where we share information about the course."

In item 18i the respondents were required to indicate whether they needed additional resources to buy books and stationery. Study findings indicate that a majority of the learners 115 (46.2 %) agreed, 94 (37.8 %) strongly agreed, 17 (6.8 %) neither agreed nor disagreed, 11 (4.4 %) disagreed, while 11 (4.4 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 4.076 and 1.0270 respectively. This result implies that learners agreed with the statement that they did require additional resources to buy books and stationery. Results from the FGDs were however mixed since it is the science-based students who claimed that in some cases there were required to buy supplementary textbooks, lab coats, mathematical sets, laptops,

In item 18j the respondents were required to indicate whether they knew about the additional expenses before they joined the course. Study findings indicate that a majority of the learners 86 (34.5 %) agreed, 52 (20.9 %) strongly agreed, 41 (16.5 %) neither agreed nor disagreed, 36 (14.5 %) disagreed, while 34 (13.7 %) strongly disagreed with the statement. The mean score and the standard deviation for this item were 3.345 and 1.3264 respectively. This result implies that learner's neither agreed nor disagreed with the statement that they knew about the additional expenses before they joined the course. Results from FGDs varied from one respondent to another. One respondent, a second-year male student said:

"I come to know about the course from one of my colleagues who teach in a neighbouring school. He had already told me the kind of expenses that I would have to incur apart from my tuition fee and therefore, I must admit that I was aware of these additional expenses and had already made some provision for them. I also applied to the Higher Educations Loans Board(HELB) and I got a loan to pay for my tuition fee, and this come as a relief to me since I am a primary school teacher and married with two young children. My wife is planning to enroll for the science programme once she had confirmed whether her loan from HELB has been approved. With the loan from HELB, I must admit that I do not struggle to meet my accommodation, meals, transport, or stationary expenses."

Another respondent, a first-year female student said:

"Yes I knew about some of the expenses but some I did not know about. I study at the Meru learning center and there are three study modules that I did not get hence I had to photocopy them, I thought the university would provide the modules but was told to access them online. There is no internet connection at the center hence the only option was to photocopy. They charge me a medical fee of Kshs 5000, so my assumption was the university would provide a medical facility. But when I fell sick I had to seek medical assistance from a nearby hospital, since the center does not have a clinic. I spent about Kshs 4000 and was told to write a letter to the university to request a refund which I did and I was informed that it is being processed. Therefore some of the expenses like paying for a medical emergency, photocopying study modules I had not planned for."

Another respondent, a second-year male student said:

"Yes I knew about some of the expenses but I did not realize that they would be so much. I am a student in the science programme and come from Kilifi. On average I attend three residential sessions every year. My subject combinations are Biology and Chemistry, and I have received most of my modules. When accommodated in Chiromo I pay only Kshs. 150 for accommodation, but when chiromo is not available, we stay in a hostel in Westlands at a cost of Kshs. 300 per, that allows for light breakfast and supper. I have to buy lunch at Kshs 100. Our lectures sometimes do not stickily follow the modules hence they either sent us notes in soft or hard copy which we have to photocopy. I had to buy a lab coat for Kshs 800, drawing books, pencils, and exercise books among other essentials. To be safe and comfortable, on average I have to budget for Kshs 20,000 each residential in additional expenses. I budget Kshs 10,000 for meals, accommodation, and transport, Kshs 5000 for photocopying and stationery needed for class and term papers, Kshs 5000 for miscellaneous expenses such as matatu fare from Westlands to Chiromo and back. Given that the fee for the course is Kshs 395,000 if I spent Kshs 20,000 on average each session that is Kshs 60,000 per year. Being a four-year course then I see myself ending up with a bill of Kshs 240,000, by the time I complete my course in two years' time. I only reason why I choose this course was because I considered the tuition fee to be a bit reasonably, which is not the case. "

On average most of the learners agreed that they spent between Kshs 15,000 to Kshs 20,000 as additional expenses per residential session. Hence these expenses would, therefore, average between Kshs 45,000 to Kshs 60,000 per year. Hence in total for a period of four years, the average would, therefore, range between Kshs 180,000 to Kshs 240,000.

Table 4.35 Means and Standard Deviations of Hidden Costs

Statement	N	Mean	SD
18a. I find the cost of accommodation high.	249	3.783	1.2448
18b. I find meals very expensive	249	3.570	1.2874
18c. I always take three meals per day	249	3.470	1.3107
18d. I often have to do a lot of photocopying	249	4.149	0.9662
18e.Transport expenses normally strain my finances	249	3.847	1.1883
18f. I have missed a session due to lack of money for accommodation and meals	249	3.068	1.4672
18g. Apart from tuition fee, I have had to borrow money to cover my residential sessions	249	3.643	1.3488
18h. I find data bundles expensive	249	3.888	1.1515
18i. I need additional resources to buy books and stationery.	249	4.076	1.0270
18j. I knew about the additional expenses before I joined the course	249	3.345	1.3264
Composite Mean and Standard deviation		**3.639**	**1.1012**

Summary of the Means and Standard Deviations of Hidden Costs and the Composite mean 3.639 and Standard deviation 1.1012 respectively are presented in Table 4.35. From this result, it is possible to conclude that the respondents agreed that Hidden Costs was an important determinant of learner retention in distance learning

4.10.2 Relationship between Hidden Costs and Retention of Distance Learners

In an attempt to establish the relationship between Hidden Costs and Retention of Distance Learners correlation analysis using Pearson's product-moment technique was carried out and the results are presented in Table 4.36.

Table 4.36 Correlation of Hidden Costs and Retention

		Learner RT	Hidden Costs
Learner RT	Pearson Correlation	1	0.322**
	Sig. (2- tailed)		0.000
	N	249	249
Hidden Costs	Pearson Correlation	0.322**	1
	Sig. (2- tailed)	0.000	
	N	249	249

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

Findings from Table 4.36 show that there is a significant positive relationship between Hidden Costs and Retention of Distance Learners (r= 0.322, p-value = 0.000). This implies that there is a moderate and positive association between Hidden Costs and Retention of Distance Learners which is significant

4.10.3 Inferential analysis of Hidden Costs and Retention of Distance Learners

The sixth objective of the study was to determine the influence of Hidden Costs on the retention of distance learners at the University of Nairobi. Having established a correlation between Hidden Costs and retention of distance, the study sought to analyze the contribution of Hidden Costs to learner retention at the University of Nairobi through regression analysis. The following hypothesis was tested using multiple regression analysis in order to satisfy the sixth objective.

Hypothesis Six

H_0: Hidden Costs has no significant influence on retention of distance learners at the University of Nairobi.

H_1: Hidden Costs has a significant influence on retention of distance learners at the University of Nairobi.

Null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the indicators:

$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + u$

Where Z = Retention of distance learners

X_1 = Transport

X_2 = Accommodation/ meals

X_3 = Stationary/books

X_4 = Photocopying

X_5 = Data Bundles

u = random error

Table 4.37 Multiple Regression Analysis Results for Influence of Hidden Costs on Retention of Distance Learners at the University of Nairobi

a. Model Summary

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.322[a]	0.103	0.085	0.47480	1.594

a. Dependent Variable: Learner RT

b. Predictors: (Constant), HCostsX5_Data bundles, HCostsX4_ Photocopying, HCostsX3_Stationary/books, HCostsX2_Accommodation/meals, HCostsX1_Transport

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	6.317	5	1.263	35.604	0.000[b]
	Residual	54.781	243	0.225		
	Total	61.098	248			

a. Dependent Variable: Learner RT Mean

b. Predictors: (Constant), HCostsX5_Data bundles, HCostsX4_ Photocopying, HCostsX3_Stationary/books, HCostsX2_Accommodation/meals, HCostsX1_Transport

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	2.732	0.211		17.684	0.000	2.732
	HCostsX1_Transport	0.053	0.033	0.098	0.260	0.395	0.053
	HCostsX2_Accommodation and meals	0.077	0.043	0.172	1.783	0.001	0.077
	HCostsX3_Stationary and books	0.014	0.031	0.057	0.114	0.510	0.014
	HCostsX4_ Photocopying	0 .049	0.035	0.096	1.113	0.267	0.049
	HCostsX5_Data bundles	0.132	0.027	0.387	4.965	0.000	0.132

a. Dependent Variable: Learner RT

Results in Table 4.37 show that r = 0.322, implying a positive but low correlation between Hidden Costs and retention of distance learners at the University of Nairobi. The R^2 was 0.103 indicating that Hidden Costs explained 10.3% of the variability in learners' retention. The Durbin-Watson statistic was 1.594 indicating that the variables were not correlated. Significance test at 0.05 indicated that Transport

was (p=0.395); Accommodation and meals was (p=0.001); Stationary and books was (p=0.510); Photocopying was (p=0.267) and Data bundles was (p=0.000). Only two variables Accommodation and meals and Data bundles were found to be statistically significant. The β coefficient of the Transport model is 0.098, that of Accommodation and meals is 0.172 Stationary and books are 0.017, Photocopy is 0.096 and Data bundles is 0.387. The β values tell us that one unit change in Transport contributes to 9.8% change in learner retention; one unit change in Accommodation and meals is contributes to 17.2% change in learner retention; one unit change in Stationary and books contribute to 5.7% change in learner retention; one unit change in Photocopying contributes to 9.6% in learner retention and one unit change in Data bundles contributes to 38.7% change in learner retention.

Results from ANOVA reveal that the regression model was significant at F = 35.604 with p-value equal 0.000 which is lower than the cut-off p-value of 0.05. This implies that the null hypothesis was rejected meaning that Hidden Costs have a significant effect on learners' retention. The coefficients provide the necessary information to predict Learners' Retention from Learners Characteristics. From the statistical findings we can now specify the following equation;

$$Z = 2.732 + 0.098\ X_1 + 0.172\ X_2 + 0.057\ X_3 + 0.096\ X_4 + 0.387\ X_5$$

The findings from this regression model are supported by the FGDs and descriptive analysis. The two variables that were found to be significant in influencing retention were Data bundles and accommodation and meals. These findings agree with findings by (Chong et al, 2010; Ng'umbi, 2009; and Mnyanyi, et al. 2010). Chong et al, (2010) did establish that residency was significantly tied to retention. The researchers observed that students who are not residents pay higher tuition. This consequently drains their financial resources that could have been used to support their studies. The study observed that non-resident students especially those from different States spent spend more time travelling and this costs them in terms of time and travelling expenses and it had a direct impact on their academic performance and retention. Ng'umbi, (2009); and Mnyanyi, et al. (2010) reported that students of Open University of Tanzania had to incur data bundles in order to be able to download and to read PDF files sent to them.

Although most of the learner's agreed that transport expenses normally strain their finances, agreed that they often had to do a lot of photocopying, and agreed that they also did require additional resources to buy books and stationery, from the FGDs it appears that the learners had found a way to absorb these

costs, and hence they were not a significant expense to the learners. Consequently, there was no variability in students' responses to allow for statistically significant in the prediction of the logistic regression model because the test did not show any good basis to determine the relationship between the three variables and retention of students. Learners had either through experience or advice from their colleagues set aside a small budget each semester to take care of these expenses. Photocopying expenses, for example, would depend on whether the learners had access to the study modules. This expense would be lower for those learners who were able to get all their study modules.

