Exploring Age as Personal Characteristic that Influence Utilization of Online Library Services by Distance Students at the University of Nairobi, Kenya

Peter Ochieng Gor, M.Ed

Department of Educational Studies, School of Continuing and Distance Education, University of Nairobi, Kenya

Prof. K. Joyce Mbwesa, PhD

Associate Professor of Education, Department of Educational Studies, School of Continuing and Distance Education, University of Nairobi, Kenya

Prof. Rambo M. Charles, PhD

Associate Professor of Finance and Business Education, Department of Extra-mural Studies, School of Continuing and Distance Education, University of Nairobi, Kenya

Abstract

The purpose of this study was to determine factors influencing utilization of online library services by distance students at the University of Nairobi. Specifically the study sought to achieve one objective; to examine how age as a personal characteristic influence utilization of online library services by distance students at the university of Nairobi. The researcher applied an eclecticism research paradigm. The study adopted descriptive survey design. Data was collected using self-administered questionnaire and interview schedule. The study targeted a total of 1000 students and 14 librarians in the school of continuing and distance education. The sample therefore comprised of 278 distance students and 14 librarians. A pilot study was conducted with 28 student respondents and 1 librarian. This constituted 30% of the study sample. The reliability of the instruments was 0.72. The researcher applied captive audience technique to collect data from the respondents. Data were analysed using frequency counts, the mean and standard deviation and hypothesis was tested using Chi-square, T-test, one way ANOVA and Regression analysis at0.05 level of significance. The key findings revealed that, the null hypothesis was rejected and conclusion that utilization of online library services was dependent upon distance student's age-group. Majority of student's 54.2% in the category of 21-30 age group made use of online library services. A study may be carried out to investigate the effects of personal characteristics and institutional based factors on effective utilization of online library services in private universities. The

researcher considered the ethical considerations so as to avoid plagiarism and ensured confidentiality.

Keywords: Age, Characteristic, Library Services, Distance, Students, Kenya

Statement of the Problem

The University of Nairobi online library service was designed to operate on a self-service mode where students are expected to maximally utilize the library as their main source of information to support their learning and knowledge acquisition activities. However, noting from observations and frequent request for assistance from library staff by distance students, it was assumed that distance students do not use online library services as required. This implies that distance students are disadvantaged in accessing online library services provided by the University of Nairobi. Again during presentation of research projects by post graduate students, majority of them are unable to provide adequate literature in support of their research. The assumption that one can derive from the above statement is that distance students at the University of Nairobi could be experiencing technical problems in accessing online library services which are available in abundance and accessible using provided services such as the internet, wireless fidelity and a computer lab with full connectivity to the university library and information system consortium. This study therefore aimed at establishing how age factor influences the utilization of online library services by distance students at the University of Nairobi. The information gained would form the basis for making decision to design an appropriate library user education programme for distance students in Kenya and the rest of the world.

Introduction

Various students have opted for distance learning irrespective of their ages. Distance learning according to Rowland and Robert (2001) is often described as the formalized learning received while the student is on a location outside the university campus. Both the teacher and student are expected to have minimal physical contact, but much reliance on electronic communication and independent study. Distance learning is an education program designed for those who could not be for family, financial or some other reasons, attend existing educational institutions to acquire learning without necessarily becoming regular students of such institutions. He stressed that distance education is considered as a branch of adult education where the clientele may comprise of those who have no exposure of any kind of formal education or those who dropped out of the formal school system and those who wish to supplement their formal education (Oladeji, 2000).

Distance learning usually refers to open learning applied to situations in which there is a geographical separation between the learner and the learning institution. The focus is on the need of the individual students and is more learner-centered. The learner chooses the place of study, time and pace of learning. Distance learning is particularly beneficial to the student as they could learn from chosen system locations which could be thousand miles away (Olajedi, 2000). Distance learning has become more popular in recent times because it is cost-saving for universities to reduce the number of residential and full-time students. However, distance learning normally should demand much use of library resources, audio-visual media and information and communication technology. These are essential for communicating with a large group of people especially in distance locations. They also make for interactive sessions with groups and individual students. On the other hand, the learners also need to read all kinds of texts and information materials when they are not in school. This is to prepare

them for the course content and examination. Thus the students need to use libraries and information centers for reading and for information search (Sacchanand, 2002).