4.11 Combined Influence of Learner Support Services on Retention of Distance Learners

The rationale here was to study the combined influence of Academic Support, Administrative Support, Counselling Support and Technological Support on Retention of Distance Learners.

4.11.1 Correlation Analysis of Learner Support Services and Retention of Distance Learners

In an attempt to establish the relationship between the combined effect of LSS and Retention of Distance Learners correlation analysis using Pearson's product-moment technique was carried out and the results are presented in Table 4.38.

Table 4.38 Correlation Results for Learner Support Services and Retention of Distance Learners

		Academic Support	Administrative Support	Counselling Support	Technological Support
Learner Retention	**Pearson Correlation**	**0.567****	**0.683****	**0.349****	**0.391****
	Sig. 2- tailed	**0.000**	**0.000**	**0.000**	**0.000**
		249	**249**	**249**	**249**
**** Correlation is significant at the 0.01 level (2- tailed)**					

Study findings from Table 4.38 indicate that there is a positive and significant correlation between the variables. Administrative Support Services had the strongest influence on Retention of Distance Learners ($r=.683$, p-value<0.01), while Academic Support Services ($r=.567$, p-value<0.01) had a moderate and significant positive correlation on Retention of Distance Learners. Guidance and Counselling Support Services ($r=.349$, p-value<0.01) and Technological Support Services ($r=.391$, p-value<0.01), had a low and significant positive correlation on Retention of Distance Learners. The

conclusion from the findings is that LSS has a positive influence on the Retention of Distance Learners at the UON.

4.11.2 Regression Analysis of Combined Learner Support Services on Retention of Distance Learners

The seventh objective of the study was to examine the influence of the combined LSS on the retention of distance learners at the UON. Having established a correlation between. LSS and retention of distance, the researcher sought to analyze the contribution of the Combined LSS to learner retention at the UON through regression analysis. A composite index for Combined LSS was computed and used in testing the hypothesis. The following hypothesis was tested using multiple regression analysis in order to satisfy the seventh objective.

Hypothesis Seven

H_0: Learner Support Services has no significant influence on Retention of Distance Learners at the University of Nairobi.

H_1: Learner Support Services has a significant influence on Retention of Distance Learners at the University of Nairobi.

The null hypothesis was tested using the following multiple regression equation in order to determine the beta coefficients of all the variables:

$Z= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + u$

Where Z = retention of distance learners

$\beta_{1....}$ B_4 = Beta coefficient

X_1 = Academic Support

X_2 = Administrative Support

X_3 = Counselling Support

X_4 = Technological Support

u = random error

Results in Table 4.39 show that r = 0. 721, implying a high and positive correlation LSS and retention of distance learners at the University of Nairobi. The R^2 was 0.520 indicating that Learner Support Services explained 52.0% of the variability in learners' retention. The Durbin-Watson statistic was 1.757 indicating that the variables were not correlated. Significance test at 0.05 indicated that Academic Support was (p=0.000); Administrative Support was (p=0.000); Counselling Support was (p=0.003)

and Technological Support was (p=0.001) and all the variables were found to be statistically significant. The Standardized β coefficient of Academic Support is 0.240 that of Administrative Support is 0.305, Counselling Support is .094 and Technological Support is 0.109. The β values tell us that one unit change in Academic Support contributes to 24.0% change in learner retention; one unit change in Administrative Support contributes to 30.5% change in learner retention; one unit change in Counselling Support contributes to 9.4% change in learner retention and one unit change in Technological Support contributes to 10.9% change in learner retention. In this study, therefore, learners valued Administrative Support higher than the other three variables that formed the LSS construct.

Table 4.39 Regression results of the combined influence of Learner Support Services on Retention of Distance Learners

a. Model Summary[b]

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.721[a]	0.520	0.505	0.42480	1.757

a. Dependent Variable: Learner RT

b. Predictors: (Constant), Techno SS, Guid &Coun SS, Academic SS, Admin SS

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	21.387	5	4.447	54.264	0.000[b]
	Residual	39.711	244	0.179		
	Total	61.098	248			

a. Dependent Variable: Learner

b. Predictors: (Constant), Techno SS, Guid & Coun SS, Academic SS, Admin SS

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	2.700	0.197		13.714	0.000	2.700
	X_1_Academic Support	0.224	0.039	0.240	3.401	0.000	0.224
	X_2_Administrative Support	0.287	0.072	0.305	3.637	0.000	0.287
	X_3_Counselling Support	0.067	0.054	0.094	1.114	0.003	0.067
	X_4_Technological Support	0.094	0.063	.109	1.513	0.001	0.094

a. Dependent Variable: Learner RT

Results from the ANOVA indicated that the regression model was significant at F = 54.264 with p-value equal 0.000 which is lower than the cut-off p-value of 0.05. This implies that the null hypothesis was rejected meaning that LSS has a significant effect on learners' retention. The coefficients provide the necessary information to predict Learners Retention from LSS. From the statistical findings we can now specify the following equation;

$$Y=2.700 + 0.240 X_1 + 0.305 X_2 + 0.094 X_3 + 0.109 X_4$$

The findings of this study are consistent with those of other studies such as (Tait, 2003; Louw and Engelbrecht, 2006; UKpo, 2006; Bigatti and Svanum, 2009; Chakuchichi, 2011; Gaytan, 2013; Shurden, Santandreu, and Shurden, 2016) that shown that there is a positive and significant relationship between LSS and learners' retention.

4.12 Analysis of moderating influence of learner characteristics on the relationship between learner support services and retention of distance learners at the University of Nairobi

The study investigated the influence of learner characteristics as a moderator between LSS and retention of distance learners at the UON.

4.12.1 Inferential Analysis of the moderating influence of learner characteristics on the relationship between learner support services and retention of distance learners at the University of Nairobi

The eighth objective was to establish the moderating influence of learner characteristics on the relationship between LSS and retention of distance learners at the UON. Hypothesis eight was tested using stepwise regression. The (Baron and Kenny, 1986; Judd and Kenny; 2010, and James and Brett, 1984) four-step models were used in testing the hypothesis. In the first step LSS and learner characteristics, the regression coefficient (beta) was examined to determine the direction and whether it was statistically significant. If the relationship is not significant there can be no moderation. In the second step, LSS was regressed on retention of distance learners and the beta examined to ascertain if it is statistically significant. If it is statistically significant then we proceed to step three. The third step involved regressing learner characteristics on retention of distance learners to confirm whether or not it is significant. In the fourth step, the influence of LSS on retention of distance learners was then

evaluated. To establish the moderating influence of learner characteristics on the relationship between LSS and retention of distance learners at the UON the hypothesis was formulated as follows:

Hypothesis eight

$H_{0:}$ Learner characteristics do not moderate the relationship between learner support services and retention of distance learners at the University of Nairobi.

H_1: Learner characteristics do moderate the relationship between learner support services and retention of distance learners at the University of Nairobi.

Step one: Learner Characteristics and Learner Support Services

In the first step, learner characteristics were regressed against LSS. The composite score of the four LSS variables (IVS Mean) was computed and used in the regression. The study findings are presented in Table 4.40.

Table 4.40 Regression Results for Learner Support Services on Learner Characteristic

a. Model Summary[b]

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.466[a]	0.217	0.214	0.54444	1.796

a. Predictors: (Constant), IVS

b. Dependent Variable: Learner Char

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	20.314	1	20.314	68.534	0.000[b]
	Residual	73.214	247	0.296		
	Total	93.529	248			

a. Dependent Variable: Learner Char

b. Predictors: (Constant), IVS

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	1.865	0.231		8.065	0.000	1.865
	IVS Mean	0.522	0.063	0.466	8.278	0.000	0.522

a. Dependent Variable: Learner Char Mean

Study findings from table 4.40 reveal that LSS (IVS) had a statistically significant influence on learner characteristics. R^2 was 0.217 indicating that learner support services explained 21.7% of the variability in learner characteristics. The Durbin-Watson statistic was 1.796 indicating that the variables were not correlated. The Standardized β coefficient of learner support services was 0.466. The result indicates that learner support services and learner characteristics had a moderate positive linear relationship. The F ratio was F= (1,248) 68.534, p-values 0.000<0.05) which indicated that the influence of learner support services on learner characteristics was statistically significant. This allowed us to move to the next step.

Step two: Learner Support Services and Retention of Distance Learners

In the second step retention of distance, learners were regressed against LSS. The composite score of the four LSS was used in the regression. The study findings are presented in Table 4.41.

Table 4.41 Regression Results for Learner Support Services on Retention of Distance Learners

a. Model Summary[b]

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.696[a]	0.484	0.663	0.42605	1.866

a. Predictors: (Constant), IVS

b. Dependent Variable: Learner RT

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	16.263	1	16.263	89.595	0.000[b]
	Residual	44.835	247	0.182		
	Total	61.098	248			

a. Dependent Variable: Learner RT

b. Predictors: (Constant), IVS

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	2.708	0.181		14.967	0.000	2.708
	IVS Mean	0.667	0.149	0.696	9.465	0.000	0.667

a. Dependent Variable: Learner RT

Study findings from Table 4.41 reveal that LSS (IVS) had a statistically significant influence on the retention of distance learners. The Durbin-Watson statistic was 1.866 indicating that the variables were not correlated. The results indicated that the Standardized β coefficient of LSS was 0.696 and R^2 was 0.484 indicating that LSS explained 48.4 percent of the variation in the retention of distance learners. Further, the result indicated that LSS and retention of distance learners had a positive linear relationship. The F ratio was F= (1,248) 89.595, p-values 0.000<0.05 which indicated that the influence of LSS on retention of distance learners was statistically significant. This allowed us to move to step three.

Step Three: Learner Characteristics and Retention of Distance Learners

In step three, the influence of learner characteristics on retention of distance learners was tested before LSS was incorporated into the equation. The study findings are presented in Table 4.42.

Table 4.42 Regression Results for Learner Characteristics on Retention of Distance Learners

a. Model Summary[b]

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.432[a]	0.187	0.184	0.44848	1.685

a. Predictors: (Constant), Learner Char

b. Dependent Variable: Learner RT

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	11.418	1	11.418	56.769	0.000[b]
	Residual	49.680	247	0.201		
	Total	61.098	248			

a. Dependent Variable: Learner RT

b. Predictors: (Constant), Learner Char

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	3.089	.177		17.495	0.000	3.089
	IVS Mean	0.349	0.046	0.432	7.535	0.000	0.349

a. Dependent Variable: Learner RT

From the study findings presented in Table 4.42, it reveals that learner characteristics had a statistically significant influence on the retention of distance learners. The Durbin-Watson statistic was 1.685 indicating that the variables were not correlated. The results indicated that the Standardized β coefficient of learner characteristics was 0.432 and R^2 was 0.187 indicating that learner characteristics explained 18.7 percent of the variation in the retention of distance learners. Further, the result indicated that learner characteristics and retention of distance learners had a positive linear relationship. The F ratio was F= (1,248) 56.769, p-values 0.000<0.05 which indicated that the influence of learner characteristics on retention of distance learners was statistically significant. This allowed us to move to step four.

Step Four: Learner Support Services, Learner Characteristics and Retention of Distance Learners

In step four all the three variables namely, learner support services, learner characteristics and retention of distance learners were entered into a multiple regression equation to test for moderation. The results are represented in Table 4.43.

To understand whether there is a moderating effect, interpretation of the model summary table 4.43 and one should notice that under this table SPSS tells us what the dependent variable (outcome) was and what the predictors were in each of the two models. When only LSS is used as a predictor, all the statistics for model one should be similar to those of the regression model recorded under table 4.41. For the first model, the value of R^2 is 0.484 which means that LSS accounts for 48.4% variation in learner retention. However when Learner Characteristics are included (model 2) this value increases to 0.566 or 56.6% of the variation in learner retention. The R Square change shows the increase in variation explained by the addition of the moderating effect. The Change in R^2 is 0.082 which is a proportion, the Change in R^2 is 8.2% which is the percentage increase in the variation explained by the addition of the moderating effect. Also on the model summary, it's evident that the increase is statistically significant (P<0.005). In this case, the null hypothesis is rejected and the conclusion is that Learner characteristics do moderate the relationship between LSS and retention of distance learners at the UON. For the initial model the F- ratio is 56.092, very unlikely to have happened by chance (p<0.001). For the second model, the value of F is even higher 69.303, which is also highly significant (p<0.001). We can interpret these results as meaning that the initial model significantly improved our ability to predict learner retention, but the new model with the moderating variable was even better

because the F- ratio is even more significant. In conclusion, learner characteristics do moderate the relationship between Learners Retention and LSS.

Table 4.43: Regression Results for Learner Support Services, Learner Characteristics on Retention of Distance Learners

a. Model Summary

Model	R	R^2	Adjusted R^2	Std. Error	Change Statistics				
					R^2 Change	F Change	Df1	Df2	Sig. Change
1	0.696[a]	0.484	0.663	0.42605	0.484	56.092	2	246	0.000
2	0.767[b]	0.566	0.511	0.49845	0.082	69.303	1	245	0.000

a. Dependent Variable: Learner RT

b. Predictors: (Constant), IVS

c. Predictors: (Constant), IVS Mean, Learner Char

b. ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.263	1	16.263	89.595	0.000[b]
	Residual	44.835	247	0.182		
	Total	61.098	248			
2	Regression	19.136	2	9.568	96.092	0.000[c]
	Residual	41.962	246	0.171		
	Total	61.098	248			

a. Dependent Variable: Learner RT

b. Predictors: (Constant), IVS

c. Predictors: (Constant), IVS Mean, Learner Char

c. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		t - Statistic	Sig.
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	2.708	0.181		14.967	0.000	2.708
	IVS	0.467	0.049	0.516	9.465	0.000	0.467
2	(Constant)	2.339	0.197		11.863	0.000	2.339
	IVS	0.363	0.054	0.402	6.726	0.000	0.363
	Learner Char	0.198	0.048	0.245	4.104	0.000	0.198

4.12 Analysis of moderating influence of Hidden Costs on the relationship between learner support services and retention of distance learners at the University of Nairobi

The study also investigated the influence of Hidden Costs as a moderator between LSS and retention of distance learners at the UON.

4.12.1 Inferential Analysis of the moderating influence of Hidden Costs on the relationship between learner support services and retention of distance learners at the University of Nairobi

The ninth objective was to examine the moderating influence of Hidden Costs on the relationship between LSS and retention of distance learners at the UON. Hypothesis nine was also tested using stepwise regression, and once again the (Baron and Kenny, 1986; Judd and Kenny; 2010, and James and Brett, 1984) four-step models were used in testing the hypothesis. In any case, where we had Learner Characteristics, we simply replaced it with Hidden costs.

Hypothesis Nine

H_0: Hidden Costs do not moderate the relationship between Learner Support Services and retention of distance learners at the University of Nairobi.

H_1: Hidden Costs do moderate the relationship between Learner Support Services and retention of distance learners at the University of Nairobi.

Step one: Hidden Costs and Learner Support Services

In the first step, Hidden Costs were regressed against learner support services. The composite score of the four LSS variables (IVS Mean) was computed and used in the regression. The results are presented in Table 4.44.

The results in table 4.44 indicate that learner support services (IVS) had a statistically significant influence on Hidden Costs. The R^2 was 0.91meaning LSS explained 9.1% of the variability in Hidden Costs. The Durbin-Watson statistic was 1.616 indicating that the variables were not correlated. The Standardized β coefficient of LSS was 0.396. The result indicates that LSS and Hidden Costs had a moderate positive linear relationship. The F ratio was F= (1,248) 68.534, p-values 0.000<0.05) which indicated that the influence of LSS on Hidden Costs was statistically significant. This allowed us to move to the next step.

Table 4.44 Regression Results for Learner Support Services on Hidden Costs

a. Model Summary[b]

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.302[a]	0.091	0.089	0.5894	1.616

a. Predictors: (Constant), IVS

b. Dependent Variable: Hidden Costs

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	18.316	1	21.319	58.534	0.000[b]
	Residual	75.213	247	0.276		
	Total	93.529	248			

a. Dependent Variable: Hidden Costs

b. Predictors: (Constant), IVS

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	1.665	0.231		8.065	1.865	0.000
	IVS	0.421	0.063	0.396	8.278	0.522	0.000

a. Dependent Variable: Hidden Costs

Step two: Learner Support Services and Retention of Distance Learners

In the second step retention of distance, learners were regressed against learner support services. The composite score of the four learner support services was computed and used in the regression. The results are presented in Table 4.45.

Table 4.45 Regression results for learner support services on the retention of distance learners

a. Model Summary[b]

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.696[a]	0.484	0.663	0.42605	1.866

a. Predictors: (Constant), IVS

b. Dependent Variable: Learner RT

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	16.263	1	16.263	89.595	0.000[b]
	Residual	44.835	247	0.182		
	Total	61.098	248			

a. Dependent Variable: Learner RT

b. Predictors: (Constant), IVS

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	2.708	0.181		14.967	0.000	2.708
	IVS Mean	0.667	0.149	0.696	9.465	0.000	0.667

a. Dependent Variable: Learner RT

Study findings in Table 4.45 are exactly similar to those presented in Table 4.41 and revels that LSS (IVS) had a statistically significant influence on the retention of distance learners. Given that the interpretations are exactly the same, this allowed us to move to step three.

Step Three: Hidden Costs and Retention of Distance Learners

In step three, the influence of Hidden Costs on retention of distance learners was tested before LSS was incorporated into the equation and the study findings are presented in Table 4.46.

Results in Table 4.46 indicate that Hidden Costs had a statistically significant influence on the retention of distance learners. The Durbin-Watson statistic was 1.612 indicating that the variables were not correlated. The results indicated that the Standardized β coefficient of Hidden Costs was 0.129 and R^2 was 0.108 indicating that Hidden Costs explained 10.8 percent of the variation in the retention of distance learners. Further, the result indicated that Hidden Costs and retention of distance learners had a positive linear relationship. The F ratio was F= (1,248) 47.716, p-values 0.003<0.05 which indicated

that the influence of Hidden Costs on retention of distance learners was statistically significant. This allowed us to move to step four.

Table 4.46 Regression results for Hidden Costs on retention of distance learners

a. Model Summary[b]

Model	R	R Square	Adjusted R^2	S.E of Estimate	**Durbin-Watson**
1	0.329[a]	0.108	0.103	.48332	1.612

a. Predictors: (Constant), Hidden Costs

b. Dependent Variable: Learner RT

b. ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	11.418	1	11.418	47.716	0.003[b]
	Residual	49.680	247	.201		
	Total	61.098	248			

a. Dependent Variable: Learner RT

b. Predictors: (Constant), Hidden Costs

c. Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	3.211	0.177		17.495	0.000	3.211
	Hidden Costs	0.105	0.051	0.129	2.045	0.042	0.105

a. Dependent Variable: Learner RT

Step Four: Learner Support Services, Hidden Costs and Retention of Distance Learners

In step four all the three variables namely, LSS, Hidden Costs and retention of distance learners were entered into a multiple regression equation to test for moderation. The results are represented in Table 4.47.

Table 4.47 Regression Results for Learner Support Services, Hidden Costs on Retention of Distance Learners

a. Model Summary

Model	R	R^2	Adjusted R^2	Std. Error	Change Statistics				
					R^2 Change	F Change	Df1	Df2	Sig. Change
1	0.696[a]	0.484	0.663	0.42605	0.484	56.092	2	246	0.000
2	0.713[b]	0.508	0.591	0.42077	0.0024	63.884	1	243	0.003

a. Dependent Variable: Learner RT

b. Predictors: (Constant), IVS

c. Predictors: (Constant), IVS, Hidden Costs

b. ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.263	1	16.263	89.595	0.000[b]
	Residual	44.835	247	0.182		
	Total	61.098	248			
2	Regression	18.075	5	3.615	91.418	0.000[c]
	Residual	43.023	243	0.177		
	Total	**61.098**	**248**			

a. Dependent Variable: Learner RT

b. Predictors: (Constant), IVS

c. Predictors: (Constant), IVS Mean, Learner Char

c. Coefficients[a]

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		**t - Statistic**	**Sig.**
		Beta	Std. Error	Beta	Std. Error		
1	(Constant)	2.708	0.181		2.708	14.967	0.000
	IVS Mean	.467	0.049	0.516	0.467	9.465	0.000
2	(Constant)	2.339	0.197		2.339	11.863	0.000
	IVS Mean	0.363	0.054	0.402	0.363	6.726	0.000
	Hidden Costs	0.198	0.048	0.245	0.198	4.104	0.000

Table 4.47 summarizes the study findings for regression results for LSS, hidden costs on retention of distance learners. When only LSS is used as a predictor, all the statistics for model one should be similar to those of the simple regression model recorded under table 4.45. For the first model, the value of R^2 is 0.484 which implies that LSS account for 48.4% variation in learner retention. However when Hidden Costs are included (model 2) this value increases to 0.508 or 50.8% of the variation in learner retention.

The R^2 change shows the increase in variation explained by the addition of the moderating effect. The Change in R^2 is 0.024 which is a proportion, the Change in R^2 is 2.4% which is the percentage increase in the variation explained by the addition of the moderating effect. Also on the model summary, it's evident that the increase is statistically significant ($P<0.005$). Therefore the null hypothesis is rejected and the conclusion is that Hidden Costs do moderate the relationship between LSS and retention of distance learners at the UON. For the initial model the F- ratio is 56.092, ($p<0.001$) and for the second model the value of F is even higher 63.884, which is also highly significant ($p<0.005$). We can interpret these results as meaning that the initial model significantly improved our ability to predict learner retention, but the new model with the moderating variable was even better because the F- ratio is more significant. In conclusion, Hidden Costs do moderate the relationship between Learners Retention and LSS.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

In this section, the study presents a summary of the findings, conclusions, and recommendations. In the summary of findings, the study outlines a brief narration of both descriptive and inferential statistics for the first six research objectives and inferential statistics for the last three research objectives. The conclusions are also based on the research objectives. This study also makes recommendations for policy, practice and research methodology. The study also identifies areas of future research especially in learner retention in distance education.