Distance education programmers in Africa are provided generally in two organizational models. There is the single model, in which, the distance education programme is the sole mandate of the university. In this model, the university does not offer its programme full-time on campus; rather its mandate is to provide education at a distance. This type of model exists in many countries. The oldest University operating this model in Africa is the University of South Africa (UNISA) Pretoria, which was established in 1946. Other university in Africa that operates this model includes the National Open University of Nigeria, Lagos, the Zimbabwe Open University, Harare, Zimbabwe, The Open University of Tanzania, Dar-salaam, Tanzania (Aiona, 2008).

Many African governments are promoting the concept of distance education. If it is properly run, a university-based distance education programme can accommodate all eligible learners. It is therefore not surprising that many universities in Africa offer their programmes in the distance education mode. One fundamental assumption is that programs offered in the normal full-time mode are equivalent to those offered in distance education mode. It is therefore expected that the qualifications obtained in the distance education mode would not be inferior to those offered in full-time mode on campus. Unfortunately, the assumption is flawed (Rodrigs, 1996).

It is not unusual for universities that offer both modes to discriminate against those who obtained their qualifications through distance education mode by stating specifically on their certificates that the qualifications were obtained through the distance education mode. This presupposes that even the universities recognize that programmes in the distance education mode are inferior to campus-based University programmes. This is so because the environment under which distance education programmes are offered is not as conducive as to those who are on campus (Riggs, 1997).

There are many factors responsible for this, some of which include lack of adequate basic infrastructure such as, electricity, telephone, good roads, poor postal system; inadequate funding; poor library facilities, etc. however, inadequate library and information service support is perhaps the most fundamental problem affecting the quality of distance education programme in African Universities (Riggs, 1997). The library is the nerve Centre of any educational institution as it promotes the acquisition of reading, inquiry and independent thinking through the provision of resources to support teaching and learning activities Mabawonku (2004).It normally houses information materials in various formats such as electronic information sources like CD-ROM, the internet, and the like. Library services are essential support services to distance education students. Most researchers in distance learning are in agreement that library support is a key element in distance education programmes (Caspers et al., 2001).

According to Rowland and Robert (2001) in their study in information needs of distance learners, they reported that library needs of distance learners are not unique and that distance learners have the same library and information need as on-campus students, further they reported that university library in Africa did not cater for the specific needs of distance students. Distance learners' expectation of library services as revealed in the literature, demonstrate a great need (Niemi et al., 1998). University students patronize their university libraries to search and retrieve relevant and current information in electronic/online format for effective teaching, learning and research purposes. University patrons includes undergraduate, postgraduates students, researchers, information professionals, staffs and

other users from outside the university who intends to use the university library. The distance students are expected to read further after class instructions to collect and retrieve information for class work, assignments, seminars, term papers, dissertations, theses and project and this information could be retrieved from online library resources (Ganiyu, 2013). Online library services are an integral part of the research process for these students. After doing preliminary research, such as speaking with their professor or looking at the references in class readings students turn to online library databases to begin their research process. Online Resources is defined as any work encoded and made available for access through the use of a computer-based device (Library of Congress. Collections Policy Statements: Online Resources. 1999). These materials may require the use of peripheral directed connected to computer (CD-ROM drive; or a connection to computer network, like Internet.

According to Kindilchie & Samarraie (2008) computers, online library resources and e-resources are now playing a central role in higher education. University libraries and students in many countries are working regularly with Internet resources and search engines, and using e-mail as a normal form of communication. The benefits of online library information resources are often faster than consulting print indexes, especially when searching retrospectively and are more straight forward when wishing to use combinations of keywords. They open up the possibility of searching multiple files at a time, a feat accomplished more easily than when using printed equivalents. Online resources can he printed and searches saved to be repeated at a later date they are updated more often than printed tool. One main benefit especially to distance learners or those with limited time to access the library is their accessibility from outside the library by dial-up access (Ray & Day, 1998). The benefits of using Online library resources include: information being available frequently, the ability to work from any location, the information being available all in one place, the diversity of resources provided and the availability of services that they would not have access to otherwise. Students believe online library services improve the quality of their papers by allowing them to spend less time in the research phase and more time in the writing phase. Online library services also result in students obtaining more services, a diversity of services, and more up-to-date services (Ray & Ray, 1998).

The work of Aiona (2008) surveyed four major institutions offering distance education programmes in Africa, the Open University of Tanzania, the University of Nairobi, Kenya, the University of South Africa and the University of Botswana. He found out that the library and information support services to distance education learners in the universities surveyed were almost non-existent, except the University of South Africa (UNISA) which had embraced the latest information technology in providing library and information services to its learners. The entire collection of the library was accessible through the internet to the learners. He concluded that distance education programmes in Africa were so much disadvantaged compared with their on-campus counterparts in terms of library and information support.

Studies by Kascus and Aguilar (1991), reported that libraries are expected to be an integral part of quality education. Thus, the role of library in distance education must be acknowledged by planners of distance education, as library support constitutes a library, information services and support for distance education programmes in African universities. Vital part of quality education is that it should be available to all learners, whether on campus or off campus.

In Kenya, Kavulya (2004) conducted a study on the library services provision for distance education in selected universities. The study involved interviews with chief librarians from four universities, namely; the University of Nairobi, Kenyatta University , the Africa Virtual

university and the United states international University – Africa, all in Nairobi, Kenya. The study revealed that, the learning that library and information services provided by the university were inadequate. The exception was the Africa Virtual University, Nairobi, which used modern information technology to provide library and information services to its learners. The catalogue of the library was available on the internet to all its learners and the universities were able to provide a digital library consisting of e-journals, e-books and online archives. The United States international University –Africa, Nairobi, Kenya also made available its 6,000 electronic journals with full text on the internet to its learners.

According to Ojera and Yambo (2014) utilization of library and information resources and services has been a concern from the time libraries changed from being cultural monuments to knowledge acquisition and information communication centers. In view of these developments, libraries conceived the idea of educating the library user in finding and locating information they need on their day-to-day activities. The earliest evidence of library user education was reported at Harvard College in 1820s (Tiefel, 1995). These early librarians were professors with part time library appointments who taught students to use libraries for academic purposes. The practice gained acceptance and in the late 1800s, separate courses were reported at the University of Michigan, Azarian Root at Oberlin College and (Tiefel, 1995).

Integration of information communication technologies (ICT) in library services initially was viewed as a solution to utilization problems created by information explosion. The rapid democratization of education and increased complexity of libraries has made information seeking more difficult from students in academic libraries. In realization of the problem, individual institutions in groups have been exploring possible solutions. For instance, in Africa, all the 54 countries and territories have access to electronic information resources especially in their capital cities (Omollo et al., 2016).

In Kenya, all the public universities have information services such as the library or learning resources centers to support both the teaching and research activities of the entire university community. However, provision of these services presumes that the entire university community can be presented with information in similar way. First, in public universities where distance students have been admitted, the challenges of providing library services for distance learning revolve around the fact that until very recently, most library collections as well as services were designed for on-campus programmes and were not well suited for the needs of online learning students. Therefore, the very characteristics of distant locations of students demands fresh ways of delivering services, based on constantly evolving technologies, new programmes offerings, increasing enrolments and learner needs (Yambo, 2014).

In the face of this, the host institution libraries have the primary responsibility for identifying, developing, coordinating, providing and assessing the value and effectiveness of online library resources and services designed to meet both the standard and unique information and skills development needs of the distance learning community. In other words, student's characteristics are some of the important considerations for quality online library delivery and utilization of services (Odini, 2010).

Concerns for ensuring the delivery and utilization of equivalent online library services to distance students in the remote setting was the basis of this investigation. This stems from the increasingly critical factors such as non-traditional study having rapidly become a major element in higher education, an increase in diversity of educational opportunities, an increase in the number of unique environments where educational opportunities are offered, an

increased recognition of the need for online library resources and services at locations other than main campuses; an increased demand for equitable services for all students in higher education no matter where the classroom is located, may be a greater demand for online library resources and services by students at distance learning sites and an increase in technological innovations in the transmittal of information and the delivery of courses (Odini, 2000).This study therefore was an attempt to critically analyze factors that influence utilization of online library services offered to distance students at the University of Nairobi.

Distance Students' Age and Utilization of Online Library Services
In a study carried out by Koohang (2004) on students' perception towards use of digital library in weekly web-based distance learning assignment portion of a hybrid program, the findings observed that age is not a significant factor but gender and prior experience with the internet are significant factors.