5.2 Summary of findings

The purpose of this study was to determine how LSS, Learner Characteristics, and Hidden Costs influence the Retention of distance learners at the UON. Nine objectives were stated and empirically tested through the test of hypotheses. The study targeted 309 students from first and second years of study from both the Bachelor of Education Arts and the Bachelor of Education Science from different programme locations in Campuses and Learning centers of the University of Nairobi from the academic years 2015/2016 and 2016/2017. The Campuses included Chiromo, Kisumu, and Nairobi while learning centers comprised of Kisii, Eldoret, Kakamega, and Meru. The questionnaire was the main tool for collecting data, and it was supplemented by focus group discussions and observation schedules. Out of 309 questionnaires administered, 249 questionnaires were returned having been completed, representing a response rate of 81 percent.

The Kolmogorov-Smirnov test statistics (KS-test) and Shapiro-Wilk test (SW-test) were applied to test for normality of the data. Findings indicated that all the study variables, Academic Support, Administrative Support, Guidance, and Counselling Support, Technological Support, Learner characteristics, and Hidden Costs all passed the normality test since $p<0.05$ and therefore the null hypothesis was rejected and concluded that the sample was picked from a normal population. Similarly, results of the SW- test statistics for the study variables were between 0.843 and 0.947 further confirming the normal distribution of the population. Results from table 4.11 revealed that there was no problem with multi-collinearity. Tolerance levels for all variables were greater than the recommended minimum of 0.1 and the VIF for the independent variables were all below three demonstrating that the variables were not highly correlated. Multiple regressions analysis were employed to determine the influence of

each independent and moderating variables namely; Academic Support, Administrative Support, Guidance, and Counselling support, Technological support, learner characteristics and Hidden Costs on the retention of distance learners at the UON. Stepwise regressions were applied in order to determine whether learner characteristics and Hidden Costs moderated the relationship between LSS and retention of distance learners.

5.2.1 Academic Support Services and the Retention of Distance Learners

On the basis of the first objective which was meant to determine the influence of Academic Support Services on the retention of distance learners at the UON, the Cronbach's Alpha Coefficient for the fifteen items used to describe the indicators of Academic support was 0.925 indicating good internal consistency. The composite mean (M=3.671) and composite standard deviation (SD= 1.0396) showed that the respondents generally agreed that Academic Support Services were important in influencing learner retention.

On the basis of inferential statistics, the study tested the null hypothesis that Academic Support Services has no significant influence on the retention of distance learners at the UON. The R square value was 0.287 and F= (4,248) 64.609, P=0.000<0.05. To check for autocorrelation the Durbin-Watson value of 1.989, indicating that the variables were not correlated. Significance at 0.05 indicated that of the five indicators tested under Academic support services, Module availability gave a p-value of 0.001; Adequate Tutoring gave a p-value of 0.001; Mentoring gave a p-value of 0.003; Feedback gave a p-value of 0.001 and Interactions with instructors gave a p-value of 0.001. All five indicators were statistically significant. The standardized beta coefficient of Module availability was 0.539 that of Adequate Tutoring was 0.211; Mentoring was 0.118; Feedback was 0.233, and Interactions with instructors was 0. 293. From these findings there was no evidence to accept the null hypothesis, hence the null hypothesis was rejected and the study concluded that Academic support services significantly influenced learners' retention. The coefficients provided the necessary information to predict Learners Retention from Academic Support Services.

5.2.2 Administrative Support Services and the Retention of Distance Learners

On the basis of the second objective which was meant to examine the influence of Administrative Support Services on the retention of distance learners at the UON, the Cronbach's Alpha Coefficient for the twelve items used to describe the indicators of Administrative Support Services was 0.822 indicating good internal consistency. The composite mean (M=3.880) and composite standard deviation

(SD= 0.9720) showed that the respondents generally agreed that Administrative Support Services were important in influencing learner retention.

On the basis of inferential statistics, the study tested the null hypothesis that Administrative Support Services has no significant influence on the retention of distance learners at the UON. The R square value was 0.296 and F= (4,248) 40.441, P=0.000<0.05. To check for autocorrelation the Durbin-Watson value of 1.813, indicating that the variables were not correlated. Significance at 0.05 indicated that of the five indicators tested under Academic support services, Course Information gave a p-value of 0.003; Medical Facility gave a p-value of 0.003; Supportive Staff gave a p-value of 0.001; Regional Centres gave a p-value of 0.001 and Registration and Fee payment gave a p-value of 0.142. From the five indicators other than Registration and Fee payment the other four were statistically significant. The standardized beta coefficient of Course information was 0.159 that of Medical Facility was 0.164; Registration and Fee payment was 0.153; Supportive Staff was 0.353, and Regional Centres were 0. 284. From these findings there was no evidence to accept the null hypothesis, hence the null hypothesis was rejected and the study concluded that Administrative support services significantly influenced learners' retention. The coefficients provided the necessary information to predict Learners Retention from Administrative Support Services.

5.2.3 Guidance and Counselling Support Services and the Retention of Distance Learners

On the basis of the third objective which was meant to establish the influence of Guidance and Counseling Support Services on the retention of distance learners at the UON, the Cronbach's Alpha Coefficient for the thirteen items used to describe the indicators of Guidance and Counselling Support Services was 0.743 indicating good internal consistency. The composite mean (M=3.283) and composite standard deviation (SD= 0.9318) showed that the respondents generally agreed that Guidance and Counselling Support Services were important in influencing learner retention.

On the basis of inferential statistics, the study tested the null hypothesis that Guidance and Counselling Support Services has no significant influence on the retention of distance learners at the UON. The R square value was 0.232 and F= (4,248) 34.229, P=0.000<0.05. To check for autocorrelation the Durbin-Watson value of 1.856, indicating that the variables were not correlated. Significance at 0.05 indicated that of the five indicators tested under Guidance and Counselling support services, Orientation briefing gave a p-value of 0.000; Career Advice gave a p-value of 0.000; Time Management gave a p-value of 0.263; Availability of Counsellor gave a p-value of 0.268 and Outside Support gave a p-value of 0.003.

From the five indicators other than Time Management and Availability Counsellor the other three were statistically significant. The standardized beta coefficients for Orientation briefing were 0.293 that of Career Advice 0.355; Time Management was -0.081; Availability Counsellor was 0.075 and Outside Support was 0.118. From these findings there was no evidence to accept the null hypothesis, hence the null hypothesis was rejected and the study concluded that Guidance and Counselling support services significantly influenced learners' retention. The coefficients provided the necessary information to predict Learners Retention from Guidance and Counselling Support Services.

5.2.4 Technological Support services and the Retention of Distance Learners

On the basis of the fourth objective which was meant to assess the influence of Technological Support Services' influence on the retention of distance learners at the UON, the Cronbach's Alpha Coefficient for the thirteen items used to describe the indicators of Technological Support Services was 0.817 indicating good internal consistency. The composite mean (M=3.651) and composite standard deviation (SD= 1.1126) showed that the respondents generally agreed that Technological Support Services were important in influencing learner retention.

On the basis of inferential statistics, the study tested the null hypothesis that Technological Support Services has no significant influence on the retention of distance learners at the UON. The R square value was 0.234 and F= (4,248) 34.854, P=0.000<0.05. To check for autocorrelation the Durbin-Watson value of 1.618, indicating that the variables were not correlated. Significance at 0.05 indicated that of the five indicators tested under Technological support services, ICT Competence gave a p-value of 0.000; Communication by SMS gave a p-value of 0.000; Access to library gave a p-value of 0.000; Access to online resources gave a p-value of 0.377 and Call Centre gave a p-value of 0.339. From the five indicators other than Access to online resources and Call Centre the other three indicators were statistically significant. The standardized beta coefficients for ICT Competence were 0.270 that of Access to library 0.242; Access to online resources was -0.067; Communication by SMS was 0.276 and Call Centre was 0.069. From these findings there was no evidence to accept the null hypothesis, hence the null hypothesis was rejected and the study concluded that Technological support services significantly influenced learners' retention. The coefficients provided the necessary information to predict Learners Retention from Technological Support Services.

5.2.5 Learner Characteristics and the Retention of Distance Learners

On the basis of the fifth objective which was meant to determine the influence of learner characteristics on the retention of distance learners at the UON, the Cronbach's Alpha Coefficient for the ten items used to describe the indicators of Learner Characteristics was 0.804 indicating good internal consistency. The composite mean (M=3.7572) and composite standard deviation (SD= 1.1161) showed that the respondents generally agreed that Learner Characteristics were important in influencing learner retention.

On the basis of inferential statistics, the study tested the null hypothesis that Learner Characteristics has no significant influence on the retention of distance learners at the UON. The R square value was 0.246 and F= (4,248) 35.819, P=0.000<0.05. To check for autocorrelation the Durbin-Watson value of 1.828, indicating that the variables were not correlated. Significance at 0.05 indicated that of the five indicators tested under Learner Characteristics, Age gave a p-value of 0.048; Gender a p-value of 0.000; Educational Background gave a p-value of 0.001; Employment status gave a p-value of 0.377 and Marital status gave a p-value of 0.001. From the five indicators other than Age and Employment status the other three indicators were statistically significant. The standardized beta coefficients for Age 0.191 that of Gender 0.228; Employment status was 0.052; Educational Background was 0.187 and Marital status was 0.211. From these findings there was no evidence to accept the null hypothesis, hence the null hypothesis was rejected and the study concluded that Learner Characteristics significantly influenced learners' retention. The coefficients provided the necessary information to predict Learners Retention from Learner Characteristics

5.2.6 Hidden Costs and the Retention of Distance Learners

On the basis of the sixth objective which was meant to determine the influence of Hidden Costs on the retention of distance learners at the UON, the Cronbach's Alpha Coefficient for the ten items used to describe the indicators of Hidden Costs was 0.817 indicating good internal consistency. The composite mean (M=3.639) and composite standard deviation (SD= 1.1012) showed that the respondents generally agreed that Hidden Costs were important in influencing learner retention.

On the basis of inferential statistics, the study tested the null hypothesis that Hidden Costs has no significant influence on the retention of distance learners at the UON. The R square value was 0.103 and F= (4,248) 35.604, P=0.000<0.05. To check for autocorrelation the Durbin-Watson value of 1.594, indicating that the variables were not correlated. Significance at 0.05 indicated that of the five indicators

tested under Hidden Costs, Transport gave a p-value of 0.395; Accommodation and meals a p-value of 0.001; Stationary and books gave a p-value of 0.510; Photocopying gave a p-value of 0.267 and Data bundles gave a p-value of 0.000. From the five indicators, only two Accommodation and meals and Data bundles were found to be statistically significant. The standardized beta coefficients for Transport were 0.098 that of Accommodation and meals 0.172; Stationary and books were 0.017; Photocopying was 0.096 and Data bundles was 0.387. From these findings there was no evidence to accept the null hypothesis, hence the null hypothesis was rejected and the study concluded that Hidden Costs significantly influenced learners' retention. The coefficients provided the necessary information to predict Learners Retention from Hidden Costs.

5.2.7 Joint Influence of Learner Support Services on Retention of Distance Learners at the University of Nairobi

On the basis of the seventh objective which was meant to examine the influence of the combined LSS on the retention of distance learners at the UON, study findings on the correlation analysis indicate positive and significant coefficients between the variables. Administrative Support had a strong and significant positive relationship on Retention of Distance Learners ($R=.683$, p-value<0.01), while Academic Support ($R=.567$, p-value<0.01) had a moderate and significant positive correlation on Retention of Distance Learners. Counselling Support ($R=.349$, p-value<0.01) and Technological Support ($R=.391$, p-value<0.01), had a low but significant positive correlation on Retention of Distance Learners. This implies that LSS has a positive influence on the Retention of Distance Learners at the UON.

On the basis of inferential statistics, the study tested the null hypothesis that LSS has no significant influence on the retention of distance learners at the UON. The R square value was 0.520 and $F= (4,248)$ 54.264, $P=0.000<0.05$. To check for autocorrelation the Durbin-Watson value of 1.757, indicating that the variables were not correlated. Significance at 0.05 indicated that of the four variables tested under LSS, Academic Support gave a p-value of 0.000; Administrative Support p-value of 0.000; Counselling Support gave a p-value of 0.003; Technological Support gave a p-value of 0.001. All four variables were found to be statistically significant. The standardized beta coefficients for Academic Support was 0.240 that of Administrative Support was 0.305; Counselling Support was 0.094 and 0.109. From these findings there was no evidence to accept the null hypothesis, hence the null hypothesis was rejected and the study concluded that LSS significantly influenced learners' retention. The coefficients provided the necessary information to predict Learners Retention from LSS.

5.2.7 Moderating influence of learner characteristics on the relationship between learner support services and retention of distance learners

On the basis of inferential statistics, the eighth objective was to determine the moderating influence of learner characteristics on the relationship between LSS and retention of distance learners at the UON. The null hypothesis tested was the strength of the relationship between LSS and retention of distance learners at the UON was not dependent on learner characteristics. The study findings were for the first model the value of R^2 was 0.484 which means that Learner Support Services account for 48.4% variation in learner retention. However when Learner Characteristics are included (model 2) this value increases to 0.566 or 56.6% of the variation in learner retention. The R Square change shows the increase in variation explained by the addition of the moderating effect. The Change in R^2 is 0.082 which is a percentage, the Change in R^2 is 8.2% which is the percentage increase in the variation explained by the addition of the moderating effect. F- Ratio for the first model improved from 56.092 to 69.303to for the second model and it was also highly significant ($p<0.001$). These results imply that the new model with the moderating Variable was even better in predicting learner retention. From these findings there was no evidence to accept the null hypothesis, hence the null hypothesis was rejected and the study concluded that the strength of the relationship between LSS and retention of distance learners at the UON is dependent on learner characteristics.

5.2.8 Moderating influence of Hidden Costs on the relationship between learner support services and retention of distance learners

On the basis of inferential statistics, the ninth objective was to determine the moderating influence of Hidden Costs on the relationship between LSS and retention of distance learners at the UON. The null hypothesis tested was the strength of the relationship between LSS and retention of distance learners at the UON was not dependent on Hidden Costs. For the first model, the value of R^2 is 0.484 which means that Learner Support Services account for 48.4% variation in learner retention. However when Hidden Costs are included (model 2) this value increases to 0.508 or 50.8% of the variation in learner retention. The R Square change shows the increase in variation explained by the addition of the moderating effect. The Change in R^2 is 0.024 which is a proportion, as a percentage, the Change in R^2 is 2.4% which is the percentage increase in the variation explained by the addition of the moderating effect. F- Ratio for the first model improved from 56.092 to 63.884 for the second model and it was also highly significant ($p<0.001$). These results imply that the new model with the moderating Variable was even better in predicting learner retention. From these findings there was no evidence to accept the null hypothesis,

hence the null hypothesis was rejected and the study concluded that the strength of the relationship between LSS and retention of distance learners at the UON is dependent on Hidden costs.

5.3 Conclusions

Given that the broad objective of this study was to determine how LSS, Learner Characteristics, and Hidden Costs influence the Retention of Distance Learning Students with a special focus on the Bachelor of Education Programmes of the UON, this section presents the conclusions made in the study in the context of the findings. The conclusions are made in line with the objectives and hypotheses.

The first objective was to determine the influence of Academic Support Services on the retention of distance learners at the UON. The five indicators for Academic support were Module availability, Adequate Tutoring, Mentoring, Feedback and Interaction with instructor and all were found to be statistically significant. The coefficients provided the necessary information to predict Learners Retention from Academic Support Services. Descriptive analysis showed that the majority of the respondents generally agreed that Academic Support Services were important in influencing learner retention. Inferential statistics indicated that out of the five indicators for Academic support, Module availability was found to have higher influence, followed by Interaction with instructors, then prompt feedback, Adequate Tutoring and finally Mentoring. This is not surprising given that learners regard the study module as their key text and also tutor during their home study and hence valued it highly. If this module was not availed, it meant additional photocopying expenses for them. Interaction with instructors was also valued highly by the learners since they would use the opportunity to ask questions about their term paper grades, get answers to questions from past papers, get clarifications on any grey areas in their modules that are not clear and also what areas they need to focus more from their study module. Hence this study concludes that Academic Support Services had a statistically significant influence on the retention of distance learners at the UON.

The second objective was to examine the influence of Administrative Support Services on the retention of distance learners at the UON. The five indicators for Administrative support services were Course Information, Medical Facility, Registration and Fee payment, Supportive Staff and Regional Centres and apart from registration and fee payment, all the other four variables are all statistically significant. The coefficients provided the necessary information to predict Learners Retention from Administrative Support Services. Descriptive analysis showed that the majority of the respondents generally agreed that Administrative Support Services were important in influencing learner retention. Inferential

statistics indicated that out of the five indicators for Administrative, Supportive Staff was found to have higher influence, followed by Regional Centres, then Medical Facility, Course Information and finally Registration and Fee payment. From the FGDs it was established that learners felt that having supportive staff was very important to them since they were critical in facilitating admission processes, course registration, subject selection, online registration, support with study material, term papers among others. Learners outside Nairobi, Kisumu, and Chiromo Campuses, expressed concern about the lack of medical facility and the fact that it was costly when one fell sick and had to pay out of pocket, and this put more strain on their finances. One major conclusion is that the findings underscore the importance of institutional administrators in distance learning, who have been found to be very useful in supporting learners when they perform functions such as enrolment; admission and registration; record keeping; information provision and delivery of study materials among others. The findings also underscore the importance that learners attach to regional centers. It is from these centers that they receive a number of services that include valuable advice on general academic matters before enrolment and during the progress of the study, sometimes involving detailed advice on individual subjects, and careers counselling. Hence this study concludes that Administrative Support Services had a statistically significant influence on the retention of distance learners at the UON.

The third objective was to establish the influence of Guidance and Counselling Support Services on the retention of distance learners at the UON. The five indicators for Guidance and Counselling support services were Orientation briefing, Career Advice, Time Management, Availability of Counsellor and Outside Support and apart from Time Management and Availability of Counsellor all the other three variables were all statistically significant. The coefficients did provide the necessary information to predict Learners Retention from Guidance and Counselling support services. Descriptive analysis showed that the majority of the respondents generally agreed that Guidance and Counselling Support Services were important in influencing learner retention. Inferential statistics indicated that out of the five indicators for Guidance and Counselling support services, Career Advice was found to have higher influence, followed by Orientation briefing, then Outside Support, Time Management and finally Availability of Counsellor. From FGDs it was established that learners were satisfied with the kind of advice that they were given in terms of subject combination, study habits, term paper preparation among others. Learners also valued the information they received during the orientation briefing. However, findings from the results on counsellor revealed that the majority of respondents rated it negatively because they were unable to access the service. Although the service is available, its accessibility is a problem to students outside Nairobi, Kisumu, and Chiromo campuses and as such the college needs to

make conscious efforts to make the service accessible to students. The same conclusion can be said on time management where most learners felt that they had not received any support on how to manage their study time. Hence this study concludes that Guidance and Counselling support services had a statistically significant influence on the retention of distance learners at the UON.

The fourth objective was to assess the influence of Technological Support Services on the retention of distance learners at the UON. The five indicators for Technological support services were ICT Competence, Access to online resources, Access to library, Communication by SMS and Call Centre and apart from Access to online resources and Call Centre all the other three variables were all statistically significant. The coefficients did provide the necessary information to predict Learners Retention from Technological support services. Descriptive analysis showed that the majority of the respondents generally agreed that Technological Support Services were important in influencing learner retention. Inferential statistics indicated that out of the five indicators for Technological support services, Communication by SMS was found to have higher influence, followed by ICT Competence, then Access to library, Access to online resources and finally Call Centre. The findings from this regression model are supported by the FGDs and descriptive analysis. Given that the majority of the learners owned mobile phones, learners were able to receive communication, especially on reporting dates for residential sessions, confirmation of admission for new students, CATS, and examination dates. Similarly, ICT competence was found to significantly influence retention since learners who have computer skills are more likely to be more receptacle towards the use of computers to facilitate their studies. Learners also valued accessibility to libraries, especially in regional centers. However, findings from the results on access to online resources revealed that the majority of respondents rated it negatively because they were unable to access the service. Although the service is available, its accessibility is a problem for students outside Nairobi, Kisumu and Chiromo Campuses. Although most of the learning centers had some computers, those in Mere and Eldoret learning centers were not connected to the internet and hence learners did not have access to online resources. The same conclusion can be said on Call Centre where most learners felt that the numbers that they were given to call were not be answered, and some of the learners did not even know that there was a call center that they could get help if they wanted an issue clarified. Hence this study concludes that Technological support services had a statistically significant influence on the retention of distance learners at the UON.