Similarly in another study conducted by Koohang (2003) on learner's perception towards the web based distance learning activities and Ojera and Yambo (2014) on computer based learning resource, attention was given to variables such as age, gender and experience with the internet in order to find out whether these variables were significant factors in learners perceptions towards the web-based distance learning activities. The findings revealed that age was an insignificant factor. All age categories perceived that the web-based distance learning activities or assignments Portion of their hybrid program promoted learning.

In a study conducted by Jamali, Nicholas and Huntington (2005) and Tayler and Hasting (2011) on factors influencing virtual patrons satisfaction with library services, the findings observed that students in the age group 17-20 were significantly (<0.05) more satisfied with the online resources followed by students in the age group 26-40 and 41 and older groups. Similarly, the work of Yambo and Tuitoek (2014) on high school principals' decision making revealed that most principals take more time to decide on the best online programs for their schools especially when taking age group into consideration. In another study conducted by Ganiyu (2013) on influence of demographic factors on use of online library resources by undergraduate students in two private universities in Nigeria, the results indicated that there was a strong relationship between age and utilization of online library services by the university undergraduate students.

According to Bar-Illan et al (2003), the most active users of electronic journals are the younger members of the teaching and research staff. On the other hand, a recent survey of the medical teaching and research staff at the University of Tennessee (Godfrey 2011) showed that the age was not an influential factor in whether the respondents read articles on paper or in electronic/online format. However, these results did not coincide with those obtained by the same researchers among astronomical scientists (Jamali *et al*, 2005). The relationship between the use of online journals and academic ranks are studied which show that as time goes by researchers progress in their careers and obtain higher positions in the academic hierarchy. An overview and analysis of recent research studies using the University of Tennessee, Knoxville as a case study posits that there is some evidence that younger users are more enthusiastic adopters of digital resources than the older users. Younger users rely on electronic resources more heavily and rate themselves more expert in using them than older users (Mudis & Yambo, 2015).

Age is a variable which have been found to correlate with computers and use of online library resources, according to (Okiki, 2011). Younger generations are brought up with computers. It also found that there were significant age differences on the computer task, as measured by

older adults making few correct decisions and taking longer time to make their decisions than younger adults. In the foregoing research literature review, it is evident that the findings show conflicting results. For instance, while some of the studies reveal that age has significant influence on online library accessibility, others indicate there is no significant difference. Due to the fact that none of the studies has addressed the issue of age in relation to use of online library service in distance education, therefore there was need to investigate this issue further to establish whether there was any significant difference in students' age and utilization of online library services in distance education at the University of Nairobi.

Research Methodology
The study adopted descriptive survey design. In his work, Orodho (2003), define descriptive survey as a method of collecting information by interviewing or administering a questionnaire to a sample of individuals. It can be used when collecting information about peoples attitudes, opinions, habits or any of the variety of education or social issues. The study targeted students enrolled for B.Ed (Arts), B.Ed (Science) and B.Com of the school of continuing and distance education of the University of Nairobi. Those students that were in their third year were selected for this study. The group level was considered experienced enough to provide the kind of information required. Current records from the three departments revealed that B.Ed (Arts) had a total of 700 students out which 443 were male and 257 were female. The department of B.Ed (Science) had a total of 260 students out which 160 were male and 100 were female. In Bachelor of Commerce department a total of 40 students had registered for their course out of which 27 were male while 13 were female. The study therefore targeted all the fourteen library administrators out of which 9 were male while 5 were female and a total 1000 students, out of this number, 630 were male and 370 were female.

Table 1
Population and sample size of 3rd year students in the school of continuing and distance education

Category	TOTAL POPULATION			SAMPLED POPULATION		
	Male	Female	Total	Male	Female	Total
B.Ed (Arts)	443	257	700	123	72	195
B.Ed (Sci)	160	100	260	44	28	72
B.Com	27	13	40	7	4	11
TOTAL	630	370	1000	174	104	278

Source: School of continuing and distance education (2013)

The work of Best and Khan (2006) states that sampling is taking any portion of a target population or universe as a representative of that population or universe. The sample size for this study was determined by using the formula suggested by Krejcie and Morgan (1970) as quoted in (Isaac and Michael, 1981). After determining the required sample size of 278 students' respondents, the researcher applied three sampling techniques to select the sample. These were; stratified, purposive, and simple random sampling technique.

Two instruments were used to collect data: questionnaire and in-depth interview. One set of questionnaire for students was developed by the researcher as research instrument. The researcher found the questionnaire adequate for the study because it minimizes bias on the side of the researcher and the respondents (Kombo and Tromp, 2006). According to Orodho (2003), in-depth interview provide data that is not possible to get using questionnaires. He further said that it is possible for the interviewer to clarify questions that are not clear in the interview schedule. Probing was used where the respondents not clear.

Results and Discussions
Age as a personal characteristic and utilization of online library services by distance students
Objective of this study was to determine how age as a personal characteristic influenced utilization of online library services by distance students. It was postulated that distribution of respondents into four categories of frequency of online library use would not be related to students' age group. Cross-tabulation was conducted using chi-square statistics to confirm this assumption. The outcome of the Chi-square test is presented in Table 2.

Table 2
Respondents age-group and utilization of online library Services

Age group	Use of online library services				
	Daily	**Twice**	**Once**	**Monthly**	**Total**
21–30	14(15.9%)	29(33%)	35(39.8%)	10(11.4%)	(88%) 100
31 – 40	2(4.1%)	4(8.2%)	16(32.7%)	27(55.1%)	(49%) 100
41 – 50	2(3.2%)	3(4.8%)	6(9.5%)	52(82.5%)	(63%) 100
51 – 60	0(00%)	1(1.3%)	4(5.1%)	73(93.6%)	(78%) 100
Total	18(6.5%)	37(13.3%)	61(21.9%	162(58.3%)	(278%)100

X^2 = 143.234, df = 9,P = 0.000; Cramer's V= 0.414 Chi-Critical Value 16.919

Analysis of results in Table 2 shows that 18(6.5%) of the respondents could use the online library services daily. Likewise 37(13.3%) of the respondents confirmed that they could use the online library services twice a week. Another 61(21.9%) said they could use the library once a week while a majority 162(58.3%) indicated they could only use the online library services once a month. It is also evident from the findings that the lower age-group 21-30 registered a bigger percentage (15.9%) of those who could use online library services daily compared to other age-groups. For instance in the upper age group of 51-60, none of the students could use online library services daily, this therefore concurs with the sentiments of (Mudis & Yambo, 2015).
The impression one can derive from these results is that majority of the students in the upper age group 41-50 and 51–60 rarely made use of online Library services. On the contrary, students in the lower age groups 21–30 and 31-40 regularly used of online Library services. A close look at the results further reveals that 17.6% of the respondents in the lower age group

of (21-30) and (31-40) frequently used online library services compared to only 2.2% of the respondents in the upper age groups (41-50) and (51-60).

It is also evident from the results that 31.7% of the respondents in the lower age groups 21-30 and 31-40 rarely made use of online library services compared to 48.5% of respondents in the upper age groups of 41-50 and 51-60. Given that only 19.8% of the total respondents could use online library services daily and twice a week while 80.2% could use online library services once a week and monthly, is a clear indication that distance education students at the university of Nairobi have not fully embraced online library utilization (Okiki, 2011). When asked to comment on the influence of age on distance student's use of online library services, one of the librarians commented as follows:

"Demographics such as age may be a primary factor that influence whether the students use technology. Those students who are in their middle ages can either be allies or stubborn opponents as their institutions adjust to competitive pressure, revised programmes to meet the needs of diverse students and integrate new educational technologies"

From the findings, it's clear that students' demographics such as age influence their utilization of online library services to some extent. These observations are in line with quantitative data responses as observed earlier in the findings of this study.

A chi-square test was computed to determine the relationship between age as a personal characteristic and utilization of online library services by distance student at the University of Nairobi. The null hypothesis was formulated as follows;

$H_0 2$: There is no significant relationship between age as a personal characteristic and utilization of online library services by distance students at the University of Nairobi

The hypothesis was tested and X^2 = 143.234, df = 9, P = 0.000, Cramer's V = 0.414. Chi-square critical Value=16.919. The association between age and frequency of online Library use was strong as indicated by the Cramer's V (0.414). Since the Chi-square critical value (16.919) was less than Chi-square calculated Value (143.234), the null hypothesis was rejected and conclusion that utilization of online library services was dependent upon distance student's age-group. This implies that use of online library services was likely to be higher in the lower age-groups than upper age-groups hence this was supported by (Bar-Illan et al., 2003).