The fifth objective was to determine the influence of learner characteristics on the retention of distance learners at the UON. The five indicators for Learner Characteristics were Age, Gender, Employment

Status, and Educational Background and Marital status and apart from Employment status and Age, all the other three variables were all statistically significant. The coefficients did provide the necessary information to predict Learners Retention from Learner Characteristics. Descriptive analysis showed that the majority of the respondents generally agreed that Learner Characteristics were important in influencing learner retention. Inferential statistics indicated that out of the five indicators for Learner Characteristics, Gender was found to have higher influence, followed by marital status, then Age, Educational Background and finally Employment status. Although several studies did find employment responsibilities and age of the student to be a significant determinant of retention in distance education, this study did not find evidence to support this conclusion. The literature reviewed tended to indicate that most distance education students are adults between the ages of twenty and fifty, mostly greater than thirty years. However, the findings of this study indicated that the respondents were and below the age of thirty-five years, perhaps the reason why age was not regarded to be an important factor. Similarly, employment status was found not to be significant from the fact that the respondents comprised of those who were unemployed representing twenty-eight percent, those in, full-time formal employment representing fifty-two percent and those in part-time employment, fifteen percent. More importantly, of those in full-time formal employment, the majority were employed as teachers in public primary schools and hence were able to find time to attend the residential sessions which are held during the April, August and December holidays when schools are closed for holidays. Hence this study concludes that learner characteristics had a statistically significant influence on the retention of distance learners at the UON.

The sixth objectives was to determine the influence of Hidden Costs on the retention of distance learners at the UON. The five indicators for Hidden Costs were Transport Expenses, Accommodation and meals, Stationary and books, Photocopying expenses and Data bundles was. Only two variables Accommodation and meals and Data bundles were found to be statistically significant. The coefficients did, however, provide the necessary information to predict Learners Retention from Hidden Costs. Descriptive analysis showed that the majority of the respondents generally agreed that Hidden Costs were important in influencing learner retention. Inferential statistics indicated that out of the five indicators for Hidden Costs, Data bundles were found to have higher influence, followed by Accommodation and meals, then Transport expenses, Photocopy and finally Stationary and books. The findings from this regression model are supported by the FGDs and descriptive analysis. The two variables that were found to be significant in influencing retention were Data bundles and accommodation and meals. Although most of the learner's agreed that transport expenses normally

strain their finances, they agreed that they often had to do a lot of photocopying, and agreed that they also did require additional resources to buy books and stationery. From the FGDs it appears that the learners had found a way to absorb these costs, and hence they were not a significant expense to the learners. Consequently, there was no variability in students' responses to allow for statistically significant in the prediction of the logistic regression model because the test did not show any good basis to determine the relationship between the three variables and retention of students. Learners had either through experience or advice from their colleagues set aside a small budget each semester to take care of these expenses. Photocopying expenses, for example, would depend on whether the learners had access to the study modules. This expense would be lower for those learners who were able to get all their study modules. Despite the fact only two of the indicators were empirically found to be significant, their overall impact was sufficient for this study to arrive at the conclusion that Hidden Costs had a statistically significant influence on the retention of distance learners at the UON.

The seventh objective of the study was to examine the influence of the combined LSS on the retention of distance learners at the UON. The research findings on the correlation analysis indicate positive and significant coefficients between the variables. Inferential statistics indicated that out of the four predictor variables for learner retention, Administrative Support was found to have the greatest impact, followed by Academic Support, then Technological Support, and finally Counselling Support. Hence this study concludes that LSS had a statistically significant influence on the retention of distance learners at the UON.

The eighth objective was to establish the moderating influence of learner characteristics on the relationship between LSS and retention of distance learners at the UON. Results demonstrated that the new model with the moderating variable was even better in predicting learner retention than the initial model that did not have the moderating variable. The findings led to the rejection of the null hypotheses and hence this study concludes that the strength of the relationship between LSS and retention of distance learners at the UON is dependent on learner characteristics.

The ninth objective was to examine the moderating influence of Hidden Costs on the relationship between LSS and retention of distance learners at the UON. Results demonstrated that the new model with the moderating variable was even better in predicting learner retention than the initial model that did not have the moderating variable. The findings led to the rejection of the null hypotheses and hence

this study concludes that the strength of the relationship between LSS and retention of distance learners at the UON is dependent on Hidden Costs.

5.4 Contribution to Knowledge

Table 5.1 provides a summary of the study's contribution to knowledge based on the nine objectives.

Table 5.1 Contribution to Knowledge

Study Objective	Study Findings	Study Conclusions	Contribution to Knowledge
To determine the influence of Academic Support Services on the retention of distance learners at the University of Nairobi.	Academic Support has a significant influence on learner retention. The null hypothesis was rejected.	The study revealed that of the five indicators for Academic support, Module availability was found to have higher influence, followed by Interaction with instructors, then prompt feedback. This is not surprising given that learners regard the study module as their key text and also tutor during their home study and hence valued it highly. If this module was not availed, it meant additional photocopying expenses for them.	The study has empirically proved the influence of different academic support indicators such as Module availability model, Adequate Tutoring, Mentoring, Interactions with instructors and Feedback are all statistically significant in influencing learner retention.
To examine the influence of Administrative Support Services on the retention of distance learners at the University of Nairobi.	Administrative Support has a significant influence on learner retention. The null hypothesis was rejected.	The key conclusion is that the findings underscore the importance of institutional administrators in distance learning, who have been found to be very useful in supporting learners when they perform functions such as enrolment; admission and registration; record keeping; information provision and delivery of study materials among others. The findings also underscore the importance that learners attach to regional centers. It is from these centers that they receive a number of services that include; valuable advice on general academic matters before	The study has empirically proved the influence of different Administrative Support indicators such as Course Information, Medical Facility, Supportive Staff, and the establishment of Regional Centres are all statistically significant in influencing learner retention. However, the study did not find a Registration and Fee payment Indicator to be statistically significant.

		enrolment and during the progress of the study.	
To establish the influence of Guidance and Counselling Support Services on the retention of distance learners at the University of Nairobi.	Guidance and Counselling has a significant influence on learner retention. The null hypothesis was rejected.	Descriptive analysis showed that the majority of the respondents generally agreed that Guidance and Counselling Support Services were important in influencing learner retention. A key conclusion is that results on counsellor revealed that the majority of respondents rated the indicator negatively because they were unable to access the service. Although the service is available, its accessibility is a problem for students outside Nairobi, Kisumu, and Chiromo campuses. Given the importance of counselling especially for adult learners, this was an issue that needed urgent attention.	The study has empirically proved the influence of different Guidance and Counselling indicators such as Orientation briefing, Career Advice and Outside Support especially from family and employers are all statistically significant in influencing learner retention. However, the study did not find Time Mangt. and Counsellor Indicators to be statistically significant.
To assess the influence of Technological Support Services influence on the retention of distance learners at the University of Nairobi	Technological Support has a significant influence on learner retention. The null hypothesis was rejected.	Descriptive analysis showed that the majority of the respondents generally agreed that Technological Support Services were important in influencing learner retention. Out of the five indicators for Technological support services, Communication by SMS was found to have higher influence, followed by ICT Competence, then Access to a library, Access to online resources and finally Call Centre. For the Call Centre, most learners felt that the numbers that they were given to call were not be answered, and some of the learners did not even know that there was a call center that they could get help if they wanted an issue clarified.	The study has empirically proved the influence of different Technological Support indicators such as ICT Competence, Access to library, Communication by SMS are all statistically significant in influencing learner retention. However, the study did not find Access to online resources and Call Centre indicators to be statistically significant

To determine the influence of learner characteristics on the retention of distance learners at the University of Nairobi.	Learner characteristics have a significant influence on learner retention. The null hypothesis was rejected.	The five indicators for Learner Characteristics were Age, Gender, Employment Status, Educational Background, and Marital status and the coefficients did provide the necessary information to predict Learner Retention. One key conclusion from this study is that age and employment status were not significant factors since the respondents were and below the age of thirty-five years and majority were of the respondents were employed as teachers in public primary schools and hence were able to find time to attend the residential sessions which are held during the April, August and December holidays when schools are closed for holidays.	The study has empirically proved the influence of different learner characteristics indicators such as Gender, Educational Background, and Marital status are all statistically significant in influencing learner retention. However, the study did not find Employment status and Age indicators to be statistically significant
To determine the influence of Hidden Costs on the retention of distance learners at the University of Nairobi.	Hidden Costs has a significant influence on learner retention. The null hypothesis was rejected.	Although most of the learner's agreed that transport expenses normally strain their finances, they agreed that they often had to do a lot of photocopying, and agreed that they also did require additional resources to buy books and stationery. From the FGDs it appears that the learners had found a way to absorb these costs, and hence they were not a significant expense to the learners. Learners had either through experience or advice from their colleagues set aside a small budget each semester to take care of these expenses. Photocopying expenses, for example, would depend on whether the learners had access to the study modules. This expense would be lower for those learners who were able to get all their study modules. The	From the literature review, studies on hidden costs were missing, hence this study has empirically proved the influence of different Hidden Costs indicators such as Accommodation and meal and Data bundles to be statistically significant in influencing learner retention. However, the study did not find Transport cost, Stationary and books and Photocopying indicators to be statistically significant

		overall conclusion is made that Hidden Costs had a statistically significant influence on the retention of distance learners.	
To examine the influence of the combined learner support services on the retention of distance learners at the University of Nairobi.	Combined learner support services have a significant influence on learner retention. The null hypothesis was rejected.	The research findings on the correlation analysis indicate positive and significant coefficients between the variables. Inferential statistics indicated that out of the four predictor variables for learner retention, Administrative Support was found to have a higher influence as compared to Academic Support, Technological Support, and finally Counselling Support. It is an important result for distance learning institutions since learners who become frustrated with the entire administrative process from admission to course registration, fee payment, module provision, examination results processing, would choose to exit from the course.	The study has empirically proved the influence of Combined learner support services be statistically significant in influencing learner retention. More importantly, the findings have ranked these variables in order of importance as far as the learners are concerned. Administrative Support was found to have higher influence, followed by Academic Support, then Technological Support, and finally Counselling Support.
To establish the moderating influence of learner characteristics on the relationship between learner support services and retention of distance learners at the University of Nairobi.	Learner characteristics have a significant moderating influence on the relationship between learner support services and learner retention. The null hypothesis was rejected.	The null hypothesis tested was the strength of the relationship between learner support services and retention of distance learners at the University of Nairobi was not dependent on learner characteristics. The null hypothesis was rejected and concluded that the strength of the relationship between learner support services and retention of distance learners at the University of Nairobi is dependent on learner characteristics.	The study has empirically demonstrated that the second model with learner characteristics as a moderating variable was even better in predicting learner retention as compared to the first model which did not have the moderating variable.
To examine the moderating influence of	Hidden Costs has a significant moderating	The null hypothesis tested was the strength of the relationship between learner support services	The study has empirically demonstrated that the

Hidden Costs on the relationship between learner support services and retention of distance learners at the University of Nairobi.	influence on the relationship between learner support services and learner retention. The null hypothesis was rejected.	and retention of distance learners at the University of Nairobi was not dependent on Hidden Costs. The null hypothesis was rejected and concluded that the strength of the relationship between learner support services and retention of distance learners at the University of Nairobi is dependent on Hidden costs.	second model with Hidden Costs as a moderating variable was even better in predicting learner retention as compared to the first model which did not have the moderating variable.

5.5 Recommendations of the Study

Based on the study objectives and the findings of the study this section presents recommendations on policy, practice and research methodology.

5.5.1 Recommendations for policy

The landscape of distance learning is increasingly competitive in Kenya with almost all public and private universities offering their courses using the open and distance learning mode. Learners in Kenya also have available alternative education opportunities that are offered online by other universities in the world. Therefore universities in Kenya are facing great pressure to maintain their quality of education delivery and student satisfaction for student persistence and formulate measures to cater to diverse student needs. It costs money when universities advertise for their courses and therefore every student who drops out implies a reduction in the institution's income, especially in the current situation where government capitation to public universities has been declining as it focuses more on primary and secondary education. From the learners' perspective, it implies that they have spent time and money to no avail. This study was hence an attempt to examine the role of learner support services in enhancing student persistence in DL courses at the UON.

Study findings indicated the need for program managers to ensure adequate academic support services were offered to the learners so as to ensure the quality of the programme. It was found that a well-organized study programme and the competence of teaching staff improve student persistence Dissatisfaction with a training programme is often associated with the low quality of the programme and its teaching staff. Learners were particularly concerned about lectures missing lessons, rude tutors, lecturer evaluation that were not result-oriented from the learners perspective, not been given prompt

feedback concerning their assignments, not enough comments on marked assignments (students would like to see more comments by the tutor who marks their assignments, delayed release of results, missing marks, and unavailability of some of the study modules. Managers of the programmes need to, therefore, address all these challenges in order to strengthen academic support services at the university given that the study empirically established that academic support services do have a significant influence on learner retention. In order to standardize teaching across all the learning centers, managers of all distance learning programs at the university just as a matter of priority offer training to all full time and part-time on pedagogy, andragogy and mentorship to enhance the quality of teaching amongst the lecturers.

The findings also showed a statistically significant relationship between administrative support services and learner retention. Administrative support services were ranked higher than the other three elements of LSS. Learners outside the three Campuses of Nairobi, Kisumu and Chiromo raised some concerns concerning the quality of services that were being offered in the regional centers sampled in terms of lack of medical facility, inadequate computers, internet connectivity, inadequate reference materials in the libraries and inaccessibility to online resources. There is a need therefore of ensuring that all learning centers have standardized infrastructure or facilities so that all learners irrespective of their learning center would have access to the same services. A strong relationship with teaching staff helps students to make the decision to stay on a course.

The findings also showed a statistically significant relationship between Guidance and Counselling support services and learner retention. As was with the case with administrative support services, learners outside Nairobi, Kisumu, and Chiromo Campuses were unable to receive any counselling support since the learning centers in Kisii, Meru, Kakamega, and Eldoret did not have an Assistant Dean of Students. Hence most of those interviewed rated counselling services offered by the university negatively because they were unable to access the service at the regional learning centers. Therefore the managers of the programme need to ensure that all learning centers are provided with a person who can offer counselling support to the learners, this is because in many counselling practices is seen to be of more importance in open and distance learning system due to the nature of the study and the nature of the learners. Hence the managers of all distance learning programs need to make these support services accessible. Counselling is meant to help distance students to realize the instructional objective of the course by minimizing the negative effects of isolation and the lack of regular personal contact. Similarly, academic advising should be enhanced so that learners do not have a negative perception of

it. Studies have shown that academic advising is the human art of building relationships with students and helping them connect their strengths and interests with academic life goals.

The findings also showed a statistically significant relationship between Technological Support services and learner retention. Again as a matter of policy, managers of the programs need to standardize services across all the learning centers in the country. Investment should be made in digital libraries, where learners can have access to online resources. Similarly, all learning centers should be stocked with adequate computers, have internet connectivity, VoIP's to enhance quality learning and communication with the learners. Faculty and support staff should take the initiative to contact students. They can send messages to students regularly and ask if they are encountering problems. Support staff taking the initiative to contact students is important because students who are facing problems may not seek help. This can be done through the ODeL Call center so that all learners can be aware that there is a Call Centre that they can get support when they need it. The findings also revealed that there was a need to have field visits since it is usually during these visits that learners at the regional centers are able to interact with program managers such as Directors, Deans, and Program Coordinators, and have some of their issues resolved.

Study findings also revealed a need to standardize services across all the learning centers of the UON. As a matter of policy it is imperative for the UON to bring all ODL programs under one body or college and given that the university has already established the ODEL Campus, more resources need to be provided so that the Campus is able to put in place the necessary infrastructure that would enable the Campus to be a global leader in offering Open and Distance Learning Programs.

5.5.2 Recommendations for Practice

The findings from this study provide a strong indication that learner retention is influenced by learner support services namely academic support, administrative support, counselling support, and technological support. This implies that all institutions of higher learning that offer distance learning programs need to carefully consider how they offer these support services in order to enhance learner satisfaction and retention. In this era of reduced government funding, public universities must ensure that LSS is accessible to their learners if they wish to retain them, especially those learners who are in their first and second year of study.

The findings from this study also provide a strong indication that learner characteristics and hidden costs do moderate the relationship between learner support services and retention of distance learners at the University of Nairobi. The empirical finding on hidden costs is particularly important because studies on hidden costs in higher education are few, most of the studies have focused on primary and secondary education. Most distance learning students consider the tuition fee to be an important factor when choosing a distance learning course. They choose distance education because of the competitive tuition fee when compared with the face to face program. However, learners never consider all the other indirect costs that are associated with this mode of study. This study did establish that these costs are substantive and hence all distance learners need to take these costs into consideration when making the decision to study under this mode of education.

5.5.3 Recommendations of the Study on Methodology

This study used the mixed-mode approach, relying more on the descriptive cross-sectional survey, carried out using the questionnaire; correlational research design and qualitative analysis of data collected through FGDs. An in-depth analysis of the independent and moderating variables was carried out using descriptive analysis through the computation of means and standard deviations. Composite means and composite standard deviations were also computed which helped to enrich the analysis. Correlation analysis was carried out to establish the strength of the relationships between the variables. The test of the hypothesis was carried out using both multiple regression analysis and stepwise regression to check for the significance of the moderating influence of both learner characteristics and hidden costs. Qualitative data analysis was undertaken through FGDs based on the study variables. This complementarity between quantitative and qualitative approaches strengthened the explanatory power of the study findings by allowing researchers to compare results obtained from both descriptive statistics and inferential statistics in order to provide a detailed interpretation. This study therefore highly recommends the same approach be adopted in any future research in the same area.

5.6 Suggestions for Further Study

Based on some of the implications of this study recommendation for further study are made. While this study successfully established the influence of learner support services on the retention of distance learners, it also presented rich prospects to examine in future research. The findings from this study revealed that learner characteristics and hidden costs did moderate the relationship between learner support services and implementation of learner retention. Further research can also investigate other variables that could moderate this relationship especially regulatory rules imposed by the commission

of higher education in Kenya or the teachers' employer TSC. Further to this, the joint influence of both moderating variables was also left out in this study and hence recommended to be considered in future studies.

Given that this study focussed on learners in their first and second year of study, and in two distance learning programmes of the University of Nairobi, it is recommended that a similar study be replicated covering learners in their third and final year in the same programmes and then the same done to other programmes not only in the University of Nairobi but also in other public universities that are offer distance learning courses. This study can also be replicated in other developing countries to determine if the same results can be obtained. Similar studies can be undertaken to also empirically examine the influence of other indicators of the learner support variables that this study did not consider such as the influence of delayed release of examination results or missing marks, whether the module is up to date and relevant to the course under academic support services, and the other indicators of the other three learners support variables that the study did not measure empirically but only carried out a descriptive analysis.

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APPENDICES

APPENDIX I: Letter of Introduction

Dear respondent

I am conducting a research on the Learner Support Services, Learner Characteristics, Hidden Costs and Retention of Distance Learners: The Case of Bachelor of Education Programmes of the University of Nairobi, Kenya.The study is targeting undergraduates' students in the University of Nairobi who study using the Open and Distance Learning Mode.

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 strictly confidential. Do not write your name anywhere in the questionnaire. Please respond to all questions as honestly as possible.

Yours Sincerely,

JOHNBOSCO MUTUKU KISIMBII
Reg No: L80/52006/2017

APPENDIX II: Questionnaire For Students

This questionnaire is designed to gather research information regarding the Learner Support Services, Learner Characteristics, Hidden Costs and Retention of Distance Learners: The Case of Bachelor of Education (Arts) And (Science) Programmes of The University of Nairobi

The questionnaire contains seven sections A, B, C, D, E, F and G. For each section, respond to all the items using a tick (✓) or filling in the blanks where appropriate.

SECTION A: LEANERS PERSONAL INFORMATION

1. Gender.

a) Male ☐
b) Female ☐

2. Year of study.

a) 1 ☐
b) 2 ☐

3. Age bracket.

a) Below 25 years ☐
b) 25- 29 years ☐
c) 30- 34 years ☐
d) 35- 39 years ☐
e) 40- 44 years ☐
f) 45- 49 years ☐
g) 50 years and above ☐

4. Marital Status

a) Single ☐ b) Married ☐ c) Divorced ☐ d) Separated ☐

5. What is your highest academic achievement?

c) O level ☐
d) A level ☐
e) Diploma ☐
f) P1 Diploma ☐
g) Holder of Bachelor's Degree ☐
h) Other, please specify ☐.....

6 Current Employment Status

a) Unemployed ☐ b) Full-time formal employment ☐ c) Part-time employment ☐

d) Self-employed on a full-time basis ☐ e) Self-employed on part-time basis ☐

7 On average how many hours do you spend reading the study unit each week?

a) Less than 5 hours ☐ b) 6 – 10 hours ☐ c) 11-15 hours ☐

d) 16- 20 hours ☐ e) above 20 hours ☐

8 Do you own a phone? Yes ☐ No ☐

If yes, please answer 9 and 10

9 It is a smartphone? Yes ☐ No ☐

10 Do you receive communication from the university through SMS Yes ☐ No ☐

11 Which of this item do you own?

Computer ☐

Tablet ☐

Smart Phone ☐

Any other, please specify ……

SECTION B: RETENTION OF DISTANCE LEARNERS

12. Identify how strongly you agree or disagree with the following statements by replacing the box to the right of the number with an X. The agreement scale ranges from 1- 5, where 5= Strongly Agree (SA), 4= Agree (A), 3= Neither Agree nor Disagree (N), 2= Disagree (D) and 1= Strongly Disagree (SD).

Statements	**Disagree - Agree**				
	SD	**D**	**N**	**A**	**SA**
	1	**2**	**3**	**4**	**5**
12a.Overall I am satisfied with the course I have chosen	1	2	3	4	5
12b. It is important for me to graduate from college	1	2	3	4	5
12.c I am confident that I made the right decision in choosing to attend UoN	1	2	3	4	5
12.d I plan to reenroll for the next semester	1	2	3	4	5
12.e Overall I am satisfied with the academic advising I have received.	1	2	3	4	5
12f. I know who to consult in case I have a question about the course.	1	2	3	4	5
12g. I plan to graduate from the UoN within the shortest time allowed.	1	2	3	4	5
12h. Group activities during class give me a chance to interact with my classmates	1	2	3	4	5
12i. I have sufficient resources to cater to all my needs during the next residential session.	1	2	3	4	5
12j. I feel connected to my classmates.	1	2	3	4	5
12k. Overall I am satisfied with my educational experience at UoN.	1	2	3	4	5
12l. I would recommend this university to my friends.	1	2	3	4	5

SECTION C: ACADEMIC SUPPORT SERVICES ON RETENTION OF DISTANCE LEARNERS

13. Identify how strongly you agree or disagree with the following statements by replacing the box to the right of the number with an X. The agreement scale ranges from 1- 5, where 5= Strongly Agree (SA), 4= Agree (A), 3= Neither Agree nor Disagree (N), 2= Disagree (D) and 1= Strongly Disagree (SD).