ANOVA statistic was subsequently applied to establish whether the mean score of respondents' age-groups were significantly different. The outcome of the ANOVA test is presented in Table 3.

Table 3

Respondents mean scores on use of online library services by student age group.

Age –group	N	Mean	Std. dev.	Std. Error
21 - 30	88	3.92	0.313	0.035
31 – 40	49	3.71	0.705	0.089
41 – 50	63	3.39	0.812	0.116
51 – 60	78	2.47	0.896	0.96
Total	**278**	**3.32**	**0.936**	**0.056**

The data presented in Table 3 shows that there exist differences in mean scores between age groups. The results indicate a decrease in mean scores with the rise in age groups. The impression is that few students can make use of online library services under the age group of 51-60. Majority of student's in the category of 21-30 age group made use of online library services. The general impression is that age was a significant factor in determining online library utilization. This agrees with (Omollo et al., 2016).

Table 4
ANOVA Summary on use of online library services scores by student's age group

Source of Variation	Sum of squares df		Mean score	F	Sig
Between Groups	102.581	3	34.194	66.957	0.000
Within Groups	139.926	274	0.511		
Total	242.507	277			

Critical Value = 2.64

The critical value obtained in Table 4 was (2.64). The critical value was less than the F-ratio of (66.957). Therefore, the null-hypothesis was rejected. This implied that there was a significant relationship between students' age-group and utilization of online library services. Therefore, according to ANOVA test, students' age-group determined their frequency of online library usage. Since F-value was significant, Turkey HSD was computed in order to determine the age group whose means score were significantly different and compliments Ganiyu (2013) ideas on age. The results of Post-Hoc test are shown in Table 5.

Table 5
Results of Turkey HSD between the groups of age-groups

Dependent Variable Use online library services	(i)Age-Group	(j)Age group	Mean	Std Error	Sig.
	21-30	31-40	-0.922	0.127	0.000
		41-50	-1.248	0.118	0.000
		51-60	-1.457	0.111	0.000
	31-40	21-30	0.922	0.127	0.000
		41-50	-0.327	0.136	0.080
		51-60	-0.535	0.130	0.000
	41-50	21-30	1.248	0.118	0.000
		31-50	0.327	0.137	0.080
		51-60	-0.209	0.121	0.313
	51-60	2130	0.1.457	0.111	0.000
		31-40	0.535	0.130	0.000
		41-50	0.209	0.121	0.313

As shown in Table 5; there was a significant difference (P<0.05) in utilization of online library services between age-groups 21-30 and 31-40 (P=0.000), between 21-30 and 41-50 (P = 0.000) and between 21-30 and 51-60 (P = 0.000). Differences were also detected between 31-40 and 51-60 (P = 0.000). However, no significant differences were noticed between 31-40 and 41-50 (P = 0.080) and between 41-50 and 51-60 (P = 0.313).

The implication of the finding of the study is that there is decrease in utilization of online library services with increase in student age. This means, as supported by Koohang (2004), that the elderly students rarely made use of online library services, while the young students frequently used online library services.

This finding supports the evidences of Ojera and Yambo (2014); Ganiyu (2013) who conducted a study on influence of Demographic factors on use of online library resources by undergraduate students in two private universities in Nigeria, which observed that there was a strong relationship between age and utilization of online library resources by the University undergraduate students.

Summary of Findings
Student age and Utilization of Online Library Services
The results from the quantitative analysis showed that age influenced utilization of online library services. For instance, 17.6% of the respondents in the lower age groups of (21-30) and (31-40) frequently used online library services compared to only 2.2% of the respondents in the upper age groups (41-50) and (51-60). It was also evident from the results that 31.7% of the respondents in the lower age groups 21-30 and 31-40 rarely made use of online library services compared to 48.5% of respondents in the upper age groups of 41-50 and 51-60. It is therefore clear from the findings that students from the lower age groups frequently used online library services more than students from the upper age groups. The results as shown by testing of the hypothesis no. 2 revealed that x^2 = 143.234, df = 9, P = 0.000, Cramer's V = 0.414. Chi-square critical Value=16.919. The association between age and frequency of online Library use was strong as indicated by the Cramer's V (0.414). Since the Chi-square calculated Value (143.234) was more than Chi-square critical value (16.919), the null hypothesis was rejected and conclusion made utilization of online library services was dependent upon distance students age-group.