Statements	**Disagree - Agree**				
	SD	**D**	**N**	**A**	**SA**
	1	**2**	**3**	**4**	**5**
13a. Course instructor gave out an assignment on time	1	2	3	4	5
13b. I receive prompt feedback from my course instructor on my assignment.	1	2	3	4	5
13c. The course instructor provided me with positive feedback on my assignment.	1	2	3	4	5
13d. I regard comments on my returned assignments as a dialogue rather than a directive from the course tutor.	1	2	3	4	5
13e. I had easy access to resources to complete my assignments.	1	2	3	4	5
13f. Students are allowed to evaluate their instructors at the end of the course.	1	2	3	4	5
13g. I am able to know my results at the end of each academic year.	1	2	3	4	5
13h. I always get all my results for the units examined.	1	2	3	4	5
13i.Examination results are always received on time.	1	2	3	4	5
13j.Face-to-face tutorials were adequate	1	2	3	4	5
13k. The content and teaching approach support learners in achieving the objectives	1	2	3	4	5
13l. The module is up to date and relevant to the course.	1	2	3	4	5
13m. All the modules necessary for the degree program are available.	1	2	3	4	5
13n. Students are able to freely interact with course instructors.	1	2	3	4	5
13o.My course instructor is always available for consultations	1	2	3	4	5

SECTION D: ADMINISTRATIVE SUPPORT SERVICES ON RETENTION OF DISTANCE LEARNERS

14. Identify how strongly you agree or disagree with the following statements by replacing the box to the right of the number with an X. The agreement scale ranges from 1- 5, where 5= Strongly Agree, 4= Agree, 3= Neither Agree nor Disagree (Neutral), 2= Disagree and 1= Strongly Disagree.

Statements	**Disagree - Agree**				
	SD	**D**	**N**	**A**	**SA**
	1	**2**	**3**	**4**	**5**
14a.The admission information was easily understood	1	2	3	4	5
14b. All pertinent information related to the course is available on the university's website.	1	2	3	4	5
14c. I got assistance in the selection of subject combinations.	1	2	3	4	5
14d. Students are able to register online for courses without having to visit the university.	1	2	3	4	5
14e. Students are able to pay fees without having to visit the university.	1	2	3	4	5
14f.The university offers students flexible payment arrangements for tuition fee	1	2	3	4	5
14g. Students have access to medical facilities offered by the university	1	2	3	4	5
14h. University has established regional centers to offer support to distance learners.	1	2	3	4	5
14i. The university arranges field visits to allow interactions with staff.	1	2	3	4	5
14j. The Regional center is too far from where I live	1	2	3	4	5
14k. Overall I find university staff very supportive	1	2	3	4	5

SECTION E: GUIDANCE AND COUNSELLING SUPPORT SERVICES ON RETENTION OF DISTANCE LEARNERS

15. Identify how strongly you agree or disagree with the following statements by replacing the box to the right of the number with an X. The agreement scale ranges from 1- 5, where 5= Strongly Agree, 4= Agree, 3= Neither Agree nor Disagree (Neutral), 2= Disagree and 1= Strongly Disagree.

Statements	**Disagree - Agree**				
	SD	**D**	**N**	**A**	**SA**
	1	**2**	**3**	**4**	**5**
15a. The university offers counselling services for personal difficulties related to my studies.	1	2	3	4	5
15b. I find my course stressful.	1	2	3	4	5
15c. Students are provided with financial aid by the university.	1	2	3	4	5
15d. Meetings are frequently held to encourage learners.	1	2	3	4	5
15e. I was guided on how to manage time	1	2	3	4	5
15f. My family is very supportive of me undertaking this course.	1	2	3	4	5
15g. My employer is supportive of my studies.	1	2	3	4	5
15h. The orientation briefing was very helpful	1	2	3	4	5
15i. I have received career advice concerning my course	1	2	3	4	5
15j. I get feelings of loneliness and isolation during my home study.	1	2	3	4	5
15k. When I have a problem I know where to get help.	1	2	3	4	5
15l. Family problems do interfere with my studies	1	2	3	4	5
15m. Overall I feel encouraged to continue with my studies	1	2	3	4	5

SECTION F: TECHNOLOGICAL SUPPORT SERVICES ON RETENTION OF DISTANCE LEARNERS

16. Identify how strongly you agree or disagree with the following statements by replacing the box to the right of the number with an X. The agreement scale ranges from 1- 5, where 5= Strongly Agree, 4= Agree, 3= Neither Agree nor Disagree (Neutral), 2= Disagree and 1= Strongly Disagree.

Statement	**Disagree - Agree**				
	SD	**D**	**N**	**A**	**SA**
	1	**2**	**3**	**4**	**5**
16a. Students have access to online resources.	1	2	3	4	5
16b. My regional centre has computers	1	2	3	4	5
16c. Computers at the regional centres are connected to the internet	1	2	3	4	5
16d. My regional center has WIFI facility	1	2	3	4	5
16e. I know how to use a computer	1	2	3	4	5
16f. Where I live we have access to electricity supply.	1	2	3	4	5
16g. I receive communication by SMS	1	2	3	4	5
16h. The university uses social media to communicate important information	1	2	3	4	5
16i. My Regional centre has a library	1	2	3	4	5
16j. I am able to access digital materials from the regional center library	1	2	3	4	5
16k. There is a call center that one is able to call any time for support	1	2	3	4	5
16l. I frequently use social media in my communications with my colleagues	1	2	3	4	5
16m. I can access my results from my phone.	1	2	3	4	5

SECTION G: LEARNER CHARACTERISTICS ON RETENTION OF DISTANCE LEARNERS

17. Identify how strongly you agree or disagree with the following statements by replacing the box to the right of the number with an X. The agreement scale ranges from 1- 5, where 5= Strongly Agree, 4= Agree, 3= Neither Agree nor Disagree (Neutral), 2= Disagree and 1= Strongly Disagree.

Statements	**Disagree - Agree**				
	SD	**D**	**N**	**A**	**SA**
	1	**2**	**3**	**4**	**5**
17a. During home study, I do consult my classmates for support with my assignments	1	2	3	4	5
17b. Gender is not a factor when it comes to studies.	1	2	3	4	5
17c.My family life does not interfere with my studies	1	2	3	4	5
17d. I only sit for exams when I feel ready	1	2	3	4	5
17e. I study at my own pace	1	2	3	4	5
17f. I have taken loans to pay for my fees.	1	2	3	4	5
17g. My age is not a consideration when it comes to studies.	1	2	3	4	5
17h. I am able to balance my work commitments with those of my studies	1	2	3	4	5
17i. My previous educational qualification is important when it comes to my studies	1	2	3	4	5
17j. I have to engage in other business ventures to raise my fees.	1	2	3	4	5

SECTION H: HIDDEN COSTS ON RETENTION OF DISTANCE LEARNERS

18. Identify how strongly you agree or disagree with the following statements by replacing the box to the right of the number with an X. The agreement scale ranges from 1- 5, where 5= Strongly Agree, 4= Agree, 3= Neither Agree nor Disagree (Neutral), 2= Disagree and 1= Strongly Disagree.

Statement	**Disagree - Agree**				
	SD	**D**	**N**	**A**	**SA**
	1	**2**	**3**	**4**	**5**
18a. I find the cost of accommodation high.	1	2	3	4	5
18b. I find meals very expensive	1	2	3	4	5
18c. I always take three meals in a day	1	2	3	4	5
18d. I often have to do a lot of photocopying	1	2	3	4	5
18e.Transport expenses normally strain my finances	1	2	3	4	5
18f. I have missed a session due to lack of money for accommodation and meals	1	2	3	4	5
18g. Apart from tuition fee, I have had to borrow some money to cover my residential sessions	1	2	3	4	5
18h. I find data bundles expensive	1	2	3	4	5
18i. I need additional resources to buy books and stationery.	1	2	3	4	5
18j. I knew about the additional expenses before I joined the course	1	2	3	4	5

APPENDIX III: Focus Group Discussion Guide For Students

Introduction

- Give a brief description of myself
- Introduce the study
- Ask the students to introduce themselves
- Set the rules of the discussion

Discussion variable	Information sought	Guide questions
Learner retention in the distance learning program	1.Level of participation in campus activities 2.Level of satisfaction with the course 3.Level of student commitment to earn a degree	1. What activities are you involved in campus? 2. Are you happy with your course? 3. How fast do you feel you will complete your course?
Academic Support influence on retention	1.No. of hours taught 2. Time taken to receive feedback on assignments Groups 3.Level of involvement in groups discussions	1. Did you receive adequate tuition? 2. How long did it take to you to receive back your marked assignment? 3. Did you find the comments on the assignment helpful? 4. Do you participate in group discussions and are they helpful?
Administrative Support influences retention	1. Availability of information on courses 2. Course materials received on time 3. satisfied with the level of customer care given	1. Did you get all the information about your course? 2. Did you receive all your course materials? 3. Are you happy with the way the staff has treated you?
Guidance and Counseling Support influences retention	1.Elaborate and informative 2.Level of family support 3. Availability of an academic advisor	1. Were you taken through all the processes of registration? 2. Is your family supportive of your study? 3. Were you helped by a faculty member in choosing your courses?
Technological Support influences retention	1.available of internet 2.available of computers 3.access to digital library 4.level of computer skills 5. phone ownership and type	1. Do you have access to the internet? 2. Do you have computer skills and do you use computers to do your assignments? 3. What kind of phone do you have and how does it aid in your daily communication

		with the college and collogues?
learner characteristics influence the retention	1.level of job demands 2.Gender 3. Family issues	1. Do you have enough time to study at home? 2. Do you face challenges from the family and how do you cope? 3. Did gender play any role in your course choice?
Hidden Costs influences retention	1.Cost of transport 2.Cost of meals and accommodation 3.Cost of stationery/books 4.Cost of photocopying 5.Cost of data bundles	Please comment on how these costs have affected your studies – transport, accommodation and meals, stationery and books, photocopying and data bundles

APPENDIX IV: Observation Schedule

The following items and situations will be observed at both the residential center and regional center to ascertain their presence or absence and also in terms of physical facilities and in some cases their adequacy.

ITEMS	PRESENT	ABSENT
Library facility		
Computer services		
Study center		
Course information		
Internet connectivity		
Telephone services		
LCD projectors		
Whiteboard		
Support staff		
Study modules		
Assistant Dean of students		
Academic advisor		