The result further showed that the ANOVA test for independent samples gave F-ratio of 66.957 and critical value of (2.64). The critical value (2.64) was less than F-ratio of (66.957). Therefore the null hypothesis was rejected. Thus the relationship between students' age and utilization of online library services were dependent. This implied that utilization of online library services was influenced by students age. For example those students in the lower (young) age groups utilized online library services than those in the upper (elderly) age groups.

The results also showed that the mean for 21-30 = 3.92, 31-40 = 3.71, 41-50 = 3.39, 51- 60 = 2.47. This implied that students in the lower age-groups (young) used online library services than those in the upper age groups (elderly).

The results further showed that the one-way analysis of variance (ANOVA) gave F-ratio of 66.957 and critical value of 2.64. The critical value was less than F-ratio. The null–hypothesis was rejected and conclusion made that there was a significant relationship between students' age-group and utilization of online library services. The result suggested that frequency of online library use was determined by students' age-group.

Post-hoc results further showed that significant differences were detected between the age-group of (21-30) and all other groups, between (31-40) and (51-60) and between (41-50) No differences were detected between (31-40) and (41-50)

References

Aiona, L. O. (2008), Library and information services support for Distance Education Programme in Africa Universities, *Proposals for the future Development, Ilorin, and University of Ilorin.*

Bar-Illan, J., Peritz, B. C., and Wolman, Y. (2003) "A survey of the use of Electronic Databases and Electronic Journals accessed through the web by the academic staff of Israeli Universities", *Journal of Academic Librarianship* 29, pp. 346-36.

Best, J. W., & Khan, G. V. (2006). *Research in education.* (10[th]ed) New Delhi: Prentice hall of India.

Canon, V. S. D. N. R., Grant, D. (2000). Using an interactive website to educate about cultural diversity and societal oppression .*Journal of Social Work Education,* 36(3), 463-479.

Caspers, J., Fritts, J., & Gover, H. (2001). Beyond the rhetoric: A study of the "impact of the ACRL Guidelines for Distance Learning Library Services on selected distance learning programs in higher education. *Journal of Library Administration* 31(3-4): 127-48. *Computers* (New York: Oxford Unit Press, 1993). Pp. 91-100.

Council for Higher Education Accreditation (CHEA). (2002) Accreditation and assuring quality in distance learning, URL http://www.chea.org/Research/Accred-Distance-5-9-02.pdf?pubID:=246, Accessed 14 Jun 2007

Ganiyu, O. Q. (2013). Influence of demographic factors on use of online library resources by Undergraduate students in two private Nigerian University Libraries. *Library Philosophy and Practice (e-journal).*Paper 976.

Godfrey, A. S. (2011), Online Technology issues in communications Teaching, West Indies, St. Augustine, Trinidad and Tobago 1,(2). 67-91

Inoue, Y. (1999-2000). The university student's preference for learning by computer-assisted instruction.*Journal of Educational Technology Systems, 28(3),* 277-285.

Isaac, H. P., & Michael, R. B (1981). Computer self-efficacy, computer anxiety and attitudes toward the Internet: A study among undergraduates in Unimas. *Educational Technology & Society*, 8.4: 205-219.

Kascus, M., & Aguilar, W. (1991). Providing Library Support to Off Campus Programs *College and Research* Libraries. 49 (1) 29-37.

Kavulya J. M. (2004). University Libraries in Kenya: A Study of their Practices and Performance. Unpublished PhD Thesis, University of Nairobi.

Kavulya, J. M. (2004). Challenges in the provision of library services for distance Education: A case study of selected universities in Kenya. *African Journal of Library Archive and Information Science* 14(1):15-28.

Kombo & Tromp, A. (2006). *Proposal and Thesis writing.*Makuyu.DonBosco printing press.

Koohang A. (2003), Learners perception towards the web based distance learning activities/assignment portions of under graduate, Hybrid instructional model, USA, journal of Information Technology Education, 2(4) 55- 89.

Koohang, A. (2001) Students' perception toward the use of digital! learning assignments portion of a hybrid programme. *British Journal of Educational Technology* 35(5): 617-26.

Koohang, A. (2004). Students' perceptions toward the use of the digital library in weekly web-based distance learning assignments portion of a hybrid program. *British Journal of Educational Technology,* 35,617-626.

Mabawonku, I. (2004). Library use in distance learning: A survey of undergraduates in three Nigerian universities. *African Journal of Library, Archival and Information Science* 14(2):151-65.

Mudis, P. A., & Yambo, J. M. O. (2015). Role of Peer Counseling on the Relationship between Prefects and the Students' body in public Secondary schools in Migori Sub- county, Migori County, Kenya *International journal of Academic Research in Progressive education and Development 4(4):136-149*

Niemi, J. A., Ehrhard, B. J., & Neeley, L. (1998). Off-campus library support for distance adult learners.*Library Trends* 47(1): 65-74.

Odini, C. (2000). *The Book Chain in Kenya*. Book Chain Profiles, Kenya.

Ojera, D. A., & Yambo, J. M. O. (2014). Role of Principals' Instructional Leadership Style in Facilitating Learning Materials and Co-ordination of Personnel on Students' Performance *International Journal of Humanities and Social Science Invention ISSN (Online): 2319 – 7722,* www.ijhssi.org *3 (3)51-55*

Okiki, O. C., and Asiru, S. M. (2011). Use of Electronic Information Sources by Postgraduate students in Nigeria: Influencing Factors, *Library Philosophy and Practice* 2011. Pp. 4-6 online resources – students perspective.

Oladeji, S. O. (2000). An evaluative study of the Center for External Studies, University of Ibadan, Nigeria 1988-1998.Unpublished M. Ed thesis submitted to the University of Ibadan.

Ondari-Okemwa, E. (2004). Impediments to promoting access to global knowledge in Sub-Saharan Africa.*Library Management,* 25 (8/9), 361-375.

Orodho. (2003), Essentials of educational and social sciences research methods. Nairobi: Masola Publishers.

Orodho, A. J., and Kombo, D. K. (2002), Research Methods, Nairobi: Kenyatta University, Institute of Open Learning.

Ray, K., & Day, J. (1998). Students attitudes toward electronic information resources. Retrieved Feb. 15, 2006, from http://www.information.net/dir/4-2/paper54.html.

Riggs, D. (1997). Distance education: Rethinking practices, implementing new approach. *College and Research Libraries* 58(3): 208-209.

Rodriges, H. F. (1996). The role of the Library in Distance Education. *Microcomputers for Information Management* 113(1): 21-30.

Rowland, F., & Rubbert, I. (2001). An evaluation of the information needs and practices of part-time and distance educational and social change through lifelong learning. *Journal of Documentation* 57(6): 741-62.

Sacchanand, C. (2002). Information literacy instruction to distance students in higher education: Librarians' key role. 68th IFLA Council and General Conference August 18-24, 2002. Available: http.//citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.105.537&rep=rep1&type=pdf.

Tayler K., & Hastings, N. B. (2011), Factors influencing virtual patrons satisfaction with online Library resources and services, Florida, the Journal of education online vol, No.21

Tiefel, V. M. (1995), *Library user education: Examining its past, projecting its future, library trends and fall.* New York: Oxford Unit Press

Watkins, R., Leigh, D., & Triner, D. (2004) Assessing Readiness for E-learning, *Performance Improvement Quarterly*, 17(4), 66-79.

Yambo, J. M. O. (2014). *High School Stress in relation to their Job experienced in school in southern Nyanza Region, Kenya* (unpublished PhD thesis) Moi University, Eldoret, Kenya

Yambo, J. M. O., Odhiambo, R. A. & Odera, Y. F. (2014). An Assessment of the   Extent   at which High School Principals are Stressed in relation to their Job Experience in Schools in Southern Nyanza Region, Kenya. *International Journal of Humanities and Social Science Invention ISSN (Online): 2319 – 7722,* www.ijhssi.org3 (5) 25-33

Zhou, G., &Xu, J. (2007). Adoption of educational technology: How does gender matter? *International Journal of Teaching and Learning in Higher Education,* 19, 140-153.